City of Laguna Hills
City Council / Planning Agency

Regular Meeting Agenda
Tuesday, February 10, 2026 - 6:00 PM
(Closed Session at 5:00 p.m. when scheduled)

City Council Chamber
24035 El Toro Road
Laguna Hills, CA 92653

Don Caskey
Mayor

Jared Mathis
Mayor Pro Tempore

Erica Pezold
Council Member

Joshua Sweeney
Council Member

Dave Wheeler
Council Member

In Person Public Comments: Any person wishing to address the City Council/Planning Agency on any matter, whether or not it appears on this Agenda, is asked to complete a pink "Request to Speak" form available on the table at the back of the Chamber and submit the form to the City Clerk. The Request to Speak form assists the Mayor in ensuring that all persons wishing to address the City Council are recognized and ensures accurate identification of meeting participants in the City Council/Planning Agency Minutes. Completion of the form is voluntary. It is City policy to limit public testimony to up to three minutes per person, as determined by the Mayor, for Public Comments. If you are commenting on an Agenda item, your comments will be heard at the time that item is scheduled on the Agenda. If you are addressing the City Council on an item not listed on the Agenda, the City Council is prohibited by law from discussing or taking any action on that item.

Submission of Electronic Public Comments: Those wishing to make electronic public comments may submit their comments by email to the City Clerk no later than 2 hours prior to the meeting on Tuesday, February 10, 2026. In the subject line of the email, please state your name and the item number you are commenting on. Any public comment received that does not specify a particular agenda item number will be announced during the general public comment portion of the agenda. All comments received by the deadline on the date of the meeting will be provided to the City Council and will be provided for public inspection at the meeting. During the applicable agenda item, the City Clerk will announce the name of the sender and subject matter of all electronic comments received by the deadline on Tuesday, February 10, 2026. Email comments will NOT be read by the City Clerk during the meeting. Electronic public comments may only be submitted via email and comments via text and social media (Facebook, X (formerly Twitter), etc.) will not be accepted.

For questions or assistance, please contact the City Clerk's Office at (949) 707-2635 or via email.

General Business Convening at 6:00 PM

Call to Order

Resolution No. 96-04-09-1 established rules of decorum for public meetings held by the City of Laguna Hills. Resolution No. 96-04-09-1 is available on the table at the back of the City Council Chamber.

Invocation: Council Member Sweeney

Pledge of Allegiance: Council Member Sweeney

Roll Call of City Council Members

1. Presentations and Proclamations

1.1 Appointment of Laguna Hills High School Student Liaisons Katherine Armstrong and Peyton Edberg

Recommendation: That Mayor Caskey present a Certificate of Appointment to Laguna Hills High School Student Liaisons, Katherine Armstrong and Peyton Edberg.

1.2 Laguna Hills High School Student Liaison Report

Recommendation: That the City Council receive a report from Laguna Hills High School Student Liaison Peyton Edberg.

2. Schedule of Future Events

2.1 Schedule of Future Events

Recommendation: That the Community Services Director announce the upcoming meetings and events.

3. Public Comments

This is the time to address the City Council on any matter not listed on this Agenda that is within the subject matter jurisdiction of the City Council. Public Comments are limited to three minutes per person, as determined by the Mayor.

4. Consent Calendar

All matters listed under “CONSENT CALENDAR” are considered to be routine and will be enacted by one motion approving the recommendation listed on the Agenda. There will be no separate discussion unless Members of the City Council or City staff request specific items be removed from the Consent Calendar.

4.1 Waive Reading in Full of all Ordinances and Resolutions on the Agenda

Recommendation: That the City Council waive reading in full of all ordinances and resolutions on the agenda and declare that said titles which appear on the public agenda shall be determined to have been read by title and further reading waived.

4.2 Approval of Minutes for January 27, 2026, Regular Meeting

Recommendation: That the City Council approve the City Council/Planning Agency Minutes for the January 27, 2026, Regular Meeting.

4.3 Ratification of February 10, 2026 Warrant Register

Recommendation: That the City Council ratify the accompanying Warrant Register for the period from January 16, 2026, to January 29, 2026, in the amount of $954,423.41.

Items Removed from the Consent Calendar

5. Planning Agency

5.1 Roll Call of Planning Agency Members

5.2 Public Comments

5.3 Approval of Minutes

5.4 Administrative Reports

5.5 Planning Agency Public Hearings

5.5.1 Vesting Tentative Tract Map (VTTM)/Site Development Permit (SDP) No. USE-0211-2025 (23161 Mill Creek Drive/Toll Brothers/Khoshbin)

Recommendation: That the Planning Agency:

1. Conduct a public hearing;
2. Find and determine that the proposed Project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to the Class 32 Exemption applicable to infill development projects (14 Cal.Code.Regs. Section 15332); and
3. Adopt a Resolution entitled: “A Resolution of the Planning Agency of the City of Laguna Hills, California, approving Vesting Tentative Tract Map (VTTM)/Site Development Permit (SDP) No. USE-0211-2025, a request by Toll West Coast, LLC (Toll Brothers) for approval of a 36-unit residential development on an approximately 2.44 acre parcel located

at 23161 Mill Creek Drive (APN 588-142-07), and finding that the project is Categorically Exempt from the California Environmental Quality Act pursuant to the Class 32 exemption applicable to infill development projects (14 Cal. Code. Regs. Section 15332)."

5.6 Planning Agency Adjournment

Public Improvement Corporation

Convene Public Improvement Corporation

Roll Call of Public Improvement Corporation Board

Public Improvement Corporation Business Items

1 Election of Public Improvement Corporation Officers

Recommendation: That the Board of Directors adopt a Resolution entitled: "A Resolution of the Laguna Hills Public Improvement Corporation, Laguna Hills, California, Electing Officers for 2026."

2 Approval of the Public Improvement Corporation Minutes for February 11, 2025, Annual Meeting

Recommendation: That the Board of Directors approve the minutes of the February 11, 2025, Annual Meeting.

Public Improvement Corporation Adjournment

6. City Council Public Hearings

7. Administrative Reports

7.1 City Manager

7.2 Community Services Director

7.2.1 2026 4th of July Fireworks Display

Recommendation: That the City Council:

1. Review proposed options and select and approve either Option 1, Option 2, or Option 3;
2. Direct the City Attorney's office to draft an Amendment No. 1 to the previously approved 2026 4th of July Celebration Fireworks Display Agreement with Garden State Fireworks, Inc. (GSF), reflecting the Council-selected option and any other changes to the Scope of Work;

3. Authorize the City Manager to approve and execute the Amendment;
4. Authorize and direct the Finance Director to amend the budget, accordingly; and
5. Discuss and provide direction for the firework display soundtrack.

7.2.2 2026-2028 Half Marathon, 5k and 10k Honoring USMC Dark Horse Battalion Medal Series

Recommendation: That the City Council discuss and provide direction for the 2026-2028 Half Marathon, 5k and 10k Honoring USMC Dark Horse Battalion Medal Series design.

8. Matters Agendized and Presented by City Council Members

9. City Council Member Committee Reports

9.1 Committee Assignment Report

Recommendation: That the City Council receive reports from the City Council Members on the City Council Committee Assignments listed on the staff report.

10. City Council Member Comments

Adjournment

The next Regular Meeting of the City Council/Planning Agency will be February 24, 2026, at 6:00p.m., in the City Council Chamber, located at 24035 El Toro Road, Laguna Hills, California.

CERTIFICATION

I, JENNIFER LEE, City Clerk of the City of Laguna Hills, do hereby certify that a copy of the foregoing Agenda was posted at Laguna Hills City Hall, Laguna Hills Community Center, and Knotty Pine Park by February 6, 2026, at 5:00p.m.

Jennifer Lee, CMC, City Clerk

It is the intention of the City of Laguna Hills to comply with the Americans with Disabilities Act in all respects. If as an attendee or a participant at this meeting you will need special assistance beyond what is normally provided, the City of Laguna Hills will attempt to accommodate you in every reasonable manner. Please contact the office of the City Clerk at (949) 707-2635. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to this meeting.

Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office at 24035 El Toro Road, Laguna Hills, California, during normal business hours. In addition, such writings or documents will be made available for public review on the Agenda and Minutes public portal website and at the respective public meeting.

City Council Members receive no additional compensation or stipend as a result of simultaneously convening meetings of the Laguna Hills Planning Agency.

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Kayle McDonald, Deputy City Clerk
Issue: Appointment of Laguna Hills High School Student Liaisons Katherine Armstrong and Peyton Edberg

Recommendation: That Mayor Caskey present a Certificate of Appointment to Laguna Hills High School Student Liaisons, Katherine Armstrong and Peyton Edberg.

Background:

By action of the City Council on July 27, 2023, the City Council of the City of Laguna Hills and Laguna Hills High School established a Student Liaison Program to create a direct link between Laguna Hills High School and the Council. Katheine Armstrong and Peytron Edberg were selected to serve as the 2026 Spring Student Liaisons. Both Student Liaisons met with the Deputy City Clerk prior to this meeting to administer the Oath of Office.

Attachments:

1. Certificates of Appointment - LHHS Student Liaisons

CITY OF LAGUNA HILLS

CERTIFICATE OF APPOINTMENT

be it known that

KATHERINE ARMSTRONG

on February 10, 2026, took the Oath of Office and on this date began serving as the

STUDENT LIAISON

for the City of Laguna Hills

Dated this 10th day of February 2026.

DON CASKEY, MAYOR

CITY OF LAGUNA HILLS

CERTIFICATE OF APPOINTMENT

be it known that

PEYTON EDBERG

on February 10, 2026, took the Oath of Office and on this date began serving as the

STUDENT LIAISON

for the City of Laguna Hills

Dated this 10th day of February 2026.

_____

DON CASKEY, MAYOR

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Holland Gannon, Community Services Director
Issue: Schedule of Future Events

Recommendation: That the Community Services Director announce the upcoming meetings and events.

Meetings:

City Council/Planning Agency Regular Meetings
Tuesday, February 24th, 6:00 p.m., Laguna Hills Civic Center Council Chamber
Tuesday, March 10th, 6:00 p.m., Laguna Hills Civic Center Council Chamber

Events, Communication, & Beautification Committee Regular Meeting
Monday, March 9th, 10:00 a.m., Laguna Hills Civic Center Admin Conference Room

Traffic Commission Regular Meeting
Wednesday, March 18th, 6:00 p.m., Laguna Hills Civic Center Council Chamber

City Facility Closures:

Holiday Closure
Monday, February 16th, Laguna Hills Civic Center and Laguna Hills Community Center

Events:

Let's Make Workshop
Wednesday, February 11th, 4:00 p.m., Laguna Hills Community Center Classroom

Excursion to Birch Aquarium, La Jolla
Friday, February 13th, 11:30 a.m. – 8:00 p.m., meet at the Laguna Hills Community Center

Excursion to Riverside County Fair & National Date Festival
Saturday, February 14th, 1:00 p.m. – 10:00 p.m., meet at the Laguna Hills Community Center

Excursion to Maritime Museum of San Diego & Liberty Station
Sunday, February 15th, 8:30 a.m. – 7:00 p.m., meet at the Laguna Hills Community Center

Excursion to Nixon Library & Museum
Monday, February 16th, 9:00 a.m. – 7:00 p.m., meet at the Laguna Hills Community Center

Daddy Daughter Dinner Dance
Friday, February 20th, 6:30 p.m. – 8:30 p.m., Laguna Hills Community Center Heritage Room

Attachments:

1. Event and Activities Flyer(s)

LET'S MAKE WORKSHOP

Presented by the Laguna Hills Community Center & Laguna Hills Library

EVERY 2ND WEDNESDAY OF THE MONTH AT 4:00 PM

All ages welcome!

No registration required!

25555 Alicia Pkwy
Laguna Hills, CA 92653

Excursion to Birch Aquarium

Travel down the coast to dive into a world of sharks, seahorses, and colorful coral reefs at one of San Diego's best attractions. Explore stunning marine life and the wonders of our ocean planet at Birch Aquarium at Scripps located in La Jolla. As the public outreach center for Scripps Institution of Oceanography at UC San Diego, Birch Aquarium features amazing creatures including a rescued Loggerhead Sea Turtle, a Giant Pacific Octopus, Weedy Seadragons and Moon Jellies. Get hands on with local creatures, gaze at Giant Kelp, see spectacular seahorses, and visit the newest habit for the world's smallest penguins — Little Blue Penguins. The aquarium houses more than 3,000 animals representing over 380 species. Discover ocean habitats featured in more than 60 habitats found all over the world! Bring plenty of water, snacks and a sack lunch to picnic. Participants meet at the Laguna Hills Community Center where City staff will provide transportation. Call (949) 707-2680 for more information. **No refunds or transfers for this event.**

***Registration starts on November 10, 2025** **Class# 1940**

2/13 11:30AM-8:00PM Saturday

Fee: Resident $35, Non-Resident $40

To register or for more information, please call (949) 707-2680 or visit www.lagunahillsca.gov

Excursion to Riverside County Fair & National Date Festival

This vibrant celebration blends the excitement of a classic county fair with the unique heritage of the Coachella Valley's date-growing tradition. Enjoy an evening full of entertainment, culinary delights, carnival rides, exhibits, and live music, all set against the backdrop of the desert landscape. Explore artisan vendors, agricultural displays, and themed competitions that highlight the region's rich agricultural history, with a special focus on the iconic date palm.

Please note: Admission tickets are not included, and additional costs will apply. Participants should plan to dress in layers, wear comfortable shoes, and bring water. Participants meet at the Laguna Hills Community Center where City staff will provide transportation. Call (949) 707-2680 for more information.

No refunds or transfers for this event. **Class# 2108**

2/14 1:00PM-10:00PM Saturday

Fee: Resident $20, Non-Resident $25

Like us on at www.facebook.com/lagunahillscc

To register or for more information, please call (949) 707-2680 or visit www.lagunahillsca.gov

Excursion to Maritime Museum of San Diego & Liberty Station

Step aboard legendary ships, discover maritime history through interactive exhibits at the Maritime Museum of San Diego, located on the San Diego Embarcadero. This museum comprises 8 – 10 different boats that you can board and traverse. The boats range from a submarine and ferry to an old pirate looking ship. The fleet of vessels are listed on the National Register preserved and operated by the staff and volunteers. Followed by exploring Seaport Village and Liberty Station. Bring plenty of water, snacks and a sack lunch or purchase at food vendor on site. Participants meet at the Laguna Hills Community Center where City staff will provide transportation. Call (949) 707-2680 for more information. **No refunds or transfers for this event.**

***Registration starts on November 10, 2025** **Class# 1941**

2/15 8:30AM-7:00PM Sunday

Fee: Resident $30, Non-Resident $35

Like us on at www.facebook.com/lagunahillscc

To register or for more information, please call (949) 707-2680 or visit www.lagunahillsca.gov

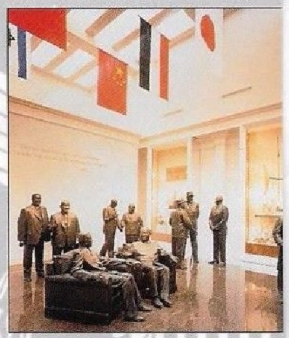
Excursion to Nixon Library & Museum

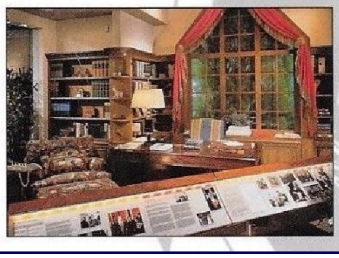
Nine acres encompassing 22 high-tech Presidential Museum galleries, movie and interactive video theaters, the spectacular First Lady's Garden, the President's faithfully restored 1910's birthplace, and the flower-ringed memorial sites of President and Mrs. Nixon.

A dramatic roller coaster ride through a half century of California, U.S. and world history. Just 15 minutes from Disneyland.

◄ *Birthplace of America's 37th President, bordered by the First Lady's Garden.*

▼ *The World Leaders Gallery*





◄ *RN's private study as it was on the day he suffered his fatal stroke.*

February 16, 2026

9:00AM—7:00PM

Residents $30

Non-Residents $35

Children must be accompanied by an adult.

***Registration begins November 10, 2025**

Class# 1942

Transportation is provided by City staff from the Laguna Hills Community Center.

For more information:

Tel. 949-707-2680

A Magical Evening Awaits

Daddy Daughter Dinner Dance: In the Fairy Garden

Step into an enchanting fairy garden and create unforgettable memories with your little princess! Enjoy a night filled with music, dancing, and magical moments.

Date: February 20, 2026
Time: 6:30 PM - 8:30 PM
Location: Laguna Hills Community Center
25555 Alicia Parkway, Laguna Hills, CA 92653

Tickets are limited, so secure your spot and make this dreamlike evening a reality!
We can't wait to see you there!

Sponsored by:

City of Laguna Hills
City Council / Planning Agency
Regular Meeting
Minutes
Tuesday, January 27, 2026

General Business Convening at 6:00 PM

Call to Order

The meeting was called to order at 6:00 p.m. by Mayor Caskey.

Invocation: Mayor Pro Tempore Mathis

Pledge of Allegiance: Mayor Pro Tempore Mathis

Roll Call of City Council Members

Present:	**Absent**:
Mayor Don Caskey	
Mayor Pro Tempore Jared Mathis	
Council Member Erica Pezold	
Council Member Joshua Sweeney	
Council Member Dave Wheeler	

1. Presentations and Proclamations

1.1 Appointment of Laguna Hills High School Student Liaison Katherine Armstrong

Laguna Hills High School Student Liaison Katherine Armstrong was not available at the meeting to receive the Certificate of Appointment.

1.2 Laguna Hills High School Student Liaison Report

Laguna Hills High School Student Liaison Katherine Armstrong was not available at the meeting to provide the report.

2. Schedule of Future Events

2.1 Schedule of Future Events

Community Services Director Gannon announced the upcoming meetings and events.

3. Public Comments

There were no public comments on non-agendized items.

Mayor Caskey took Item No. 8 out of order on the Agenda.

8. Matters Agendized and Presented by City Council Members

8.1 Recycle From Home Program

Recommendation: Council Member Pezold and Mayor Caskey recommend that the City Council receive a presentation from Recycle From Home and discuss a potential implementation of a residential recycling program in Laguna Hills.

Damion and Ryan Hickman provided a visual presentation to the City Council on the Recycle From Home program and responded to Council Member requests for additional information.

Assistant City Attorney Eggart responded to Council Member requests for additional information.

Assistant City Manager Ames responded to Council Member requests for additional information.

A motion to direct staff to implement the Recycle From Home program was moved by Council Member Pezold, seconded by Council Member Wheeler.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

4. Consent Calendar

A motion to approve the balance of the Consent Calendar with Council Member Wheeler removing Item No. 4.5, Item No. 4.6, Item No. 4.7, and Item No. 4.9 was moved by Council Member Wheeler, seconded by Council Member Pezold.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

4.1 Waive Reading in Full of all Ordinances and Resolutions on the Agenda

Recommendation: That the City Council waive reading in full of all ordinances and resolutions on the agenda and declare that said titles which appear on the public agenda shall be determined to have been read by title and further reading waived.

4.2 Approval of Minutes for January 13, 2026, Regular Meeting

Recommendation: That the City Council approve the City Council Minutes for the January 13, 2026, Regular Meeting.

4.3 Ratification of January 27, 2026 Warrant Register

Recommendation: That the City Council ratify the accompanying Warrant Register for the period from January 2, 2026, to January 15, 2026, in the amount of $1,989,367.79.

4.4 Treasurer's Investment Report for December 2025

Recommendation: That the City Council receive and file the Treasurer's Investment Report for the month of December 2025.

4.8 Informal Bidding Ordinance Use Quarterly Report for Public Works Projects

Recommendation: That the City Council receive and file the report.

Items Removed from the Consent Calendar

4.5 2025 Holiday Event Series Post Event Report

Recommendation: That the City Council receive and file the 2025 Holiday Event Series Post-Event Report.

Council Member Wheeler removed Item No. 4.5 from the Consent Calendar to request additional information.

Community Services Director Gannon responded to Council Member requests for additional information.

A motion to receive and file the report was moved by Council Member Wheeler, seconded by Mayor Pro Tempore Mathis.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

4.6 2026 4th of July Fireworks Agreement

Recommendation: That the City Council approve the Fireworks Display Agreement between Garden State Fireworks ("GSF") and the City of Laguna Hills for 2026 and authorize the City Manager to execute the Agreement.

Council Member Wheeler removed Item No. 4.6 from the Consent Calendar to request additional information.

Community Services Director Gannon responded to Council Member requests for additional information.

A motion to approve staff's recommendation was moved by Council Member Wheeler, seconded by Council Member Pezold.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

4.7 Award of Professional Services Agreement to Advantec Consulting Engineers, Inc. for Regional Traffic Signal Synchronization Program for Avenida de la Carlota Corridor Project, CIP 168-N

Recommendation: That the City Council: 1. Award a Professional Services Agreement to Advantec Consulting Engineers, Inc. for Regional Traffic Signal Synchronization Program for Avenida de la Carlota Corridor Project in the amount of $146,500.00, and 2. Authorize the City Manager to execute the Agreement.

Council Member Wheeler removed Item No. 4.7 to request additional information.

Assistant City Manager Ames responded to Council Member requests for additional information.

A motion to approve staff's recommendation was moved by Council Member Wheeler, seconded by Mayor Pro Tempore Mathis.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

4.9 Development Application Status Report

Recommendation: That the City Council receive and file the report.

Council Member Wheeler removed Item No. 4.9 from the Consent Calendar to request additional information.

Community Development Director Lowe responded to Council Member requests for additional information.

Assistant City Attorney Eggart responded to Council Member requests for additional information.

A motion to receive and file the report was moved by Council Member Wheeler, seconded by Council Member Pezold.

Vote Result: Passed
Yes 5, No 0, Abstained 0

Ayes:	Mayor Caskey, Mayor Pro Tempore Mathis, Council Member Pezold, Council Member Sweeney, Council Member Wheeler
Nays:	None
Abstain:	None

5. Planning Agency

Mayor Caskey recessed the City Council Meeting, and acting in capacity as Chair, called the Regular Meeting of the Planning Agency of the City of Laguna Hills, California, to order at 7:39 p.m.

5.1 Roll Call of Planning Agency Members

Present:	**Absent**:
Chair Don Caskey	
Vice Chair Jared Mathis	
Agency Member Erica Pezold	
Agency Member Joshua Sweeney	
Agency Member Dave Wheeler	

5.2 Public Comments

There were no public comments for the Planning Agency on non-agendized items.

5.3 Approval of Minutes

The Planning Agency Minutes are approved by the City Council.

5.4 Administrative Reports

There were no Planning Agency administrative reports.

5.5 Planning Agency Public Hearings

5.5.1 Vesting Tentative Parcel Map/ Site Development Permit/ Precise Plan/ Parking Use Permit No. 0166-2023 (Oakbrook Plaza Senior Housing Project)

Recommendation: That the Planning Agency:

1. Conduct a public hearing;

2. Find and determine that the proposed project is exempt from review under the California Environmental Quality Act pursuant to Public Resources Code Section 21080.66; and

3. Adopt Resolution No. PA2026-01-27-1: A Resolution of the Planning Agency of the City of Laguna Hills, California, conditionally approving Vesting Tentative parcel Map / Site Development Permit / Precise Plan / Parking Use Permit No. 0166-2023, a request by Matthew Haugen, on behalf of BSP Oakbrook, LLC, to permit a project that consists of: the subdivision of an existing 8.42-acre parcel located at 24422 Avenida de la Carlota into one 4.18-acre parcel (Lot 1) and one 4.24-acre parcel (Lot 2); construction of a new 250-unit senior living development with a 752-stall parking structure on Lot 1; a reduction in the amount of parking spaces required for the existing office building on Lot 2 to facilitate its conversion to medical office uses; and the joint use of the parking facilities between the residential uses on Lot 1 and the medical office uses on Lot 2, and finding the Project exempt from the California Environmental Quality Act pursuant to Public Resources Code section 21080.66.

Contract Assistant Planner Pisarkiewicz reviewed the information provided in the staff report, provided a visual presentation, and responded to Agency Member requests for additional information.

Community Development Director Lowe responded to Agency Member requests for additional information.

Assistant City Attorney Eggart responded to Agency Member requests for additional information.

Chair Caskey opened the public hearing.

Project applicant Matthew Haugen, Senior Vice President, Buchanan Street Partners, L.P., responded to Agency Member requests for additional information and agreed to abide by the proposed conditions of approval on the project.

Project applicant Tobin Symmank. Principal, AO, responded to Agency Member requests for additional information.

The following individuals submitted an electronic public comment on Item No. 5.5.1 that was received, forwarded to the Planning Agency prior to the meeting, posted on the City's website, and announced into the record by City Clerk Lee:

Bruce Schilder

The following individual(s) provided public comments on Item No. 5.5.1.:

Scott Miller
Heidi Prescott
Edna Weber
David Fauls

Chair Caskey closed the public hearing and upon seeing another public speaker, reopened the public hearing.

The following individual(s) provided public comments on Item No. 5.5.1.:

Ken Weber

Project applicant Matthew Haugen, Senior Vice President, Buchanan Street Partners, L.P., provided final remarks.

Chair Caskey closed the public hearing.

Chair Caskey reopened the public hearing.

Project applicant Matthew Haugen, Senior Vice President, Buchanan Street Partners, L.P. agreed to abide by an additional proposed condition of approval.

Chair Caskey closed the public hearing.

A motion to approve staff's recommendation with discussed changes to the conditions of approval for the project was moved by Agency Member Sweeney, seconded by Vice Chair Mathis.

Roll Call Vote Result: Passed
Yes 3, No 2, Abstained 0

Ayes:	Chair Caskey, Vice Chair Mathis, Agency Member Sweeney
Nays:	Agency Member Pezold, Agency Member Wheeler
Abstain:	None

5.6 Planning Agency Adjournment

Chair Caskey adjourned the Planning Agency Meeting at 10:36 p.m. and reconvened the City Council Meeting.

6. City Council Public Hearings

There were no City Council public hearings.

7. Administrative Reports

7.1 City Manager

The City Manager provided no administrative reports.

7.2 Chief of Police Services

7.2.1 Public Safety Update

Chief of Police Services, Captain Burk, provided a public safety update report, including a visual presentation.

9. City Council Member Committee Reports

9.1 Committee Assignment Report

The City Council received reports from City Council Members on City Council Committee Assignments.

10. City Council Member Comments

Council Member Pezold

Council Member Pezold provided comments on the use of AI.

Mayor Pro Tempore Mathis

Mayor Pro Tempore Mathis congratulated Sweeney on being elected as Chair of the OCFA Board of Directors.

Mayor Pro Tempore Mathis reported that the Laguna Hills Hawks Girls Varsity Soccer team is currently undefeated and, as of tonight, are league champions.

Council Member Wheeler

Council Member Wheeler provided comments on the method used by the County to determine property tax amounts.

Council Member Sweeney

Council Member Sweeney provided comments on City spending and provided a quote from President Reagan.

Mayor Caskey

Mayor Caskey followed up on Council Member Wheeler's comments.

Council Member Wheeler

Council Member Wheeler provided additional comments on tax dollar amounts.

Council Member Pezold

Council Member Pezold requested that a discussion on street banners be agendized for a future meeting and received a second from Council Member Wheeler.

Adjournment

There being no further business before the City Council at this session, Mayor Caskey declared the meeting adjourned at 11:09 p.m.

_____

Jennifer Lee, City Clerk

ATTEST:

_____

Don Caskey, Mayor

Approved at meeting of February 10, 2026

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Eric Hendrickson, Finance Director
Issue: Ratification of February 10, 2026 Warrant Register

Recommendation: That the City Council ratify the accompanying Warrant Register for the period from January 16, 2026, to January 29, 2026, in the amount of $954,423.41.

Background:

The City issues accounts payable disbursements on a regular basis and presents it to the City Council for ratification at its next regularly scheduled City Council Meeting. The attached Warrant Register containing checks and electronic funds transfers for the period from January 16, 2026, to January 29, 2026, is being presented for ratification by the City Council. Payments have been reviewed and approved by the appropriate departmental staff. The Finance Director certifies to the accuracy of the attached register and to the availability of monies for payment thereof.

Fiscal Impact:

Ratification of the accompanying Warrant Register includes disbursements totaling $954,423.41.

Attachments:

1. Warrant Register - February 10, 2026
2. Payables Detail Report - February 10, 2026

Warrant Register - February 10, 2026

City of Laguna Hills, CA

By Check Number

Date Range: 01/16/2026 - 01/29/2026

Check Number	Vendor Number	Vendor Name	Payment Date	Payment Amount
Payment Type: Regular				
6094	A-0377	ACTION WELDING CORP	01/23/2026	2,070.00
6095	A-0400	AGA ENGINEERS, INC	01/23/2026	24,696.37
6096	A-0359	ARDURRA GROUP, INC.	01/23/2026	7,561.50
6097	Z-CS-0518	ARIANA GOMEZ	01/23/2026	500.00
6098	A-0365	AT&T	01/23/2026	31.88
6099	A-0190	AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA	01/23/2026	92.00
6100	B-0222	BILL'S SOUND AND SECURITY	01/23/2026	420.00
6101	Z-CD-0330	BRIAN'S POOL PLASTERING	01/23/2026	500.00
6102	C-1144	CHARLES ABBOTT ASSOCIATES, INC	01/23/2026	78,982.98
6103	C-0324	CITY OF MISSION VIEJO	01/23/2026	5,502.73
6104	C-1222	COUNTS UNLIMITED, INC.	01/23/2026	450.00
6105	C-1190	COUNTY OF ORANGE	01/23/2026	908.00
6106	C-1122	CROSSTOWN ELECTRICAL AND DATA, INC.	01/23/2026	16,908.27
6107	D-0461	DATA TICKET, INC.	01/23/2026	551.84
6108	D-0583	DMS FACILITY SERVICES, LLC	01/23/2026	104,109.04
6109	D-0575	DOG WASTE DEPOT	01/23/2026	708.67
6110	G-0878	ERIK R GARCIA	01/23/2026	500.00
6111	F-0729	FULL TRAFFIC MAINTENANCE, INC.	01/23/2026	8,260.92
6112	G-0799	GRAHAM COMPANY	01/23/2026	590.00
6113	H-0841	HARPER & BURNS LLP	01/23/2026	5,312.00
6114	H-0974	HERK EDWARDS, INC.	01/23/2026	4,525.00
6115	I-0942	IRVINE RANCH WATER DISTRICT	01/23/2026	293.06
6116	J-1057	JAMEY CLARK, INC.	01/23/2026	10,623.91
6117	K-1209	KOA CORPORATION	01/23/2026	13,994.92
6118	L-1395	LIVING INTERIORS	01/23/2026	246.12
6119	L-1233	LSA ASSOCIATES, INC	01/23/2026	5,176.75
6120	M-1486	MAIN GRAPHICS	01/23/2026	359.04
6121	M-1606	MTM YEE CORP	01/23/2026	400.00
6122	O-1617	OCY MANAGEMENT, LLC	01/23/2026	5,298.00
6123	O-1546	OFFICE SOLUTIONS	01/23/2026	96.54
6124	O-1613	ONTARIO REFRIGERATION SERVICE, INC.	01/23/2026	1,750.00
6125	O-1618	OPPENHEIMER INVESTIGATIONS GROUP LLP	01/23/2026	8,321.00
6126	C-1003	ORANGE COUNTY TREASURER-TAX COLLECTOR	01/23/2026	1,961.00
6127	R-1998	RAPIDFIRE SAFETY & SECURITY LLC	01/23/2026	866.13
6128	R-1977	RJ ELECTRIC	01/23/2026	11,816.82
6129	S-2322	SAGECREST PLANNING AND ENVIRONMENTAL	01/23/2026	1,005.00
6130	S-1902	SAN DIEGO GAS AND ELECTRIC	01/23/2026	41,329.77
6131	S-2332	SANTA MARGARITA PLUMBING AND AIR	01/23/2026	13,298.57
6132	C-1233	SCOTT CUMMINGS	01/23/2026	250.00
6133	S-2336	SESAC	01/23/2026	1,278.00
6134	S-1904	SOUTHERN CALIFORNIA EDISON	01/23/2026	10.42
6135	O-1575	SOUTHERN CALIFORNIA NEWS GROUP	01/23/2026	352.15
6136	S-2308	SPECTRUM SPORTS MANAGEMENT, INC.	01/23/2026	7,000.00
6137	B-0304	THE BEE MAN	01/23/2026	195.00
6138	T-2712	TOTAL SOURCE OFFICEWORKS	01/23/2026	30.15
6139	Z-CD-0540	TRS ROOFING CO	01/23/2026	600.00
6140	V-2258	VORTEX INDUSTRIES, LLC	01/23/2026	10,055.66
6141	Z-CD-0541	YORKSHIRE FEDERAL INC	01/23/2026	7,100.00
6142	A-0378	A.Y. NURSERY, INC.	01/29/2026	1,319.94
6143	A-0400	AGA ENGINEERS, INC	01/29/2026	12,570.71
6144	A-0360	ARC DOCUMENT SOLUTIONS, LLC	01/29/2026	119.06
6145	A-0359	ARDURRA GROUP, INC.	01/29/2026	12,714.00
6146	Z-CS-0519	AREMIA VENTURA	01/29/2026	500.00

Check Number	Vendor Number	Vendor Name	Payment Date	Payment Amount
6147	A-0365	AT&T	01/29/2026	371.01
6148	B-0452	BRITTANY MARIE RYAN	01/29/2026	50,000.00
6149	C-1102	CALIFORNIA BUILDING STANDARDS COMMISSION	01/29/2026	743.40
6150	C-1177	CANON FINANCIAL SERVICES, INC.	01/29/2026	1,678.86
6151	C-0060	COUNTY OF ORANGE PF RD FINANCIAL SERVICES	01/29/2026	2,918.37
6152	D-0453	DEPARTMENT OF CONSERVATION	01/29/2026	455.83
6153	D-0423	DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA	01/29/2026	18.40
6154	D-0583	DMS FACILITY SERVICES, LLC	01/29/2026	4,876.00
6155	E-0554	ECONOMICS, INC.	01/29/2026	43,824.00
6156	E-0504	EL TORO WATER DISTRICT	01/29/2026	126.95
6157	G-0877	GA TECHNICAL SERVICES, INC.	01/29/2026	58,799.69
6158	H-0829	HARTZOG AND CRABILL, INC.	01/29/2026	18,317.35
6159	J-1057	JAMEY CLARK, INC.	01/29/2026	1,648.88
6160	J-1071	JCTEES.COM CORPORATION	01/29/2026	382.17
6161	K-1210	KIMLEY-HORN AND ASSOCIATES INC	01/29/2026	935.00
6162	L-1395	LIVING INTERIORS	01/29/2026	159.00
6163	M-1609	MITSUBISHI ELECTRIC US, INC.	01/29/2026	450.00
6164	M-1302	MOULTON NIGUEL WATER DISTRICT	01/29/2026	8,837.86
6165	O-1613	ONTARIO REFRIGERATION SERVICE, INC.	01/29/2026	653.46
6166	R-1994	RAMON TOTAL ROOFING	01/29/2026	36,000.00
6167	R-1977	RJ ELECTRIC	01/29/2026	1,957.00
6168	R-1806	RJM DESIGN GROUP, INC.	01/29/2026	51,660.13
6169	S-1935	SAN JOAQUIN HILLS TRANSPORT CORRIDOR AGENCY	01/29/2026	5,726.87
6170	S-2332	SANTA MARGARITA PLUMBING AND AIR	01/29/2026	7,987.45
6171	S-2331	SKYLINE PEST CONTROL	01/29/2026	360.00
6172	S-2330	SOCALGAS	01/29/2026	205.82
6173	S-1904	SOUTHERN CALIFORNIA EDISON	01/29/2026	157.88
6174	T-2717	TAIT & ASSOCIATES, INC	01/29/2026	12,117.50
6175	R-1888	THE RITZ COMPANIES	01/29/2026	12,900.00
6176	T-2712	TOTAL SOURCE OFFICEWORKS	01/29/2026	242.04
6177	T-2656	TYLER TECHNOLOGIES, INC.	01/29/2026	70,000.00
6178	W-2451	W.G. ZIMMERMAN ENGINEERING, INC.	01/29/2026	4,569.40
6179	W-2337	WEST COAST ARBORISTS, INC.	01/29/2026	37,301.25
6180	R-1801	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	01/29/2026	40,581.10
6181	W-2452	WSP USA ENVIRONMENT AND INFRASTRUCTURE INC	01/29/2026	16,135.00
			Total Regular:	**927,210.59**

Check Number	Vendor Number	Vendor Name	Payment Date	Payment Amount
Payment Type: Bank Draft				
DFT0003312	H-0966	HIGH LEVEL SECURITY SOLUTIONS, INC.	01/29/2026	7,308.00
DFT0003313	U-2170	US BANK CORPORATE PAYMENT SYSTEMS	01/20/2026	19,904.82
			Total Bank Draft:	**27,212.82**

Bank Code 1 - General Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	135	88	0.00	927,210.59
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	17	2	0.00	27,212.82
EFT's	0	0	0.00	0.00
	152	**90**	**0.00**	**954,423.41**

All Bank Codes Check Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	135	88	0.00	927,210.59
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	17	2	0.00	27,212.82
EFT's	0	0	0.00	0.00
	152	**90**	**0.00**	**954,423.41**

Fund Summary

Fund	Name	Period	Amount
998	Pooled Cash & Investments	1/2026	954,423.41
			954,423.41

City of Laguna Hills, CA

Payables Detail Report

By Fund

Payment Dates 01/16/2026 - 01/29/2026

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
Fund: 100 - General Fund					
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (0629) 01.06.26	Juuno.co Subscription, 12/14/25 - 1/14/26	100-310-610000	10.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (0629) 01.06.26	Baker Party Rentals, Holiday Dance Extravaganza	100-310-695510	1,284.11
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	ASCAP License, 7/1/26 - 12/31/26	100-000-140000	229.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	ASCAP License, 1/1/26 - 6/30/26	100-310-610000	229.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Ralphs	100-310-622000	7.49
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Party Plus	100-310-622000	45.68
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Calo Kitchen	100-310-622000	326.61
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Mangia Bene	100-310-622000	320.04
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Smart & Final	100-310-622000	77.64
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Smart & Final, Breakfast with Santa	100-310-695510	63.57
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Walmart, Holiday Extravaganza	100-310-695510	68.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Starbucks, Holiday Extravaganza	100-310-695510	77.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Costco, Holiday Extravaganza	100-310-695510	179.92
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Alicia Cleaners, Holiday Extravaganza	100-310-695510	140.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Alicia Cleaners, Holiday Extravaganza	100-310-695510	414.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (1281) 01.06.26	Starbucks, Holiday Toy Drive	100-310-695510	132.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2811) 01.06.26	Intelius	100-225-610000	4.99
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2811) 01.06.26	Intelius	100-225-610000	4.99
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2811) 01.06.26	Intelius	100-225-610000	24.86
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2811) 01.06.26	Home Depot	100-225-622000	46.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2811) 01.06.26	76 - APRO LLC	100-225-646100	138.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (2829) 01.06.26	ChatGPT Subscription, 1/3/26 -	100-155-610000	20.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (3165) 01.06.26	Chevron	100-355-646100	133.94
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (3165) 01.06.26	Green Thumb International	100-355-720700	107.73
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (3165) 01.06.26	Smartlink	100-355-720700	510.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (3165) 01.06.26	Signarama	100-355-720701	199.34
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4243) 01.06.26	Aliso Smog Check	100-355-646100	58.45
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	GFOA Membership, 7/1/26 -	100-000-140000	208.33

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	ChatGPT Subscription, 12/23/25-1/23/26	100-155-610000	20.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	GFOA Membership, 12/1/25 -	100-155-610000	291.67
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Bru Grill & Market	100-155-611001	1,187.66
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Bru Grill & Market	100-155-611001	450.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Home Goods	100-155-611001	258.11
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Daiso	100-155-611001	63.26
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Trader Joe's	100-155-611001	33.90
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Nothing Bundt Cakes	100-155-611001	99.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Amazon	100-155-622000	41.18
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Amazon	100-155-622000	31.04
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Amazon	100-155-622000	28.52
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Green Thumb International	100-155-622000	161.52
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Nespresso USA, Inc.	100-195-622000	281.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (4849) 01.06.26	Amazon	100-355-622000	121.16
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	CEAOC Membership, 7/1/26 - 12/31/26	100-000-140000	25.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Dropbox	100-195-700090	11.99
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Microsoft 365, 12/1/25 - 12/31/25	100-195-700090	151.90
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	CEAOC Membership, 1/1/26 -	100-355-610000	25.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Antonucci's Italian Cucina	100-355-622000	312.83
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Amazon	100-355-622000	20.14
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Amazon	100-355-622000	9.15
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (5166) 01.06.26	Ephonomation.com, 12/11/25 - 1/7/26	100-355-630000	298.77
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Kahoot! Subscription, 7/1/26 - 12/18/26	100-000-140000	55.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Kahoot! Subscription, 12/18/25 - 6/30/26	100-310-610000	65.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Ralphs	100-310-622000	26.97
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Costco	100-310-622000	77.54
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Dick's Sporting Goods	100-310-622500	878.15
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Home Depot	100-310-645500	25.76
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Home Depot	100-310-645500	10.53
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Aliso Smog Check	100-310-646100	58.45
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Chevron	100-310-646100	109.88
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Exxon Circle K	100-310-646100	81.14

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Costco, Parent's Night Out	100-310-695500	345.10
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Costco, Parent's Night Out	100-310-695500	64.33
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Albertsons, Holiday Extravaganza	100-310-695510	193.46
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Walmart, Holiday Extravaganza	100-310-695510	77.17
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Smart & Final, Holiday Extravaganza	100-310-695510	54.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Smart & Final, Holiday Extravaganza	100-310-695510	39.06
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Starbucks, Breakfast with Santa	100-310-695510	132.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6615) 01.06.26	Walmart, Holiday Extravaganza	100-310-695510	(77.17)
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6976) 01.06.26	APA Membership, 7/1/26 - 12/31/26	100-000-140000	360.10
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6976) 01.06.26	APA Membership, 1/1/26 - 6/30/26	100-225-610000	360.10
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (6976) 01.06.26	Panini Kabob Grill	100-225-622000	564.60
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (7241) 01.06.26	Grammarly Subscription, 7/1/26 - 12/16/26	100-000-140000	29.70
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (7241) 01.06.26	Grammarly Subscription, 12/17/25 - 6/30/26	100-355-610000	35.10
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (7241) 01.06.26	Home Depot	100-355-622000	37.69
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (7241) 01.06.26	Shell	100-355-646100	143.04
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (7941) 01.06.26	GFOA - ACFR Award Application, FY 24/25	100-155-700050	590.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon	100-310-622000	64.62
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon	100-310-622000	38.76
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Exxon Circle K	100-310-646100	77.61
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Exxon Circle K	100-310-646100	89.98
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Exxon Circle K	100-310-646100	67.25
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Costco Gas	100-310-646100	58.90
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Exxon Circle K	100-310-646100	49.81
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Morongo Travel Center	100-310-646100	42.94
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Sharp Seating Company, Floatfest Excursion	100-310-695500	397.50
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Lightscape at San Diego Botanic Garden Excursion	100-310-695500	152.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Prime Video, Book to Movie Club Rental	100-310-695500	3.99
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Warner Bros Studio Excursion	100-310-695500	76.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Lightscape at San Diego Botanic Garden Excursion	100-310-695500	53.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Angels Flight Development Excursion	100-310-695500	1.50
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Los Angeles Zoo Excursion	100-310-695500	35.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	County of San Bernardino, Big Bear Zoo Excursion	100-310-695500	15.50

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Pasadena High School, Floatfest Excursion	100-310-695500	20.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Holiday Extravaganza	100-310-695510	43.40
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Holiday Extravaganza	100-310-695510	38.97
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Prime Video, Holiday Family Movie Night Rental	100-310-695510	3.99
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Breakfast with Santa	100-310-695510	11.84
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Holiday Toy Drive	100-310-695510	18.67
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Wishing Tree	100-310-695510	33.90
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Breakfast with Santa	100-310-695510	26.93
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Holiday Family Movie Night	100-310-695510	29.08
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Breakfast with Santa	100-310-695510	30.94
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Holiday Toy Drive	100-310-695510	22.62
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8097) 01.06.26	Amazon, Breakfast with Santa	100-310-695510	50.38
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8151) 01.06.26	Amazon Prime Subscription	100-420-610000	16.15
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8665) 01.06.26	Trader Joe's	100-310-695510	136.77
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8665) 01.06.26	Smart & Final	100-310-695510	43.92
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8665) 01.06.26	Target	100-310-695510	25.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8665) 01.06.26	Orange County Wholesale Flowers	100-310-695510	95.05
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Best Buy	100-195-622000	32.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, T-1 City Hall, 12/5/25 - 1/4/26	100-195-630000	845.31
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, WiFi Comm Ctr, 12/28/25 - 1/27/26	100-195-630000	654.77
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, WiFi Comm Ctr, 11/28/25 - 12/27/25	100-195-630000	654.77
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, T-1 Comm Ctr, 12/17/25 -	100-195-630000	584.27
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, T-1 Comm Ctr, 11/17/25 - 12/16/25	100-195-630000	584.27
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, Cable, City Hall, 12/10/25 - 1/9/26	100-195-630000	361.74
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, WiFi City Hall, 11/19/25 - 12/18/25	100-195-630000	182.62
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, Traffic Signal, 12/7/25 - 1/6/26	100-195-630000	84.00
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Cox, WiFi City Hall, 12/19/25 -	100-195-630000	182.62
01/20/2026	US BANK CORPORATE PAYMENT SYSTEMS	CalCard (8740) 01.06.26	Best Buy, TV/Monitor	100-195-940000	544.74
01/23/2026	AT&T	000024619208	Traffic Signal, 12/6/25 - 1/5/26	100-356-630000	31.88
01/23/2026	KOA CORPORATION	000024906-5	Citywide Safety Action Plan, 10/25/25 - 11/21/25	100-355-700000	13,994.92
01/23/2026	SOUTHERN CALIFORNIA NEWS	0011769100	Legal Advertising, Dec '25	100-155-624001	352.15
01/23/2026	IRVINE RANCH WATER DISTRICT	010526	Utilities - Water, 12/1/25 - 1/2/26	100-355-635000	293.06
01/23/2026	SOUTHERN CALIFORNIA EDISON	010526 - Acct #70069730	Utilities - Electric, 12/3/25 - 1/4/26	100-356-631400	10.42
01/23/2026	AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA	011526	Membership, Public Works, 7/1/26 - 2/10/27	100-000-140000	57.50

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01/23/2026	SAN DIEGO GAS AND ELECTRIC	011526	Utilities - Electric, 11/7/25 - 12/31/25	100-310-631000	12,441.87
01/23/2026	AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA	011526	Membership, Public Works, 2/11/26 - 6/30/26	100-355-610000	34.50
01/23/2026	SAN DIEGO GAS AND ELECTRIC	011526	Utilities - Electric, 11/7/25 - 12/31/25	100-355-631000	11,959.62
01/23/2026	SAN DIEGO GAS AND ELECTRIC	011526	Utilities - Electric, 11/7/25 - 12/31/25	100-356-631400	16,190.05
01/23/2026	SAN DIEGO GAS AND ELECTRIC	011526	Utilities - Electric, 12/1/25 - 12/31/25	100-356-631900	738.23
01/23/2026	ERIK R GARCIA	02202026	Daddy Daughter Dinner Dance DJ & Lighting, 2/20/26	100-310-695500	500.00
01/23/2026	VORTEX INDUSTRIES, LLC	09 - 2101290	Door Repairs, Dec '25	100-310-645500	10,055.66
01/23/2026	SESAC	10866499	Music License, 7/1/26 - 12/31/26	100-000-140000	639.00
01/23/2026	SESAC	10866499	Music License, 1/1/26 - 6/30/26	100-310-610000	639.00
01/23/2026	MTM YEE CORP	11761	Advertising-Program Services, Jan '26	100-310-624500	400.00
01/23/2026	THE BEE MAN	136987	Bee Removal, Dec '25	100-355-720701	195.00
01/23/2026	SANTA MARGARITA PLUMBING AND AIR	16609-46679	Water Heater Replacement, Dec '25	100-310-910000	12,973.57
01/23/2026	SANTA MARGARITA PLUMBING AND AIR	16609-46688	Water Heater Leak Repair, Dec '25	100-310-645500	325.00
01/23/2026	MAIN GRAPHICS	166869	Business Cards, Jan '26	100-155-623000	228.50
01/23/2026	MAIN GRAPHICS	166910	Letterhead, Jan '26	100-155-623000	130.54
01/23/2026	ARDURRA GROUP, INC.	178353	Permitting Services, Dec '25	100-355-700250	7,561.50
01/23/2026	ACTION WELDING CORP	18249	Parks Contract Repair, Jan '26	100-355-720701	2,070.00
01/23/2026	DATA TICKET, INC.	188702	Process Fee, Parking Citations, Dec	100-420-720823	551.84
01/23/2026	LSA ASSOCIATES, INC	202171	Professional Services, USE-0239-2025, Nov '25	100-000-223000	5,176.75
01/23/2026	SPECTRUM SPORTS MANAGEMENT, INC.	2025-160	Event Mgmt Services, 1/2 Marathon, 1st Billing	100-310-695507	7,000.00
01/23/2026	CITY OF MISSION VIEJO	21568	Homelessness Outreach, Dec '25	100-310-720302	5,502.73
01/23/2026	COUNTS UNLIMITED, INC.	251170	Traffic Data Collection, Jan '26	100-356-700101	450.00
01/23/2026	HARPER & BURNS LLP	336	Professional Services, Legal, Nov '25	100-155-700011	3,547.50
01/23/2026	HARPER & BURNS LLP	341	Professional Services, Legal, Dec '25	100-155-700011	1,764.50
01/23/2026	HERK EDWARDS, INC.	3777	Basketball Height Adjuster Replacement, Jan '26	100-310-646000	4,525.00
01/23/2026	TOTAL SOURCE OFFICEWORKS	40857	Operating Supplies, Jan '26	100-195-622000	30.15
01/23/2026	GRAHAM COMPANY	41320	Emergency Lighting System Maintenance, Jan '26	100-310-645500	590.00
01/23/2026	FULL TRAFFIC MAINTENANCE, INC.	46468	Traffic Maintenance, Dec '25	100-355-720401	8,260.92
01/23/2026	BILL'S SOUND AND SECURITY	47295	Fire Alarm Monitoring, Jan - Mar '26	100-310-630000	420.00
01/23/2026	SAGECREST PLANNING AND ENVIRONMENTAL	5565	Plan Check Fee, USE-0211-2025, Dec '25	100-000-223000	495.00
01/23/2026	SAGECREST PLANNING AND ENVIRONMENTAL	5566	Contract Staffing Services, Dec '25	100-225-720512	510.00
01/23/2026	CROSSTOWN ELECTRICAL AND DATA, INC.	5976 - 6075	Traffic Signal Maintenance, Dec '25	100-356-720420	16,908.27
01/23/2026	SCOTT CUMMINGS	633	Volleyball Rack Installation, Dec '25	100-310-622500	250.00
01/23/2026	RJ ELECTRIC	64358	Community Center Light Repairs, Dec '25	100-310-645500	7,175.00
01/23/2026	RJ ELECTRIC	64391	Interior Lighting Repairs, Dec '25	100-310-645500	3,804.82
01/23/2026	RJ ELECTRIC	64442	Moulton Tunnel Lighting Repairs, Jan '26	100-355-720701	403.00
01/23/2026	RJ ELECTRIC	64465	Electric Repairs, Santa Vittoria Park, Jan '26	100-355-720701	434.00
01/23/2026	CHARLES ABBOTT ASSOCIATES, INC	69820	Professional Services, Dec '25	100-225-700000	30,763.31
01/23/2026	CHARLES ABBOTT ASSOCIATES, INC	69855 - A (Mandeville Pa	Park Signs, Dec '25	100-355-720701	155.85
01/23/2026	CHARLES ABBOTT ASSOCIATES, INC	69872	Project Manager Services, Dec '25	100-355-700000	20,650.00
01/23/2026	JAMEY CLARK, INC.	77209	Janitorial Services, Nov '25	100-310-721505	3,450.00
01/23/2026	JAMEY CLARK, INC.	77315	Janitorial Services, Dec '25	100-310-721505	3,450.00
01/23/2026	JAMEY CLARK, INC.	77321	Graffiti Removal, Dec '25	100-355-720500	1,152.00
01/23/2026	JAMEY CLARK, INC.	77334	Graffiti Removal, Jan '26	100-355-720500	672.00
01/23/2026	JAMEY CLARK, INC.	77338	Park Repairs, Public Works, Jan '26	100-355-720701	352.51
01/23/2026	JAMEY CLARK, INC.	77347	Park Repairs, Public Works, Jan '26	100-355-720701	144.00
01/23/2026	JAMEY CLARK, INC.	77367	Graffiti Removal, Jan '26	100-355-720500	1,088.21
01/23/2026	JAMEY CLARK, INC.	77368	Park Repairs, Public Works, Jan '26	100-355-720701	315.19

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01/23/2026	DOG WASTE DEPOT	797278	Operating Supplies, Jan '26	100-355-622000	708.67
01/23/2026	OPPENHEIMER INVESTIGATIONS GROUP LLP	8949	Legal Services, Dec '25	100-155-700010	8,321.00
01/23/2026	ARIANA GOMEZ	99281639	Refund, Facility Deposit, R #79313330	100-000-222000	500.00
01/23/2026	YORKSHIRE FEDERAL INC	BLDC-0042-2025	BLDC-0042-2025, C&D Refund, REC-015200-2025	100-000-227001	7,100.00
01/23/2026	TRS ROOFING CO	BLDR-0371-2025	BLDR-0371-2025, C&D Refund, REC-015898-2025	100-000-227001	600.00
01/23/2026	ONTARIO REFRIGERATION SERVICE, INC.	C12147	HVAC Repairs, Suite 150, Dec '25	100-355-645500	1,750.00
01/23/2026	ORANGE COUNTY TREASURER-TAX COLLECTOR	DEC 25	Parking Fee Surcharge, Dec '25	100-420-720823	1,961.00
01/23/2026	OFFICE SOLUTIONS	I-20011768	Operating Supplies, Jan '26	100-195-622000	96.54
01/23/2026	RAPIDFIRE SAFETY & SECURITY LLC	INV-706450985	New Extinguishers & Inspection, Dec '25	100-310-645500	866.13
01/23/2026	BRIAN'S POOL PLASTERING	POOLR-0024-2025	POOLR-0024-2025, Pool Bond Refund, REC-015478-2025	100-000-228001	500.00
01/23/2026	DMS FACILITY SERVICES, LLC	RC-T005616	Landscape Services, Dec '25	100-355-720700	101,390.00
01/23/2026	COUNTY OF ORANGE	SH 73274	Fingerprint ID System Charges, Dec	100-420-720835	908.00
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004945	Landscape Services, Nov '25	100-355-720700	289.40
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004946	Landscape Services, Nov '25	100-355-720700	292.52
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004985	Landscape Services, Dec '25	100-355-720700	248.95
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004986	Landscape Services, Dec '25	100-355-720700	1,288.66
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004987	Landscape Services, Dec '25	100-355-720700	120.38
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004991	Landscape Services, Dec '25	100-355-720700	292.52
01/23/2026	DMS FACILITY SERVICES, LLC	STL-004992	Landscape Services, Dec '25	100-355-720700	186.61
01/23/2026	LIVING INTERIORS	T89014	Interior Plantscape Services, Jan '26	100-310-645500	246.12
01/29/2026	AT&T	000024621182	Alarm, Com Ctr & City Hall Lines, 12/7/25-1/6/26	100-195-630000	215.24
01/29/2026	AT&T	000024621182	Alarm, Com Ctr & City Hall Lines, 12/7/25-1/6/26	100-310-630000	155.77
01/29/2026	MOULTON NIGUEL WATER DISTRICT	011526	Utilities - Water, 12/9/25 - 1/12/26	100-310-635000	726.48
01/29/2026	MOULTON NIGUEL WATER DISTRICT	011526	Utilities - Water, 12/9/25 - 1/12/26	100-355-635000	8,020.58
01/29/2026	EL TORO WATER DISTRICT	011926	Water Usage, 12/5/25 - 1/8/26	100-355-635000	126.95
01/29/2026	SOCALGAS	012026	Utilities - Gas, 12/16/25 - 1/16/26	100-310-632000	205.82
01/29/2026	MOULTON NIGUEL WATER DISTRICT	012226	Utilities - Water, 12/16/25 - 1/19/26	100-355-635000	90.80
01/29/2026	SOUTHERN CALIFORNIA EDISON	012226 - Acct #70007600	Utilities - Electric, 12/2/25 - 1/21/26	100-356-631400	157.88
01/29/2026	A.Y. NURSERY, INC.	0132418	Landscape Services, Jan '26	100-355-720700	1,319.94
01/29/2026	TYLER TECHNOLOGIES, INC.	025-540648	Assist Complete, 7/1/26 - 1/31/27	100-000-140000	40,833.33
01/29/2026	TYLER TECHNOLOGIES, INC.	025-540648	Assist Complete, 2/1/26 - 6/30/26	100-195-700090	29,166.67
01/29/2026	JCTEES.COM CORPORATION	10862	Basketball League Champion Hoodies, Jan '26	100-310-622500	382.17
01/29/2026	DEPARTMENT OF CONSERVATION	123125	Remittance, SMIP Fee, Oct-Dec '25	100-000-221001	455.83
01/29/2026	SAN JOAQUIN HILLS TRANSPORT CORRIDOR AGENCY	123125	Remit, Transportation Corridor Fees, Oct-Dec '25	100-000-221005	4,952.72
01/29/2026	SAN JOAQUIN HILLS TRANSPORT CORRIDOR AGENCY	123125	Remit, Transportation Corridor Fees, Oct-Dec '25	100-000-221006	774.15
01/29/2026	CALIFORNIA BUILDING STANDARDS COMMISSION	123125	Building Standard Fund, Oct-Dec '25	100-000-221011	826.00
01/29/2026	DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA	123125	Disability Access Fees, Oct-Dec '25	100-000-221012	184.00
01/29/2026	CALIFORNIA BUILDING STANDARDS COMMISSION	123125	Building Standard Fund, Oct-Dec '25	100-000-442000	(82.60)
01/29/2026	COUNTY OF ORANGE PF RD FINANCIAL SERVICES	123125 - #RFR26-00005	Remittance, CARITS, Moulton Fees, Oct-Dec '25	100-000-221003	530.34
01/29/2026	COUNTY OF ORANGE PF RD FINANCIAL SERVICES	123125 - #RFR26-00005	Remittance, CARITS, Moulton Fees, Oct-Dec '25	100-000-221004	2,388.03
01/29/2026	ARC DOCUMENT SOLUTIONS, LLC	13014176	Printing Services, Public Works, Jan	100-355-623000	119.06
01/29/2026	SANTA MARGARITA PLUMBING AND AIR	16324-46733	Emergency Shut Off Valve, Dec '25	100-355-645500	6,625.14
01/29/2026	SANTA MARGARITA PLUMBING AND AIR	16324-46743	Restroom Repair, Dec '25	100-355-645500	365.17

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01/29/2026	SANTA MARGARITA PLUMBING AND AIR	16324-46856	Faucet Repair, Jan '26	100-355-645500	210.00
01/29/2026	SANTA MARGARITA PLUMBING AND AIR	16324-46860	Restroom Repair, Jan '26	100-355-645500	787.14
01/29/2026	TAIT & ASSOCIATES, INC	168163	Engineer Services, Dec '25	100-355-700250	12,117.50
01/29/2026	ARDURRA GROUP, INC.	178915	Engineering Services, Dec '25	100-355-700250	12,714.00
01/29/2026	THE RITZ COMPANIES	226449	Janitorial Services, Jan '26	100-310-721505	12,900.00
01/29/2026	WEST COAST ARBORISTS, INC.	238758	Tree Trimming Services, 12/16/25 - 12/31/25	100-355-720702	3,480.25
01/29/2026	WEST COAST ARBORISTS, INC.	238964	Tree Trimming Services, 1/1/26 - 1/15/26	100-355-720702	33,821.00
01/29/2026	HARTZOG AND CRABILL, INC.	25-0445(HCI#3502)	Traffic Signal Mgmt Services, Oct '25	100-356-700101	6,278.00
01/29/2026	HARTZOG AND CRABILL, INC.	25-0497(HCI#3502)	Traffic Signal Mgmt Services, Nov '25	100-356-700101	6,840.10
01/29/2026	RAMON TOTAL ROOFING	25-1218	Civic Center Roof Repairs, Jan '26	100-355-645500	36,000.00
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-936	On-Call Engineer Services, Dec '25	100-355-700250	1,125.70
01/29/2026	HARTZOG AND CRABILL, INC.	26-0019(HCI#3502)	Traffic Signal Mgmt Services, Dec '25	100-356-700101	5,199.25
01/29/2026	SKYLINE PEST CONTROL	374073	Pest and Rodent Control, Jan '26	100-310-645500	360.00
01/29/2026	RJM DESIGN GROUP, INC.	37575	Reader Board Design, Dec '25	100-355-700250	10,260.03
01/29/2026	WSP USA ENVIRONMENT AND INFRASTRUCTURE INC	40301495	Professional Services, NPDES Support, Dec '25	100-355-700000	16,135.00
01/29/2026	TOTAL SOURCE OFFICEWORKS	40775	Operating Supplies, Jan '26	100-195-622000	242.04
01/29/2026	CANON FINANCIAL SERVICES, INC.	42468287	Usage, 2XK05658, 12/1/25 -	100-195-641200	222.35
01/29/2026	CANON FINANCIAL SERVICES, INC.	42468287	Lease, 2XK05658, 1/1/26 - 1/31/26	100-195-641200	303.86
01/29/2026	CANON FINANCIAL SERVICES, INC.	42469946	Usage, 2XD05658 2XD05811, 12/1/25-12/31/25	100-195-641200	519.15
01/29/2026	CANON FINANCIAL SERVICES, INC.	42469946	Lease, 2XD05658 2XD05811, 1/1/26-1/31/26	100-195-641200	596.94
01/29/2026	CANON FINANCIAL SERVICES, INC.	42469947	Paperdeck Attachment 2XD05811A, 1/1/26-1/31/26	100-195-641200	36.56
01/29/2026	MITSUBISHI ELECTRIC US, INC.	552177	Elevator Maintenance, Jan '26	100-310-645500	450.00
01/29/2026	HIGH LEVEL SECURITY SOLUTIONS, INC.	6034	Private Security Patrol, 1/12/26 - 1/25/26	100-420-720850	7,308.00
01/29/2026	RJ ELECTRIC	64445	Exterior Lighting Repairs, Jan '26	100-355-720701	1,957.00
01/29/2026	JAMEY CLARK, INC.	77393	Park Repairs, Public Works, Jan '26	100-355-720701	192.00
01/29/2026	JAMEY CLARK, INC.	77395	Graffiti Removal, Jan '26	100-355-720500	935.00
01/29/2026	JAMEY CLARK, INC.	77410	Park Repairs, Public Works, Jan '26	100-355-720701	521.88
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79520	Professional Services, Legal, Dec '25	100-155-700010	16,329.60
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79520	Professional Services, Legal, Dec '25	100-155-700011	2,016.00
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79521	Prof Services, Legal, Dec '25, USE-0239-2025	100-000-223000	7,324.20
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79522	Prof Services, Legal, Dec '25, USE-0166-2023	100-000-223000	1,001.60
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79523	Prof Services, Legal, Dec '25, USE-0209-2025	100-000-223000	9,527.70
01/29/2026	WOODRUFF & SMART, A PROFESSIONAL CORPORATION	79524	Prof Services, Legal, Dec '25, USE-0211-2025	100-000-223000	4,382.00
01/29/2026	AREMIA VENTURA	99788319	Refund, Facility Deposit, R #83000490	100-000-222000	500.00
01/29/2026	ONTARIO REFRIGERATION SERVICE, INC.	CM48209	HVAC Maintenance, Jan '26	100-310-645500	653.46
01/29/2026	GA TECHNICAL SERVICES, INC.	Pay Request #2 - Invoice 1	Electrical Upgrades Project, CIP #520, Dec '25	100-000-201001	(3,094.72)
01/29/2026	GA TECHNICAL SERVICES, INC.	Pay Request #2 - Invoice 1	Electrical Upgrades Project, CIP #520, Dec '25	100-000-790600	61,894.41
01/29/2026	DMS FACILITY SERVICES, LLC	STL-005014	Landscape Services, Nov '25	100-355-720700	540.00
01/29/2026	DMS FACILITY SERVICES, LLC	STL-005015	Landscape Services, Nov '25	100-355-720700	400.00
01/29/2026	DMS FACILITY SERVICES, LLC	STL-005016	Landscape Services, Nov '25	100-355-720700	3,936.00
01/29/2026	LIVING INTERIORS	T89067	Interior Plantscape Services, Feb '26	100-310-645500	159.00
			Fund 100 - General Fund Total:		**745,007.31**

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
Fund: 212 - Measure M2 Fund					
01/23/2026	CHARLES ABBOTT ASSOCIATES, INC	69855	Road Maintenance, Dec '25	212-355-720400	27,413.82
			Fund 212 - Measure M2 Fund Total:		**27,413.82**
Fund: 221 - Senior Mobility Program Fund					
01/23/2026	OCY MANAGEMENT, LLC	12406025	Senior Mobility Program, Dec '25	221-310-720000	5,298.00
			Fund 221 - Senior Mobility Program Fund Total:		**5,298.00**
Fund: 301 - CARITS Road Fee Program Fund					
01/23/2026	AGA ENGINEERS, INC	25423-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	301-000-790600	24,696.37
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-934	Engineer Services, CIP #168, Dec '25	301-000-790600	1,800.00
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-935	Engineer Services, CIP #168, Dec '25	301-000-790600	1,643.70
01/29/2026	AGA ENGINEERS, INC	25467-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	301-000-790600	12,570.71
01/29/2026	KIMLEY-HORN AND ASSOCIATES INC	34472398	Fiber Coordination Project, CIP #168, Dec '25	301-000-790600	935.00
			Fund 301 - CARITS Road Fee Program Fund Total:		**41,645.78**
Fund: 306 - Waste & Recycling Fee Fund					
01/29/2026	ECONOMICS, INC.	2024.16	Professional Services, Recycling Program, Oct '25	306-355-700000	25,720.25
01/29/2026	ECONOMICS, INC.	2024.17	Professional Services, Recycling Program, Nov '25	306-355-700000	8,549.17
01/29/2026	ECONOMICS, INC.	2024.18	Professional Services, Recycling Program, Dec '25	306-355-700000	9,554.58
			Fund 306 - Waste & Recycling Fee Fund Total:		**43,824.00**
Fund: 311 - Quimby Act Park In-Lieu Fee (VALH) Fund					
01/29/2026	RJM DESIGN GROUP, INC.	37561	Cabot Park Rehabilitation, CIP #241, Dec '25	311-000-790600	16,628.00
01/29/2026	RJM DESIGN GROUP, INC.	37562	Veeh Ranch & San Remo Rehab, CIP #241, Dec '25	311-000-790600	24,772.10
			Fund 311 - Quimby Act Park In-Lieu Fee (VALH) Fund Total:		**41,400.10**
Fund: 312 - CASp Fee Fund					
01/29/2026	DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA	123125	Disability Access Fees, Oct-Dec '25	312-000-442000	(165.60)
			Fund 312 - CASp Fee Fund Total:		**(165.60)**
Fund: 401 - Public Art Fund					
01/29/2026	BRITTANY MARIE RYAN	012626	Dark Horse Memorial, Molding Phase	401-310-900000	50,000.00
			Fund 401 - Public Art Fund Total:		**50,000.00**
Fund: 600 - Capital Improvement Projects Fund					
01/23/2026	AGA ENGINEERS, INC	25423-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	600-000-490301	(24,696.37)
01/23/2026	AGA ENGINEERS, INC	25423-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	600-251-950168	24,696.37
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-934	Engineer Services, CIP #168, Dec '25	600-000-490301	(1,800.00)
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-934	Engineer Services, CIP #168, Dec '25	600-251-950168	1,800.00
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-935	Engineer Services, CIP #168, Dec '25	600-000-490301	(1,643.70)
01/29/2026	W.G. ZIMMERMAN ENGINEERING,	25-12-935	Engineer Services, CIP #168, Dec '25	600-251-950168	1,643.70
01/29/2026	AGA ENGINEERS, INC	25467-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	600-000-490301	(12,570.71)
01/29/2026	AGA ENGINEERS, INC	25467-IN	RTSSP for Paseo de Valencia-Moulton Pkwy, CIP #168	600-251-950168	12,570.71
01/29/2026	KIMLEY-HORN AND ASSOCIATES INC	34472398	Fiber Coordination Project, CIP #168, Dec '25	600-000-490301	(935.00)
01/29/2026	KIMLEY-HORN AND ASSOCIATES INC	34472398	Fiber Coordination Project, CIP #168, Dec '25	600-251-950168	935.00
01/29/2026	RJM DESIGN GROUP, INC.	37561	Cabot Park Rehabilitation, CIP #241, Dec '25	600-000-490311	(16,628.00)
01/29/2026	RJM DESIGN GROUP, INC.	37561	Cabot Park Rehabilitation, CIP #241, Dec '25	600-252-950241	16,628.00
01/29/2026	RJM DESIGN GROUP, INC.	37562	Veeh Ranch & San Remo Rehab, CIP #241, Dec '25	600-000-490311	(24,772.10)

Payment Date	Vendor Name	Payable Number	Description (Item)	Account Number	Amount
01/29/2026	RJM DESIGN GROUP, INC.	37562	Veeh Ranch & San Remo Rehab, CIP #241, Dec '25	600-252-950241	24,772.10
01/29/2026	GA TECHNICAL SERVICES, INC.	Pay Request #2 - Invoice 1	Electrical Upgrades Project, CIP #520, Dec '25	600-000-490100	(61,894.41)
01/29/2026	GA TECHNICAL SERVICES, INC.	Pay Request #2 - Invoice 1	Electrical Upgrades Project, CIP #520, Dec '25	600-255-950520	61,894.41
			Fund 600 - Capital Improvement Projects Fund Total:		-
				Grand Total:	**954,423.41**

Report Summary

Fund Summary

Fund	Payment Amount
100 - General Fund	745,007.31
212 - Measure M2 Fund	27,413.82
221 - Senior Mobility Program Fund	5,298.00
301 - CARITS Road Fee Program Fund	41,645.78
306 - Waste & Recycling Fee Fund	43,824.00
311 - Quimby Act Park In-Lieu Fee (VALH) Fund	41,400.10
312 - CASp Fee Fund	(165.60)
401 - Public Art Fund	50,000.00
600 - Capital Improvement Projects Fund	-
Grand Total:	**954,423.41**

Account Summary

Account Number	Account Name	Payment Amount
100-000-140000	Prepaid Items	42,436.96
100-000-201001	Accounts Payable - Retention	(3,094.72)
100-000-221001	SMIP - Residential	455.83
100-000-221003	Moulton Fees	530.34
100-000-221004	CARITS Road Fees	2,388.03
100-000-221005	SJHTC A Fees	4,952.72
100-000-221006	SJHTC B Fees	774.15
100-000-221011	Building Standards Fee	826.00
100-000-221012	SB1186 ADA CASp Fees	184.00
100-000-222000	Refundable Deposits	1,000.00
100-000-223000	Plan Application Deposit	27,907.25
100-000-227001	Security Deposit - Waste	7,700.00
100-000-228001	Swimming Pool Construction	500.00
100-000-442000	Building Related Permits	(82.60)
100-000-790600	Transfers Out to Capital	61,894.41
100-155-610000	Memberships & Subscriptions	331.67
100-155-611001	Staff Development & Team	2,091.93
100-155-622000	Operating Supplies	262.26
100-155-623000	Printing & Mailing	359.04
100-155-624001	Advertising - Legal	352.15
100-155-700010	Legal Services - General Counsel	24,650.60
100-155-700011	Legal Services - Litigation	7,328.00
100-155-700050	Professional Services - Financial	590.00
100-195-622000	Operating Supplies	682.04
100-195-630000	Communications	4,349.61
100-195-641200	Copier Leases	1,678.86
100-195-700090	IT Contract Services & Support	29,330.56
100-195-940000	Computer Hardware	544.74
100-225-610000	Memberships & Subscriptions	394.94
100-225-622000	Operating Supplies	610.91
100-225-646100	Vehicles - Fuel & Maintenance	138.00
100-225-700000	Professional Services - Building &	30,763.31
100-225-720512	Contract Services	510.00
100-310-610000	Memberships & Subscriptions	943.00
100-310-622000	Operating Supplies	985.35
100-310-622500	Program & League Supplies	1,510.32
100-310-624500	Printing & Advertising	400.00
100-310-630000	Communications	575.77
100-310-631000	Utilities - Electric	12,441.87
100-310-632000	Utilities - Gas	205.82
100-310-635000	Utilities - Water	726.48
100-310-645500	Facility Maintenance & Repairs	24,721.48
100-310-646000	Equipment Maintenance &	4,525.00
100-310-646100	Vehicles - Fuel & Maintenance	635.96

Account Summary

Account Number	Account Name	Payment Amount
100-310-695500	Special Events - Program Services	1,663.92
100-310-695507	Marathon 5k	7,000.00
100-310-695510	Holiday Event Series	3,389.51
100-310-720302	Contract Services - Homelessness	5,502.73
100-310-721505	Contract Services - Janitorial &	19,800.00
100-310-910000	Furniture & Equipment	12,973.57
100-355-610000	Memberships & Subscriptions	94.60
100-355-622000	Operating Supplies	1,209.64
100-355-623000	Printing & Mailing	119.06
100-355-630000	Communications	298.77
100-355-631000	Utilities - Electric	11,959.62
100-355-635000	Utilities - Water	8,531.39
100-355-645500	Facility Maintenance & Repairs	45,737.45
100-355-646100	Vehicles - Fuel & Maintenance	335.43
100-355-700000	Professional Services	50,779.92
100-355-700250	On-Call Services	43,778.73
100-355-720401	Other Public Works Maintenance	8,260.92
100-355-720500	Graffiti Removal	3,847.21
100-355-720700	Landscape Maintenance	110,922.71
100-355-720701	Parks Maintenance & Repairs	6,939.77
100-355-720702	Tree Maintenance	37,301.25
100-356-630000	MOE - Communications	31.88
100-356-631400	MOE - Electric (Streetlights &	16,358.35
100-356-631900	MOE - Electric (On-Bill Financing)	738.23
100-356-700101	MOE - Traffic Engineer Services	18,767.35
100-356-720420	MOE - Traffic Signal Maintenance	16,908.27
100-420-610000	Memberships & Subscriptions	16.15
100-420-720823	Parking Citation Processing	2,512.84
100-420-720835	Fingerprint Identification Services	908.00
100-420-720850	Private Security Patrol	7,308.00
212-355-720400	Street Maintenance	27,413.82
221-310-720000	Contract Services	5,298.00
301-000-790600	Transfers Out to Capital	41,645.78
306-355-700000	Professional Services	43,824.00
311-000-790600	Transfers Out to Capital	41,400.10
312-000-442000	Building Related Permits	(165.60)
401-310-900000	Public Artwork	50,000.00
600-000-490100	Transfers In from General Fund	(61,894.41)
600-000-490301	Transfers In from CARITS Road	(41,645.78)
600-000-490311	Transfers In from Quimby Act	(41,400.10)
600-251-950168	Traffic Signal Improvements	41,645.78
600-252-950241	General Park Renovations	41,400.10
600-255-950520	Community Center Electrical	61,894.41
	Grand Total:	**954,423.41**

Project Account Summary

Project Account Key	Payment Amount
None	954,423.41
Grand Total:	**954,423.41**

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Chair and Agency Members
From: David Blumenthal, Contract Planner
Jennifer Lowe, Community Development Director
Issue: Vesting Tentative Tract Map (VTTM)/Site Development Permit (SDP) No. USE-0211-2025 (23161 Mill Creek Drive/Toll Brothers/Khoshbin)

Recommendation: That the Planning Agency:

1. Conduct a public hearing;

2. Find and determine that the proposed Project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to the Class 32 Exemption applicable to infill development projects (14 Cal.Code.Regs. Section 15332); and

3. Adopt a Resolution entitled: "A Resolution of the Planning Agency of the City of Laguna Hills, California, approving Vesting Tentative Tract Map (VTTM)/Site Development Permit (SDP) No. USE-0211-2025, a request by Toll West Coast, LLC (Toll Brothers) for approval of a 36-unit residential development on an approximately 2.44 acre parcel located at 23161 Mill Creek Drive (APN 588-142-07), and finding that the project is Categorically Exempt from the California Environmental Quality Act pursuant to the Class 32 exemption applicable to infill development projects (14 Cal. Code. Regs. Section 15332)."

Background:

Toll West Coast, LLC ("Applicant"), commonly referred to as Toll Brothers, proposes to redevelop an approximately 2.44-acre parcel with a 36-unit residential condominium development ("Project"). The subject site ("Site") is located on the west side of Mill

Creek Drive, approximately 1,300 feet south of Lake Forest Drive, which is in the northern portion of the City. The site is currently owned by Khoshbin Hillside, LLC ("Owner").

The Site has a General Plan land use designation of Mixed Use, which is intended to "provide for areas where a variety of goods and services can be obtained within an overall planned environment" (Laguna Hills General Plan Page LU-12). The General Plan also identifies the Site within the North Business Park future study area. While the general plan does not identify specific actions for the future study areas, it denotes that "opportunities exist to redevelop, improve, or intensify some of the land uses in the future study areas" (Laguna Hills General Plan Page LU-25). The Site is zoned Mixed Use (MXU), which according to Laguna Hills Municipal Code ("LHMC") Section 9-30.010 is intended "to provide for areas where a variety of goods and services can be obtained within an overall planned environment. This zone permits commercial, recreational, light industrial, and high density residential uses." The Site is not one of the sites identified in the inventory of sites in the City's Housing Element to accommodate the City's Regional Housing Needs Allocation.

The Site is currently improved with a 48,777-square-foot, 3-story, approximately 38-foot tall, multi-tenant office building located on the northern portion of the site (see Figure 1). The building was approved under the jurisdiction of the County of Orange (UP80-17P/SP80-19P/VA80-2P) and constructed in 1987.

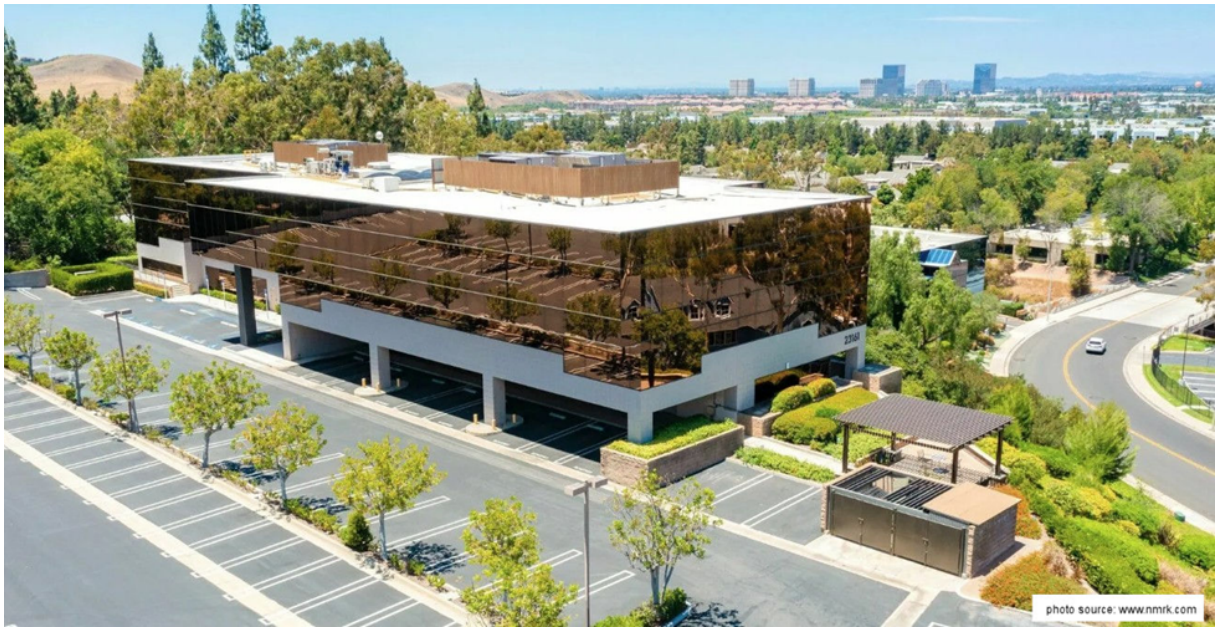


Figure 1. Existing Office Building

To the south of the office building is a parking lot with 186 parking spaces. A trellis-covered seating area and a trash enclosure are located on the east side of the building. The remaining portions of the Site are improved with landscaping and walkways. Access to the Site and parking area is directly from Mill Creek Drive via a single driveway approach on the southeast corner of the site. Southern California Edison maintains a six-foot wide easement that runs east to west from Mill Creek Drive to near the western property line for purposes of underground powerlines to serve the site. Due to Mill Creek Drive sloping up from north to south, the southeast corner of the development pad, which is located at the driveway approach, is at the same elevation as Mill Creek Drive. However, the northeast corner of the development pad is approximately 25 feet above Mill Creek Drive.

To the north of the Project Site, is a 21,800-square-foot, 3-story, multi-tenant office building (23091 Mill Creek Drive). The development pad for this building is approximately 40-feet below the Project Site. South of the Project Site is a 27,100 square foot, three story, multi-tenant office building (23201 Mill Creek Drive), which was built in 1982. This site is approximately ten feet above the Project Site. West of the Project Site is a multi-family condominium development (Laguna Village), which includes one- and two-story condominiums that were built in the mid- to late-1970's. This residential development has a general plan land use designation of Medium-Low Density Residential and is zoned Medium-Low Density Residential (MLDR). To the east, across Mill Creek Drive, is New Vista School, a private secondary education institute (6 to 12+) for special needs students (23092 Mill Creek Drive). The school has been in operation since the late 1980's.

Authority:

The Development Code (commonly cited as the "Zoning Code" or the "Code") is codified as Title 9 of the LHMC and provides specific rules and standards for property use and development within the City of Laguna Hills ("City"). Chapter 9-92 of the Code outlines the process the city must ordinarily follow in reviewing new development projects. Pursuant to Chapter 9-92, approval of the proposed Site Development Permit requires Planning Agency approval. Chapter 9-92 also sets forth specific findings that ordinarily must be made in order to approve a Site Development Permit. Review and approval of subdivisions is established through LHMC Chapter 9-86, which adopts Orange County Municipal Code (OCMC) Title 7 (Land Use and Building Regulations), Division 9 (Planning), Article 3 (The Subdivision Code) by reference. OCMC Section 7-9-255 establishes the required findings to adopt a tentative map.

For housing development projects, the Housing Accountability Act adds an additional burden on the City's ability to deny a housing project that complies with applicable objective general plan, zoning, subdivision, and design standards. Subdivision (j)(1) of Government Code Section 65589.5 states:

> (j) (1) When a proposed housing development project complies with applicable, objective general plan, zoning, and subdivision standards and criteria, including design review standards, in effect at the time that the application was deemed complete, but the local agency proposes to disapprove the project or to impose a condition that the project be developed at a lower density, the local agency shall base its decision regarding the proposed housing development project upon written findings supported by a preponderance of the evidence on the record that both of the following conditions exist:
>
> (A) The housing development project would have a specific, adverse impact upon the public health or safety unless the project is disapproved or approved upon the condition that the project be developed at a lower density. As used in this paragraph, a "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.
>
> (B) There is no feasible method to satisfactorily mitigate or avoid the adverse impact identified pursuant to paragraph (1), other than the disapproval of the housing development project or the approval of the project upon the condition that it be developed at a lower density.

If a court finds a violation of the Housing Accountability Act, then the Court under that same statute has an ability to impose liability on an offending agency or city (depending on the facts of the case) for fines, penalties, sanctions, and the attorney's fees and costs incurred by the applicant and any other entity given standing under the Housing Accountability Act to sue for a violation of that statute.

<u>Senate Bill 330</u>

SB 330 (Chapter 654, Statutes of 2019), also known as the "Housing Crisis Act of 2019", established a "preliminary application" process for housing developments, which allows an applicant to vest its rights in the current zoning and development standards by submitting a form to the City containing specified information about the proposed project (Government Code §§ 65941.1 and 65589.5(o)). Upon submittal of a preliminary application containing the information listed in the statute, the project becomes vested

for a period of 180 days in the ordinances, policies, standards, and fees in place at the time the preliminary application was submitted, provided the applicant submits a formal application to the City within the 180-day period.

On December 18, 2024, the Applicant submitted a preliminary application to the City, pursuant to Government Code Section 65941.1, for a 36-unit multi-family development. The preliminary application included 36-attached single family homes in a duplex format. Each unit was proposed with a 2-car garage, and 10 open parking spaces were located throughout the site. A formal application was submitted by the Applicant on January 30, 2025, thus locking in the Project's vesting in the ordinances, policies, standards, and fees in place on December 18, 2024. The key dates in staff's review of the application are shown in Attachment 3.

State Density Bonus Law ("SBDL")

As part of the Site Development Permit, the Applicant is also requesting to utilize State Density Bonus Law ("SDBL"). Codified as California Government Code Sections 65915-65918, SDBL requires the City to approve increases in density, concessions/incentives, parking reductions, and development standard reductions/waivers for qualified housing development projects. The specifics of the density bonus request are discussed below in the Proposal & Analysis section of this report, however much like the Housing Accountability Act, the City's ability to deny a request is limited.

Generally, under SDBL, depending on the quantity and target income level of affordable units provided, developers are eligible an increase in prescribed density for a site. The Applicant was able to invoke the use of SBDL due to the inclusion of five percent (5%) of the total base units of the proposed housing development for sale to very low-income households, as defined in Section 50105 of the Health and Safety Code (See Gov't Code §65915(b)(1)(B)).

State Density Bonus Law allows developers to request an "incentive" or "concession" of a development standard in order to facilitate the construction of the development including the density bonus units. (See Gov't Code §65915(b)). The number of allowed incentives or concessions increases as projects provide more affordable housing. To deny a concession or incentive, the City must make a written finding, based upon substantial evidence, that the requested concession or incentive:

1. Does not result in identifiable and actual cost savings to the project to provide for the affordable housing costs; or

2. Would have a specific adverse impact on public health, safety or on property

which is listed on the state Register of Historical Resources and there is no feasible method to satisfactorily mitigate the specific adverse impact without making the project unaffordable to the affordable households; or

3. Would be contrary to state or federal law.

In addition to incentives and concessions, SDBL allows developers to request an unlimited number of "waivers" or modifications of development standards that would have the effect of physically precluding the construction of the proposed project with the density bonus units and the developer's requested concessions or incentives. (See Gov't Code §65915(e)). A city can only deny the requested waiver if it finds, based upon substantial evidence, that the waiver is contrary to state or federal law or would have a specific adverse impact on public health or safety or on property which is listed on the state Register of Historical Resources and where there is no feasible method to satisfactorily mitigate the specific adverse impact. Notwithstanding this, the City is not required to approve a waiver that:

1. Would have a specific adverse effect on the public and safety and which the specific adverse effect cannot be mitigated. For purposes of this finding a specific adverse effect means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete,

2. Would impact any property that is listed in the California Register of Historical Resources, or

3. Would violate state or federal law.

<u>Parking</u>

State Density Bonus Law incentivizes the construction of affordable and senior citizen housing units by allowing the reduction of the minimum number of parking spaces required for Density Bonus projects. (See Gov't Code §65915(p)). Upon the developer's request, the city or county may not require more than the following parking ratios for a density bonus project:

Unit Type	Parking Requirement
Studio	1 space
1 bedroom	1 space
2 bedroom	1.5 spaces

Unit Type	Parking Requirement
3 bedroom	1.5 spaces
4 bedroom	2.5 spaces
Bedspace in Student Housing	0 spaces

A more detailed summary of State Density Bonus Law is attached to this report for reference (see Attachment 5).

Proposal & Analysis:

Overview

The Applicant is proposing to demolish all of the existing site improvements and construct 36 single-family attached condominium units within 18 buildings. Every unit proposed is a three-story, four-bedroom, four-bathroom unit ranging in size from 1,991 square feet to 2,033 square feet. Two of the units will be reserved for very low-income households; as a result, the Applicant is proposing to incorporate one concession and certain waivers or reductions of development standards pursuant to the State Density Bonus Law. Requested entitlements include a Site Development Permit and Vesting Tentative Tract Map (VTTM).

Site Design/Circulation

Access to the site will be through a single-entry point, near the southeast corner of the site. Although a new approach will be provided, this entry point is the same as currently provided for the site. The site entry has been designed to locate the gate approximately 90’ from the Mill Creek Drive right-of-way. A small landscape island is located adjacent to the street that will provide a specimen size tree and the call box. A vehicle turn-around is located between the landscape island and the entry gate. There are three parking stalls located on the south side of the entry. To enhance the appearance of this entry, the Applicant proposes to utilize pavers instead of asphalt (see Figure 2). Orange County Public Works Standard (“OCPWS”) No. 1107 establishes design criteria for privately owned streets. This standard requires the gate to be located a minimum of 100’ from the right-of-way and the vehicle turn around be located before the call box. The Applicant has included the reduction in these standards in their density bonus request to allow the entry as designed.

The internal roadways, which will be privately owned, are 26’ wide, curb-to-curb, with no sidewalk provided, except to connect the mailboxes, ADA parking space, and public right-of-way. The roadways allow for two-way traffic, with no parking provided within

the street area. The Applicant has included support in their plan set (Attachment 2, Sheets C6, C7, and F1) to demonstrate that the reduced width roadways will accommodate fire access, moving/delivery vehicles, and trash pickup. OCPWS No. 1107 requires a 40’ wide street with sidewalks and parkways to be located on both sides of the street. The Applicant’s density bonus request includes reducing the street width to 26’ and eliminating the requirement to provide the sidewalks and parkways. The Public Works Department and Orange County Fire Authority have reviewed these plans and found they satisfy their individual requirements for site access and circulation.

Figure 2. Project Entry

Consistent with the single-family attached format, two independent residential housing units will be attached by a common wall. Buildings are separated by a minimum distance clear of 6’-6”. The buildings are setback from the private street a minimum of 3’ with an approach into the garage and a 3’ wide pedestrian path leads to the front door of the unit. In-lieu of a common trash enclosure, each unit will be provided three trash containers (refuse, recycle, organic), which will be stored in the garage during non-pickup days. The trash storage area is located outside of the 20’ by 20’ garage space.

The development standards set forth in LHMC Section 9-30-040 do not require public open space; as a result, common open space is not required either. The Applicant is not proposing any public or common open space in conjunction with this Project. The

Applicant is, however, required to pay a Park Dedication In-Lieu Fee (Quimby Act Fee), as established in LHMC Chapter 8-06. The current fee is $15,636 per unit, which equates to $562,896 (Condition #9). LHMC Section 9-30.040 requires private open space which equates to 10% of the site area. For the project site, this results in a minimum of 10,636 square feet of private open space; however, the Applicant is proposing 10,568 square feet. As part of their density bonus request, the Applicant has requested to reduce the private open space requirement to 9%. Each unit will be provided with private open space, which includes a minimum of 150 square feet of open space in the rear yard of each unit and a 130 square foot balcony located on the second floor.

Parking

Each unit has a 20' by 20' enclosed garage. To ensure the garages remain open for parking of two vehicles, a condition of approval (Condition #27) to require the HOA to adopt and enforce rules that the garages remain available for parking of vehicles at all times is included in the draft Resolution. Units 16, 17, and 18 have driveways that are sufficiently deep to accommodate additional parking. As such, these units will have four parking spaces (two within the garage and two within the driveway). Seventeen unassigned open parking spaces are also proposed, which includes one accessible space and three parking spaces located outside the entry gate. The open parking spaces are 9' wide by 18' deep. In total 95 parking spaces are provided.

Two different parking standards can apply to the Project. First, LHMC Section 9-44-050 requires attached single-family homes to provide two assigned parking spaces in a garage or parking structure and 0.3 unassigned parking spaces per unit. Second, Government Code Section 65915(p) limits the required parking in a project subject to the Density Bonus Law to 2.5 spaces per unit when the units are four bedrooms. The proposed Project meets both the LHMC standard and the parking ratios permitted by the Density Bonus Law. A summary of the parking provided as compared to these standards is shown in the following table:

Parking Type	**Required per LHMC 9-44-050**	**Required per Gov Code 65915(p)**	**Parking Provided**
Within Garage	72	N/A	72
Unassigned Open	11	N/A	17
Assigned Open	N/A	N/A	6
Total	83	90	95

Architecture

Section 4.1 of the City's Objective Design Standards ("ODS") specifies that Spanish, Mediterranean, or Ranch architectural styles shall be used for residential projects in the northern portions of the City. Once a style is selected, the ODS requires the same style is used throughout the Project. The Applicant is proposing a Mediterranean architectural style (Attachment 2, Sheets A3 – A6). According to the ODS this architectural style includes the use of "symmetrical facades, clay tiles, ornate archways, intricate cornices, decorative window frames and wrought iron balconies, window grilles, and decorations."

The proposed residences include a limestone veneer on the first floor of the front façade with stucco being used on the remainder of the facades. A casing trim is proposed around the windows to provide add shadow lines is proposed. Corniced eaves are included with the s-shaped tile roof. The use of articulation within the facades adds visual interest to the buildings. The sides of street facing units have additional articulation. The Applicant is proposing four earthtone color schemes to avoid architecture monotony, while maintaining a consistent appearance throughout the development.

Figure 3. Front Façade

Each building contains two units, divided by a common wall, with the garage, one

bedroom, bathroom, and the entry on the first floor. The second floor of the unit is the general living space (kitchen, living room, dining area), half bath, and the outdoor balcony. The third floor includes three bedrooms (one of which is a primary suite), bathroom, and laundry area. Two different unit sizes are proposed, one being 1,991 square feet and the other being 2,033 square feet. Each building has a height of 36'-9½". Mechanical equipment will be located on the ground behind the unit, which will comply with setback and screening requirements set forth in the LHMC, as modified by the density bonus request.

Landscaping/Walls

The Applicant is proposing to utilize a variety of trees, shrubs, and groundcovers throughout the site (Attachment 2, Sheet L-4). All the conceptual landscaping throughout the project site consists of drought-tolerant (very-low to medium water use) plants. Forty-five trees are proposed, with the larger canopy trees being focused near the project entry. Since the site slopes up from the street, the applicant is proposing to landscape the slope area, which will lead to retaining walls for the building pads (see Figure 4). The Applicant does not propose to maintain any of the existing landscaping and the project would provide new landscaping per the submitted plans. Vines will be planted at the base of the retaining walls, which will grow to cover the walls. The remaining trees, shrubs, and ground covers are proposed adjacent to the internal roadways, between buildings, and next to the unassigned parking spaces. The private open spaces to the rear of each unit will be provided to the individual owners unfinished. The initial buyers of the units will be required to improve these open space areas with landscape, hardscape, or a combination thereof, within six months of closing (Condition #27).

Figure 4. Landscape Slope

Retaining walls will be required along all property boundaries, which will vary in height from two-feet to 19-feet, based on the finished grade elevation differential. For the retaining walls facing Mill Creek Drive, a six-foot tall tubular steel fence will be located on top of the retaining wall. The remaining retaining walls will have a steel cable guard rail. Six-foot tall split face block walls will separate the private open spaces. To further enhance the project entry, a cultural stone veneer will be added to the walls at the vehicle entry (see Figure 5).

Figure 5. Entry Gate

Site Lighting

Exterior lighting will include a combination of 16-foot-tall post lights, bollard lights, and coach lights mounted to the font of the units. The City has multiple regulations to ensure adequate lighting is provided for safety, but lighting does not create an impact onto the neighbors. This includes

LHMC Section 9-40.170 (Lighting):
Exterior lighting shall be shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel and shall be directed downward and away from adjoining properties and public rights-of-way. No lighting shall blink, flash, or be of unusually high intensity or brightness. All lighting fixtures shall be appropriate in scale, intensity, and height to the use served. Security lighting shall be provided at all entrances/exits.

Objective Design Standard Section 2.9.1 (Nuisance Prevention):
All lights shall be directed, oriented, and shielded to prevent light trespass or glare onto adjacent properties. The light level at property lines shall not exceed 0.3 foot-candles.

Objective Design Standard Section 2.9.5.1 (Pedestrian Paths):
Pedestrian walkways shall have a light level of not less than one (1) foot-candle average with minimum levels at 0.6 foot candles. Light coverage shall extend beyond the immediate path to eliminate any potential "risk areas."

Objective Design Standard Section 2.9.5.3 (Multi-Unit Residential Developments):
Aisles, passageways, and entryways/recesses related to and within the building complex shall be illuminated with an intensity of at least 0.25 foot-candles at the ground level during the hours of darkness.

The Applicant submitted a conceptual photometric plan (Attachment 2, Sheet EP-1) that demonstrates light intensities throughout the site and any off-site spillover of light. With the exception of a small portion of the western property line (adjacent to the Units 8 and 9), the proposed lighting meets the aforementioned requirements. For these two spots the photometric plan shows proposed lighting will result in 1.0 footcandle of light at the property line (0.3 is maximum). While this difference would not be discernable to the human eye, staff is recommending a condition of approval (Condition #24) that would require the applicant to provide additional shielding on the lights in these areas. The final photometric plan, which would be included in the plan check, would need to demonstrate compliance with the condition of approval.

Vesting Tentative Tract Map

The Applicant is requesting approval of Vesting Tentative Tract Map No. 19346 to allow a 36-unit condominium (airspace) subdivision on site. The condominium map allows the site to be held under single ownership (typically by the homeowners' association) but allows the separate conveyance of the individual units. The owners of the dwelling units would retain their property rights within the envelope of the dwelling unit. A vesting tentative map grants the Applicant the right to proceed with the project under the ordinances, policies, and standards in effect at the time the application is deemed complete, provide the map does not expire.

Density Bonus

The Applicant is proposing to deed restrict two of the units (5.6% of the units) to reserve them for very low-income households. The income limits for very low-income households is typically 50% of the median household income for the county. However, these numbers can be adjusted to account for a higher cost of living in certain areas of the State. HCD releases the annual adjusted income limits every April. For 2025, the income limits are as follows:

Number of Persons in Household:		1	2	3	4	5	6	7	8
Orange County Area Median Income: $136,600	Acutely Low	14350	16400	18450	20500	22150	23800	25400	2705(
	Extremely Low	35550	40600	45700	50750	54850	58900	62950	6700(
	Very Low Income	59250	67700	76150	84600	91400	98150	104950	11170
	Low Income	94750	108300	121850	135350	146200	157050	167850	17870
	Median Income	95600	109300	122950	**136600**	147550	158450	169400	18030
	Moderate Income	114750	131100	147500	163900	177000	190100	203250	21635

As noted in the Authority section of this report, the City's ability to deny the density bonus is limited. A denial of any of the provisions must be accompanied by substantial evidence in the record that supports the denial findings. California Government Code Section 65915(r) states, "This chapter shall be interpreted liberally in favor of producing the maximum number of total housing units", which the courts have used to strengthen the inability for City's to deny such requests.

There are four types of relief provided for affordable housing projects through density bonus. This includes an increase in the number of permitted units, a reduction in parking standards, concessions/incentives, and development standard waivers/reductions.

Number of Permitted Units
Reserving 5% of the units for very low-income households provides for a 20% increase in density. State law does not provide an avenue for the City to deny a request to increase the density provided the minimum number of affordable units are included in the project.

The MXU zone permits up to 20 dwelling units per acre, thus allowing a maximum base density on the site of 49 dwelling units (2.44 acres x 20 du/acre). The 20% increase would permit another 10 dwelling units, resulting in the construction of 59 units on the site. Notwithstanding this, the Applicant is proposing to construct 36 units in this development and is not requesting to utilize this provision.

Parking
The proposed units will be four-bedroom units, which under State Density Bonus law parking requirements cannot exceed 2.5 spaces per unit. This parking can be reduced to zero for projects that are within ½ mile of a major transit stop and meet other requirements. There are no major transit stops within ½ mile of the Site, so the maximum base parking of 2.5 spaces per unit would apply. State density bonus law does not provide a method for the City to require additional parking. Nevertheless, LHMC only requires 2.3 parking spaces per unit for this Project, which is divided between enclosed garage and open guest spaces. As previously noted in the parking discussion section of this report, the LHMC requires 83 parking spaces, density bonus regulations

require 90 parking spaces, and the Applicant is proposing 95 parking spaces. Therefore, the Applicant complies with the parking requirements.

Concessions/Incentives
A concession or incentive is a reduction or modification to a development standard, approval of a mixed-use zone, or other regulatory relief that results in identifiable and actual cost reduction. With 5% of the base density being dedicated to very low-income households, the Project qualifies for one concession or incentive.

The Applicant is requesting a concession from Objective Design Guidelines Section 4.3.3 (Walls & Windows) to waive the requirement for either casement or double-hung windows and the requirement that windows be recessed 2 to 12 inches from the façade. Instead, the windows will be a combination of fixed and single hung. While the applicant is providing trim around the windows to give the allusion they are recessed, the windows will be flushed to the building façade.

This concession would result in cost savings through reduced window purchase cost and reduce the need for additional water proofing of the recessed windows. Approval of this concession would not impact public health or safety standards, policies, or conditions, and does not violate state or federal law.

Waivers
According to California Government Code Section 65915(e) the City is prohibited from applying any development standard that will have the effect of physically precluding the construction of an affordable housing project at the permitted densities. There is no maximum number of waivers or reductions to development standards an applicant can request for a project.

The applicant has included waivers or reductions to 20 development standards, design guidelines, or public works standards. Each of these waivers and reductions is listed in Attachment 5.

In their Density Bonus Law Request letter (Attachment 4), the Applicant has demonstrated that each of the above listed waivers or reductions are needed to allow development of the Project, which is within the permitted density of the site. Furthermore, approval of these waivers and reductions would not impact public health or safety standards, policies, or conditions; create an impact to a historical property; and would not violate state or federal law.

Conclusion:

Given that the Project complies with all the development standards, objective design guidelines, and other policies of the City, with exception to the concessions, waivers, and reductions permitted under State Density Bonus Law. Staff recommends approval of VTTM/SDP No. USE-0211-2025.

Public Notice:

The proposed project was advertised in an adjudicated newspaper of general circulation on January 29, 2026. In addition, 160 property owners and occupants/tenants within a 500-foot radius of the subject property were mailed a public hearing notice. Any written comments received will be distributed at the public hearing held by the Planning Agency.

Applicant Community Meeting
At the request of Staff, the Applicant conducted a developer-led community meeting to discuss the project on January 20, 2026. Notice of the meeting was mailed to all property owners and occupants/tenants within 500 feet of the project site. The Applicant provided a brief presentation about the project and then was available for questions from the community. Four community members, including property owners and business owners, attended the meeting. A City representative also was in attendance but did not participate or respond to questions regarding the project. Questions from the community included the anticipated timing of the project, anticipated price range of the new homes, will the gate be staffed, how much open space provided, and will the project meet accessibility requirements.

CEQA:

The Applicant contends that the proposed Project is exempt from CEQA pursuant to CEQA's Class 32 categorical exemption that applies to infill development projects. (14 Cal. Code Regs. Section 15332.) To qualify for the Class 32 exemption, a project must: (1) be consistent with the applicable general plan designation and all applicable general plan policies as well as with the applicable zoning designation and regulations; (2) be located on a project site of no more than five acres and substantially surrounded by urban uses; (3) be located on a project site that has no value as habitat for endangered, rare, or threatened species; (4) not result in any significant traffic, noise, air quality, or water quality impacts; and (5) be adequately served by all required utilities and public services. It should be noted that, when the Density Bonus Law requires a City to waive development standards (such as height limits, setbacks, or floor area ratios), those

waived standards are not “applicable” for purposes of Class 32’s requirement that a project be consistent with the applicable general plan and zoning. (Wollmer v. City of Berkeley (2011) 193 Cal.App.4th 1329, 1349.)

The Applicant has submitted a Class 32 CEQA Exemption Checklist (Attachment 6) that demonstrates the Project’s compliance with the requirements of the Class 32 exemption. The checklist is supported by technical studies in the following areas: air quality / greenhouse gases, biological resources, cultural resources, drainage, geotechnical, health risk, noise, vehicle miles traveled, and water quality. A Phase I Environmental Site Assessment was also provided. This checklist and its supporting studies were peer reviewed by the City’s environmental consultant, De Novo Planning Group, who concurred that the Project meets the requirements for the Class 32 Exemption.

Fiscal Impact:

City regulations require applicants for development projects to reimburse the City for the actual fees and costs incurred by the City in conjunction with the City’s review, evaluation, and processing of land use applications and reviewing proposed projects pursuant to the provisions of the California Environmental Quality Act (“CEQA”). The Applicant shall be responsible for payment of all applicable fees pertaining to development of the Project pursuant to the City’s Comprehensive Fee Schedule.

Attachments:

1. Proposed Resolution of Approval
2. Project Plan Set
3. Summary of Key Dates
4. Density Bonus Law Request Letter
5. State Density Bonus Summary
6. Class 32 CEQA Exemption Checklist
7. Link to Project Documents

RESOLUTION NO. PA2026-__

A RESOLUTION OF THE PLANNING AGENCY OF THE CITY OF LAGUNA HILLS, CALIFORNIA, APPROVING VESTING TENTATIVE TRACT MAP (VTTM)/ SITE DEVELOPMENT PERMIT (SDP) NO. USE-0211-2025, A REQUEST BY TOLL WEST COAST, LLC (TOLL BROTHERS) FOR APPROVAL OF A 36-UNIT RESIDENTIAL DEVELOPMENT ON AN APPROXIMATELY 2.44 ACRE PARCEL LOCATED AT 23161 MILL CREEK DRIVE (APN 588-142-07), AND FINDING THAT THE PROJECT IS CATEGORICALLY EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT PURSUANT TO THE CLASS 32 EXEMPTION APPLICABLE TO INFILL DEVELOPMENT PROJECTS (14 CAL.CODE.REGS. SECTION 15332)

The Planning Agency of the City of Laguna Hills, California, hereby finds, determines, declares, and resolves as follows:

WHEREAS, Toll West Coast, LLC ("Applicant"), commonly referred to as Toll Brothers, proposes to redevelop an approximate 2.44-acre parcel located at 23161 Mill Creek Drive in the City of Laguna Hills and identified as Assessor's Parcel No. 588-142-07 ("Subject Property"), with a 36-unit residential development ("Project"). The Project will reserve two units for very low-income households, with the remaining 34 units being sold at market rate. The Vesting Tentative Map will allow a condominium (airspace) subdivision of the development to allow the units to be sold independently; and

WHEREAS, on December 18, 2024, the Applicant submitted a "preliminary application" to the City pursuant to Government Code Section 65941.1 for a housing development project consisting of 36 single family attached homes (18 buildings). Each unit was proposed with a two-car garage, and 10 open parking spaces were located throughout the site; and

WHEREAS, on January 30, 2025, the Applicant submitted a land use application to the City for the Project, which the City ultimately determined to be complete in accordance with Government Code Sections 65941.1(e) and 65943 after the submittal of additional information, documentation, and revisions; and

WHEREAS, the Project requires approval of a Site Development Permit and Vesting Tentative Tract Map; and

WHEREAS, the Project has been designed to incorporate certain waivers or reductions of development standards pursuant to the State Density Bonsu Law (Government Code Section 65915); and

WHEREAS, the Applicant submitted a Class 32 CEQA Exemption Checklist pursuant to Section 15332 of Title 14 of the California Code of Regulations. The checklist demonstrates that the Project (1) is consistent with the applicable general plan designation and all applicable general plan policies as well as with the applicable zoning designation and regulation; (2) is located on a project site of no more than five acres and substantially surrounded by urban uses; (3) is located on a project site that has no value as habitat for endangered, rare, or threatened species; (4) would not result in any significant traffic, noise, air quality, or water quality impacts; and (5) can be adequately served by all required utilities and public services. The checklist is supported by numerous technical environmental studies. The checklist was peer-reviewed by the City's environmental consultant, De Novo Planning Group, who concurred that the project meets the requirements for a Class 32 Exemption; and

WHEREAS, the Subject Property has a General Plan Land Use Designation of Mixed Use and a zoning designation of Mixed Use (MXU); and

WHEREAS, the Planning Agency has considered evidence and testimony presented by City staff, the Applicant, the public, and other interested parties at a duly noticed public hearing held on February 10, 2026; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, THE PLANNING AGENCY OF THE CITY OF LAGUNA HILLS, CALIFORNIA, DOES RESOLVE, DECLARE, DETERMINE, AND ORDER AS FOLLOWS:

SECTION 1. The above recitals are true and correct and are incorporated herein by reference.

SECTION 2. That the Project is categorically exempt from CEQA pursuant to the Class 32 Exemption applicable to infill development projects (14 Cal. Code. Regs. Section 15332).

SECTION 3. That the conditions imposed on the Project are reasonable and do not reduce the density of the Project or render the Project infeasible.

SECTION 4. The Planning Agency hereby determines that the required findings by the City for approval of Vesting Tentative Tract Map/Site Development Permit No. USE-0211-2025 have been met and made as follows:

Vesting Tentative Tract Map

1. The proposed map is consistent with the Laguna Hills General Plan.

   The proposed map will create a 36-unit condominium (airspace) subdivision on a 2.44-acre site. The Project site has a General Plan Land Use Designation of Mixed Use, which is implemented by the Mixed-Use (MXU) zoning district. The MXU zoning district permits residential density of up to 20 dwelling units per acre. The proposed condominium project would achieve a density of 14.8 dwelling units per acre, which is less than the maximum permitted density for the Property. The Subject Property is also within North Business Park future study area, which the General Plan identifies opportunities to redevelop and improve. The Project is consistent with the intent of the land use designation and future study area as it would redevelop the site and establish new residential uses in areas that also include goods and services. Furthermore, the Project would implement General Plan Policies LU-2.1, LU-3.2, and H-2.1.

2. The design and improvement of the proposed subdivision is consistent with the Laguna Hills General Plan.

   The design and improvements of the proposed subdivision are consistent with the General Plan. The Project has a General Plan Land Use Designation of Mixed Use, which is intended to “provide for areas where a variety of goods and services can be obtained within an overall planned environment”. The Subject Property is also within North Business Park future study area, which the General Plan identifies opportunities to redevelop and improve. The Project is consistent with the intent of the land use designation and future study area as it would redevelop the site and establish new residential uses in areas that also include goods and services. Furthermore, the Project would implement General Plan Policies LU-2.1, LU-3.2, and H-2.1. The Subject Property is also suitable for the uses proposed, and the subdivision can be developed in compliance with the applicable zoning regulations. The Subject Property is located in the MXU zone, which establishes several development standards for residential projects, including allowing residential developments of up to 20

dwelling units per acre. The Project meets these minimum standards, with exception to the waivers and reductions of development standards authorized by the State Density Bonus Law (Government Code Section 65915(e)). The Project is within the allowable density, and the Applicant has provided support to demonstrate that the waivers are required in order to construct the Project. With approval of the waivers the Project is in compliance with the Development Code. The site is physically suitable for the proposed type of development in that it is of a reasonable shape, size, and topography to accommodate a residential subdivision.

3. The requirements of the California Environmental Quality Act have been satisfied.

   The Project has been reviewed for compliance with CEQA and has been found to be categorically exempt pursuant to Class 32 of the CEQA Guidelines, applicable to infill development projects (14 Cal. Code. Regs. § 15332). This Class 32 exemption satisfies all the requirements of CEQA.

4. The site is physically suitable for the proposed density of development.

   The site is physically suitable for the proposed density of development. The maximum allowed density for the site is 20 units per acre, whereas the Project is proposed at 14.8 units per acre. As noted in the second finding above, the project complies with the requirements of the Zoning code. Inasmuch as the Project is within the allowable density and complies with the development standards, the Site is physically suitable for the proposed density.

5. The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantial and avoidable injury to fish or wildlife or their habitat.

   The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantial and avoidable injury to fish or wildlife or their habitat. A biological resources report prepared for the site found that ornamental landscaping is located on the property. This landscaping does not serve as a sensitive natural community and does not support any special-status species. No special-status plants or animal species were observed on the Project Site.

6. The design of the subdivision and the type of improvements proposed are not likely to cause serious public health problems.

   The design of the subdivision and the type of improvements proposed are not likely to cause serious public health problems. The Project would replace the existing office building with a new 36-unit residential development. The demolition of the existing office building would be conducted in compliance with all applicable laws and regulations. An analysis of the Project completed as part of the Class 32 checklist demonstrates that the Project would not create significant impacts traffic, noise, air quality, or water quality. In addition, a health risk assessment was completed which concludes that Project construction would result in less than significant health risks. Finally, a Phase I Environmental Site Assessment was also submitted to the City which concluded that there were no recognized environmental conditions, controlled recognized environmental conditions, or historical recognized environmental conditions on the property. Accordingly, approval of the project would not create a serious public health problem to those who live and work in the area.

7. The design of the subdivision and the type of improvements proposed will not conflict with easements of record or established by court judgment acquired by the public at large for access through or use of property within the proposed subdivision; or, if such easements exist, that alternate easements for access or for use will be provided and that these will be substantially equivalent to ones previously acquired by the public.

   The design of the subdivision and the type of improvements proposed will not conflict with easements of record or established by court judgment acquired by the public at large for access through or use of property within the proposed subdivision; or, if such easements exist, that alternate easements for access or for use will be provided and that these will be substantially equivalent to ones previously acquired by the public. SCE maintains a six-foot wide easement that runs east to west from Mill Creek Drive to near the western property line for purposes of underground powerlines to serve the site. Prior to the issuance of building permits, the easement either be removed or amended to accommodate the Project site layout.

8. The design and improvement of the proposed subdivision is suitable for the uses proposed and the subdivision can be developed in compliance with the applicable zoning regulations.

The site is physically suitable for the proposed type of development. The Project Site is a 2.44-acre parcel that is currently improved with a multi-story office building. While some expansion of the building pad will occur, it will not result in off-site impacts. Furthermore, as noted in the other findings of this section, the Project is compliant with the General Plan, Development Code, and Objective Design Standards.

9. The design of the subdivision, to the extent feasible, does have allowance for future passive or natural heating and cooling opportunities.

   The project would meet the applicable LHMC standards including setbacks and exceeds the minimum open space area, with exception to the modifications requested under the State Density Bonus law. This still would accommodate landscaping that can be provided throughout the site with adequate setbacks, which would provide for natural/passive cooling opportunities.

   Furthermore, construction of the project shall be required to comply with the California Energy Commission's adopted Building Energy Efficient Standards that require the inclusion of energy conservation features in residential development, and to incorporate energy-saving design solutions to reduce energy consumption by at least 10 percent below the California Energy Code (Title 24, Part 6 of the California Code of Regulations, California Energy Efficiency Standards for Residential and Non-Residential Buildings). The proposed design of the subdivision provides for future passive or natural heating or cooling opportunities, to the extent feasible.

10. The design, density, and configuration of the subdivision strikes a balance between the effect of the subdivision on the housing needs of the region and of public service needs.

    The subdivision creates a new high-density residential development within the General Plan Land Use Designation of Mixed Use and a zoning designation of Mixed Use (MXU), both of which promote the development of high-density residential structures. Even though the site is not identified in the Housing Element as an opportunity site for the development of housing, the project would still count towards meeting the City's assigned RHNA allocation. . The location of the site is within an area with access to existing public services and there is no evidence the proposed density will create undue burdens on existing public services.

SECTION 5. In considering the Site Development Permit, the Planning Agency finds as follows:

1. That the site design complies with standards of the development code.

   The site design complies with standards of the Development Code. The Subject Property is located in the MXU zone, which establishes several development standards for residential projects, including allowing residential developments of up to 20 dwelling units per acre. The Project meets these minimum standards, with exception to the waivers and reductions of development standards authorized by the State Density Bonus Law (Government Code Section 65915(e)). The Project is within the allowable density, and the Applicant has provided support to demonstrate that the waivers/reductions of development standards are required in order to construct the Project. With approval of the waivers the Project is in compliance with the Development Code.

2. That the site is suitable for the proposed development.

   The site is suitable for the proposed development. The Project Site is a 2.44-acre parcel that is currently improved with a multi-story office building. While some expansion of the building pad will occur, it will not result in off-site impacts. Furthermore, as noted in the other findings of this section, the Project is compliant with the General Plan, Development Code, and Objective Design Standards.

3. That the project is consistent with the general plan and applicable design guidelines.

   The project is consistent with the general plan and applicable design guidelines. The Project has a General Plan Land Use Designation of Mixed Use, which is intended to “provide for areas where a variety of goods and services can be obtained within an overall planned environment”. The Subject Property is also within North Business Park future study area, which the General Plan identifies opportunities to redevelop and improve. The Project is consistent with the intent of the land use designation and future study area as it would redevelop the site and establish new residential uses in areas that also include goods and services. Furthermore, the Project would implement the following General Plan policies:

Policy LU-2.1: Preserve the distinctive character of residential neighborhoods by applying adopted design standards to new renovation projects. The Project complies with the Objective Design Guidelines through providing a Mediterranean architectural style.

Policy LU-3.2: Encourage new development that uses land efficiently and offers flexibility to changing resident and shopping needs, contributing to the long-term vitality of the community. The current use of the property is office; however, demand for office space has declined over the past five years. The Project would provide 36 new residential units to support the City's growing demand for new homes.

Policy H-2.1: Provide opportunities for higher density residential development, mixed use residential/commercial development, and transit oriented development in appropriate areas of the City. The Project would provide a higher density residential development.

The Project is also subject to the City of Laguna Hills Objective Design Standards, which are intended to ensure harmonious development throughout the City. For the northern portion of the City, Spanish, Mediterranean, and Ranch style architecture is permitted. The Project would replace the current late modernism architecture with a Mediterranean architectural style. With exception of the permitted concessions and waivers authorized by the State Density Bonsu Law, the Project complies all Objective Design Standards.

4. That the site design and structural components are appropriate for the site and function of the proposed uses.

That the site design and structural components are appropriate for the site and function of the proposed uses. The Project consists of 36 units arranged in duplex style buildings. Each unit has a two-car enclosed garage with direct access to the common street and private open space. The site has been designed to function as a traditional single-family neighborhood while meeting modern site layout standards and not impacting surrounding properties.

SECTION 6. In addition to the foregoing, the facts and findings set forth in the staff report made a part of the record of the public hearing are hereby incorporated herein by this reference.

SECTION 7. Based upon the above findings, the Planning Agency of the City of Laguna Hills does hereby approve SDP/VTTM No. USE-0211-2025, subject to the following conditions:

GENERAL

1. The following Conditions of Approval ("Conditions") shall be binding and enforceable against, and, whenever used herein, the term "Applicant" shall mean and refer to, each of the following: the project applicant, Toll West Coast, Toll Brothers, the owner(s) and tenant(s) of the property, and each of their respective successors and assigns.

2. Unless the context dictates otherwise, whenever the term "this Permit" is used in the following Conditions of Approval, it shall collectively refer to USE-0211-2025 (SDP/VTTM) approved pursuant to this Resolution. Failure to abide by and faithfully comply with all conditions of approval shall constitute grounds for revocation and/or termination of the Site Development Permit and Vesting Tentative Tract Map approved in conjunction with the Project, as applicable.

3. Unless the context dictates otherwise, whenever the term "Project" is used in the following Conditions of Approval, it shall collectively refer to the plans presented at the February 10, 2026, meeting of the Laguna Hills Planning Agency (Plan or Plans), and other studies and exhibits submitted to the City by the Applicant to depict the improvements to be constructed on the Applicant's property, consisting of an approximately 2.44-acre parcel located at 23161 Mill Creek Drive (APN 588-142-07), as modified by these Conditions of Approval.

4. The application is a plan for location and design of uses, structures, features, and materials submitted by this application and shown on the approved plans. Development shall be consistent with the approved Plans, as modified by these Conditions of Approval, and all applicable architectural design guidelines and all other development standards specified in the Laguna Hills Municipal Code ("LHMC"). Any relocation, alteration, modification, or addition to any use, structure, feature, or material, not specifically approved shall require an application for a Changed Plan (CP) to USE-0211-2025 (SDP/VTTM), unless the Community Development Director ("Director") determines the proposed change is immaterial and consistent with the provisions and the spirit and intent of the original approval. The Director may approve minor modifications to these Conditions of Approval through the Changed Plan process.

5. To the fullest extent permitted by law, the Applicant shall, at its sole cost and expense, protect, defend, indemnify, and hold harmless the City, its elected and appointed officers and officials, employees, agents, departments, agencies, authorized volunteers, consultants, attorneys, boards, commissions, and committees, and instrumentalities thereof ("Indemnitees"), from and against any and all claims, liabilities, losses, fines, demands, penalties, lawsuits, writs of mandamus, and any other claims or actions or proceedings of any kind whatsoever (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to, arbitrations, mediations, and other such procedures), judgments, orders and decisions (collectively "Claims" and “Actions”), brought against the Indemnitees, which seek to attack, challenge, modify, set aside, void, or annul any action of or any permit or approval issued by the Indemnitees (including actions approved by the voters of the City) for, in connection with, or concerning the approval of this Permit. It is expressly understood and agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the defense of the Indemnitees for the Claims and Actions, and that the Applicant shall promptly reimburse the City for all costs and expenses directly and necessarily incurred by the City in the course of the defense, including reasonable attorneys' fees. The City shall promptly notify the Applicant of any Claims and Actions brought against the Indemnitees and shall cooperate in the defense of any such Claims and Actions. If the Applicant fails to so defend the Claims and Actions, the City shall have the right but not the obligation to do so and, if it does, the Applicant shall promptly pay the City's full cost thereof.

6. Except as otherwise mandated by State law, and modified herein, approval of this Permit constitutes approval of the proposed Project only to the extent that it complies with the City’s Development Code and any other applicable zoning regulations in effect as of December 18, 2024. Approval does not include any action or findings as to compliance or approval of the Project regarding any other applicable ordinance, regulation, or requirement.

7. Failure to abide by and faithfully comply with any and all Conditions of Approval shall constitute grounds for revocation of this Permit by the Laguna Hills Planning Agency.

8. The Applicant shall agree in writing to these conditions of approval within 30 days of the Planning Agency’s approval.

9. The conditions of Project approval set forth herein include certain development impact fees and other exactions. Pursuant to Government Code §66020(d), these conditions constitute written notice of the amount of such fees. The Applicant is hereby notified that the 90-day period in which the Applicant may protest the fees, dedications, reservations, or exactions imposed on this Project through the Conditions of Approval, commencing from the date of approval of the Project, has begun. The Project is subject to the following development impact fees in effect as of December 18, 2024:

    a. Park In-Lieu Fee of $15,636 per unit pursuant to LHMC Chapter 8-06 and City Council Resolution No. 2018-11-13-3.

10. Pursuant to City Council Resolution No. 2017-07-11-2, the Applicant shall reimburse the City for any outstanding fees for processing of this Permit within 60 days of the Planning Agency's approval. The Applicant shall be responsible for payment of all applicable fees pertaining to development of the Project pursuant to the City's Comprehensive Fee Schedule. All outstanding fees and expenses shall be paid in full prior to a final inspection of the Project improvements.

11. Except as otherwise provided by State law, unless a time extension is granted pursuant to Laguna Hills Municipal Code Section 9-92.080(L) and/or the Subdivision Manual, this Permit shall expire and be of no further force or effect unless the Vesting Tentative Tract Map is recorded within two (2) years of the Planning Agency's approval. Once the Vesting Tentative Tract Map is recorded, this Permit shall expire if the subject development and construction necessary and incidental thereto is not initiated and commenced within one (1) year of the recordation date and thereafter diligently advanced until completion of the Project. In the event construction of the Project is commenced, but not diligently advanced until completion, the rights granted pursuant to this Permit shall expire if the building permits for the Project expire. Initiated and commenced is defined as issuance of a precise grading permit within two years of the date of approval of the Subject Project and commencement of grading prior to expiration of the grading permit, and subsequently, issuance of a building permit for the foundation of the building shell prior to the expiration of the grading permit and commencement of construction prior to expiration of the building permit.

12. Within 48 hours from project approval, the Applicant shall submit to the City a check in the amount of $50.00, made payable to the Orange County Clerk-Recorder, for filing the Notice of Exemption.

13. The Applicant shall prepare the final Tract Map in conformance with the State's Subdivision Map Act, the County's map processing manual, and the City's municipal code, and as solely determined and approved by the City Engineer, which may require the posting of security instruments guaranteeing the construction of future improvements. The Applicant shall submit the final Tract Map for plan check to both the City Engineer and County Surveyor and pay all applicable plan check fees to both agencies. The Applicant shall submit a current title report, supporting documents, and traverse closure calculations for plan check.

14. A final Tract Map shall be recorded within two (2) years of February 10, 2026 that is substantial conformance with the Vesting Tentative Tract Map, unless the Applicant has filed a request for extension consistent with the provisions of City requirements and the California Subdivision Map Act.

15. The Applicant shall prepare the final Tract Map in conformance with the State's Subdivision Map Act, the County's map processing manual, and the City's municipal code, and as solely determined and approved by the City Engineer, which may require the posting of security instruments guaranteeing the construction of future improvements. The Applicant shall submit the final Tract Map for plan check to both the City Engineer and County Surveyor and pay all applicable plan check fees to both agencies. The Applicant shall submit a current title report, supporting documents, and traverse closure calculations for plan check.

16. Prior to the commencement of map checking, a deposit shall be posted for map check fees. Map check fees will be based on time and materials to be invoiced at the completion of the map check process. All map check fees shall be paid in full before the map will be sent to City Council for approval.

17. Following recordation of the final Tract Map, the Applicant shall provide the City with a duplicate Mylar and TIFF files of the recorded document.

18. Prior to the commencement of map checking, a deposit shall be posted for map check fees. Map check fees will be based on time and materials to be invoiced at the completion of the map check process. All map check fees shall be paid in full before the map will be sent to City Council for approval.

19. Prior to the issuance of Certificate of Use and Occupancy, all survey monumentation shall be placed by a California Licensed Land Surveyor as required by and shown on the map.

PLANNING DIVISION

20. The Applicant shall maintain the Subject Property in compliance with property maintenance standards as set forth in LHMC Chapter 9-74. This includes prohibitions on outdoor storage and maintenance of the premises that cause obnoxious odors.

21. No permanent overhead utilities shall be installed.

22. Prior to issuance of any grading permits, the Applicant shall submit the Project's grading plan to the Community Development Director for review and approval. The grading plan shall be consistent with the architectural site plan as approved by this Permit to the reasonable satisfaction of the Community Development Director.

23. Prior to the issuance of a building permit, the Applicant shall submit a final landscape and irrigation plan to the Community Development Director for review and approval. The plan shall demonstrate compliance with the provisions of Laguna Hills Municipal Code Chapters 9-46 and 9-47 in effect on December 18, 2024, including sufficient wall screening, landscaping, planter size and shade trees along the site perimeter and within the Project parking lot, installation of "Smart" landscape irrigation controllers, low precipitation-rate sprinkler heads, and water efficient landscaping, as applicable.

24. Prior to the issuance of a building permit, the Applicant shall submit a final lighting and photometric plan to the Community Development Director for review and approval. The final lighting and photometric plan shall include repositioning and/or shielding of lights such that no portion of the site exceeds 0.3 footcandles at the property line. No lighting shall blink, flash, or be of unusually high intensity or brightness.

    a. The Community Development Director may require additional lighting if lighting levels at approved pedestrian walkways and internal intersections under construction are insufficient to comply with the requirements of LHMC Chapter 9-40 in effect on December 18, 2025, when completed.

b. The plan shall include a photometric analysis of proposed lighting and shall comply with lighting requirements of the Laguna Hills Municipal Code, including that light and glare shall not be projected beyond the boundaries of the Subject Property. The City may withhold issuance of a Certificate of Use and Occupancy for any building or portion thereof if the lighting associated with such building has not been installed.

25. The Applicant shall comply with all temporary and permanent sign requirements of the City's Sign Ordinance, as specified in Laguna Hills Municipal Code Chapter 9-42 in effect on December 18, 2024. The Applicant shall not use or display any prohibited signs listed in LHMC Section 9-42.260.

26. Prior to issuance of a grading permit, Applicant shall provide evidence to the reasonable satisfaction of the Community Development Director that there are no easements (including, but not limited to, easements for reciprocal access and/or parking or utilities) that conflict with the proposed Project. This shall include providing such that it does not go beneath proposed structures.

27. Covenants, Conditions and Restrictions (CC&Rs) shall be submitted to the Community Development Director and City Attorney for review and approval prior to the recordation of the final map, the cost of which shall be borne by the Applicant. Prior to the acceptance of the CC&Rs for review, the applicant shall submit a deposit in the amount as determined by the Community Development Director to cover the cost of said review. The Community Development Director may require replenishment of the deposit fund should the cost of reviewing the CC&Rs exceed the amount deposited. The CC&Rs shall be consistent with the Project approval, shall be enforceable by the City at their sole discretion, shall run with the land, shall bind all current and future owners and tenants of all or portions of the site, shall provide that a violation of the terms of the CC&Rs constitutes a violation of these conditions of approval, and shall not be modified or terminated without prior written approval from the City. The CC&Rs shall, at a minimum, include the following provisions:

a. Detailed provisions pertaining to responsibilities for operating, funding, and maintaining of all commonly owned areas, landscaping, utilities, parking areas, streets, lighting, and all other structures.

b. Attach, incorporate, and require compliance with the Conditions of Approval by the individual property owners.

c. Detailed provisions pertaining to responsibilities for operating, funding, and maintaining the water quality BMPs required per the WQMP and implementation of the approved O&M Plan.

d. Require that each two-car garage maintain a 20’ by 20’ open area from floor to ceiling for the parking of two motor vehicles, except as otherwise preempted by State law.

e. Include enforceable parking requirements consistent with any applicable City Code provisions (like parking of recreational vehicles, etc.).

f. Limit placement of trash bins in front of the residences to pick-up days only.

g. Prohibit short term rentals, time shares, and fractional ownership of units.

h. Allow the City, at the City’s sole discretion, to enforce provisions of the CC&Rs, conditions of approval, and all City codes against individual property owners and the HOA.

i. Require City approval for any amendments or termination of the CC&Rs.

j. Initial purchasers of each unit shall improve the private open space within six months of closing of the initial sale of the property. Improvements shall consist of landscape, hardscape, or a combination thereof.

BUILDING DIVISION

28. The Applicant shall be responsible for ensuring all applicable building permits are obtained for any activity requiring a permit. Construction shall comply with the 2025 California Building, Plumbing, Mechanical, Electrical, and Green Building Codes, as may be amended, or the applicable California Building Code in effect at the time of building permit issuance. Any required documents submitted for the purpose of building permit issuance shall be accurately labeled and reflect all work to the reasonable satisfaction of the Community Development Director.

29. At the time of document submittal for permit issuance, the Applicant shall demonstrate compliance with California Disabled Accessibility requirements, as required by Chapter 11 of the California Building Code if applicable.

30. The Applicant shall comply with all general construction water quality requirements, as required by the LHMC 5-36.

31. Prior to issuance of any building permit, the Applicant shall submit to the Community Development Director all required approvals from the Orange County Fire Authority.

32. Prior to issuance of any permit for the demolition of the existing building, or other improvements on the site, the Applicant shall submit to the Community Development Director evidence of all required approvals from South Coast Air Quality Management District or provide verification of plan submittal, as applicable.

33. The Applicant shall demonstrate compliance with all applicable building energy efficiency standards established by the California Energy Commission that are in effect at the time of the issuance of any permit.

34. The Project shall comply with LHMC Chapter 5-28 (Smoking and Sale of Tobacco Products). Required signage and notices shall be installed prior to the issuance of a Certificate of Use and Occupancy and commencement of any use.

35. During construction, adequate emergency access shall be maintained to the site at all times in accordance with any requirements of the Orange County Fire Authority (OCFA).

36. Prior to the commencement of any work, the Applicant shall provide a contact number to the Community Development Director for the public to call concerning dust, noise, or other construction-related impacts. The information shall also be posted on site in a manner approved by the Community Development Director.

ORANGE COUNTY FIRE AUTHORITY (OCFA)

37. Prior to OCFA clearance of a final map or issuance of a precise grading permit or a building permit, if a grading permit is not required, the Applicant shall submit a fire master plan to OCFA for review and approval (Service Code PR145).

38. Prior to issuance of a precise grading permit or a building permit, if a grading permit is not required, the Applicant shall submit plans for the gates to OCFA for review and approval (Service Code PR180)

39. Prior to the issuance of a building permit, the Applicant shall submit the following to OCFA for review and approval:

    a. Underground piping for private hydrants and fire sprinkler systems if present (Service Codes PR470-PR475)

    b. Fire sprinkler system (Service Codes PR400-PR465)

MECHANICAL EQUIPMENT

40. Roof mounted mechanical equipment shall be prohibited. Mechanical equipment shall be ground mounted to the rear of each unit. Roof mounted solar panels are excluded from this requirement.

PUBLIC WORKS DEPARTMENT

41. Prior to the issuance of any grading permit or building permit, security instruments shall be posted guaranteeing construction of on-site and off-site improvements in accordance with LHMC Section 10-16.300, and these Conditions of Approval. Security instruments shall include a grading bond and a landscape bond, unless the latter is waived by the Community Development Director.

42. Prior to the issuance of a Certificate of Use and Occupancy, the applicant shall pay for all required geotechnical testing services for improvements in the public right-of-way, which shall be invoiced by the City based on time and materials. These fees will be in addition to all applicable encroachment, grading, subdivision, etc. inspection fees. These fees must be paid in full prior to release of any grading bonds.

43. Prior to the issuance of a building permit, the Applicant shall submit a grading and erosion control plan for any on-site drive aisle, parking space, sidewalk and/or other hardscape improvements. As applicable, the grading plan shall show the construction of all curb and gutter, asphalt and concrete pavement, sidewalk, storm drain, sewer and water systems (for reference only) and other improvements, and must include a horizontal control plan.

44. Prior to release of any grading bonds, the Project improvements must be completed to the reasonable satisfaction of the City Engineer. This includes completion of all punch list items, approved mylar as-builts, underground inspections (for storm drain systems, if any), required paperwork (such as soils reports, certifications, etc.). All associated permits will be considered active, until all items (including paperwork) have been completed to the reasonable satisfaction of the City Engineer. All permits must be current (not expired) at time of bond release. The Applicant is advised that there may be permit renewal fees if said permits have expired prior to completion of all above listed items.

45. AII grading and storm drain plans shall be prepared on City standard ARCH D size sheets by a licensed civil engineer and shall be submitted to the City Engineer for approval. All landscaping plans shall be prepared on City standard ARCH D size sheets by a licensed landscape architect and shall be submitted to the City Engineer for approval. All plans must be in substantial conformance with the approved site/concept plans. Plan check and inspection fees shall be paid by the Applicant in accordance with the City's fee schedule.

46. Prior to the release of any grading bonds, all grading, storm drain, and landscaping plans associated with the Project shall be as-built upon completion of the Project. Once the as-built drawings are approved, the Applicant shall provide the City with a duplicate mylar of the plans and scanned PDF or TIFF files of all plans.

47. Prior to the issuance of a precise grading permit, all on-site improvement construction (parking lots, sidewalks, ramps, grading) shall be bonded for with the precise grading plan and permit.

48. Prior to the issuance of any grading permit, erosion control, demolition, and earth moving work shall be bonded for with the rough or precise grading plan and permit, whichever occurs first.

49. Prior to work in the public right-of-way, an encroachment permit shall first be obtained from the City Engineer. The City Engineer at his sole discretion may require the posting of an encroachment permit bond to guarantee the completion of work in the public right-of-way.

PUBLIC WORKS DESIGN CONDITIONS

50. Grading of the Subject Property shall be in accordance with the City of Laguna Hills Grading Code and Manual and to the reasonable satisfaction of the City Engineer. Any grading required outside of the Project boundaries will require either slope easements or right-of-entry letters from the adjacent property owners.

51. Prior to the issuance of a grading permit, the following on site (private property) improvements shall be designed in a manner meeting the approval of the City Engineer in conformance with Laguna Hills Municipal Code Section 10-16.020:

    a. All provisions for surface drainage.

    b. All necessary storm drain facilities extending to a satisfactory point of disposal for the proper control and disposal of storm runoff.

    c. AII structural pavement sections for on-site and off-site streets, including all newly constructed or reconstructed parking lots, shall be submitted to and approved by the City Engineer. The soils engineer shall submit pavement section recommendations based on "R" Value analysis of the subgrade soils and approved City traffic indices. In no event shall the minimum pavement sections be less than the City's engineering standard plan minimum pavement sections.

52. Prior to the issuance of any grading permit, the Applicant shall provide a Certified Access Specialist (CASp) report reviewing existing pathways, sidewalks and access ramps for both on-site access and adjacent to the site access along the accessible pathways for compliance with the Americans with Disabilities Act (ADA) for approval by the City Engineer and the Building Official. Accessible pathways shall not include a path within any drive aisle, except as necessary to cross a drive aisle at 90° to the drive aisle. The CASp report shall include an implementation plan to correct all deficiencies noted and as reasonably approved by the City Engineer and the Building Official.

53. Prior to the issuance of a Certificate of Use and Occupancy, any sidewalk or pathway not in compliance with ADA standards and the CASp report, as approved by the City Engineer and the Building Official, shall be reconstructed to the City's standards.

54. Prior to the issuance of a precise grading permit, a horizontal control plan showing dimensioning of drive aisle, driveway, parking stall, and hardscape

improvements shall be prepared for review and approval by the City Engineer. Minimum dimensions for drive aisles, driveways, and parking stalls shall adhere to City engineering standard plans and the Municipal Code. The City of Laguna Hills has adopted County of Orange Public Works Standard Plans as its engineering standard plans.

55. Prior to the issuance of a Certificate of Use and Occupancy, the Applicant shall demonstrate to the reasonable satisfaction of the City Engineer that a corner cut-off area is created at the intersection of each driveway serving the Project and a public street that satisfies the requirements of LHMC Section 9-40.160 or otherwise provides traffic vision clearance meeting the corner vision clearance requirements set forth in the California Department of Transportation Highway Design Manual or other applicable published public safety standard.

56. Prior to the issuance of a building permit, the Applicant shall provide plans demonstrating compliance with Laguna Hills Municipal Code Section 9-40.200 (Undergrounding of utilities) which states, in pertinent part: “Utilities shall be placed underground. If an above-ground electrical transformer is located outdoors on any site, it shall be screened from view with a solid wall and landscaping and not located in any setback area.”

PUBLIC WORKS CONSTRUCTION CONDITIONS

57. Perimeter fencing shall be installed that has green screen material or approved equal. The fence/screen material shall be properly maintained and be free of rips, tears, fraying, graffiti, and any other damage or vandalism.

58. The Applicant shall comply with all requirements of the Orange County Stormwater Program "Construction Runoff Guidance Manual" during the construction of the Project. The requirements contained in this manual shall be incorporated into the grading plans.

59. All concrete (including sidewalk) that comes in contact with native soils shall contain Type V cement.

60. Prior to the issuance of a Certificate of Use and Occupancy, all uplifted, subsided or severely worn curb, gutter and sidewalk that fronts the Project in the public right-of-way along McIntyre Street shall be removed and replaced. This includes uplifted, subsided or severely worn curb and gutter and sidewalk that was in this condition prior to the start of construction. Limits of removal and

replacement will not be marked out until immediately prior to occupancy so that all damage that occurred during construction can be included in the limits of replacement.

61. Prior to the issuance of a Certificate of Use and Occupancy, all City Street pavement restorations shall be completed to the reasonable satisfaction of the City Engineer.

62. If any asphalt pavement cuts are made into existing City roadways, the subject roadway shall be ground down and overlaid from the gutter line to the centerline or median of the roadway for any cuts made in that portion of the roadway, and to the reasonable satisfaction of the City Engineer.

63. During the course of the Project construction, no public streets shall be utilized for temporary storage of any construction materials and no vehicles shall be off-loaded of deliveries or filled with materials on any public street.

64. Prior to the issuance of any grading permits, a haul route plan for all exports/imports from/to the site shall be submitted for review and approval by, and to the reasonable satisfaction of, the City Engineer. The haul route shall not utilize any arterial highway prior to 9:00 am or after 4:00 pm daily. In addition, a construction vehicle routing plan shall be submitted for review and approval by, and to the reasonable satisfaction of, the City Engineer prior to any demolition or construction work.

65. During the course of Project construction, no construction equipment traffic shall access or depart the site during morning or evening traffic peak periods, which are 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., Monday through Friday.

66. During the course of Project construction, the Applicant shall adhere to Laguna Hills Municipal Code provisions limiting hours of construction. Pursuant to LHMC Section 5-24.070, activities associated with construction or grading that generate noise levels in excess of those set forth in LHMC Chapter 5-24 shall not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

67. The Applicant shall comply with all applicable laws, regulations, and provisions of the City of Laguna Hills Municipal Code including, without limitation:

a. South Coast Air Quality Management District (SCAQMD) Rule 403 regarding fugitive dust control.

b. SCAQMD Rule 1113: Architectural Coatings and Rule 1143: Consumer Paint Thinners & Multi-Purpose Solvents requiring low or zero VOC coatings and thinners.

c. California Air Resources Board, California Code of Regulations, Title 13, Sections 2480 and 2485 limiting diesel engine idling for commercial vehicles and school buses.

d. California Department of Resources Recycling and Recovery (CalRecycle), Senate Bill 1383 regarding landfill waste diversion.

e. California Department of Industrial Relations and California Division of Occupational Safety and Health (Cal/OSHA), California Code of Regulations, Title 8, regarding the maintenance of construction equipment.

f. U.S. Code, Title 16, Sections 703-712; California Fish and Wildlife Code Sections 3503.5, 3511, and 3515; and the California Migratory Bird Protection Act regarding migratory birds.

g. City of Laguna Hills Municipal Code, Chapter 5-24, Noise Control.

h. City of Laguna Hills Tree Preservation Ordinance (Policy No. 315).

i. California Code of Regulations, title 14, Section 4308, regarding the protection of archeological and historic objects.

j. California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 regarding the inadvertent discovery of human remains during construction.

k. The requirements of the National Pollution Discharge Elimination System (NPDES), as implemented through Municipal Code Chapter 5-36, regarding water quality.

<u>PUBLIC WORKS DRAINAGE AND HYDROLOGY CONDITIONS</u>

68. In accordance with Laguna Hills Municipal Code Section 10-16.340, which requires conformance with the Grading Manual, prior to the issuance of a grading permit, a hydrology and hydraulic study (including off-site areas affecting the development) shall be prepared by a qualified civil engineer and approved by the City Engineer. The report shall include detailed drainage studies indicating how the grading, in conjunction with the drainage conveyance systems including applicable swales, channels, street flows, catch basins, storm drains, and flood water retarding, will allow building pads to be safe from inundation from rainfall runoff which may be expected from all storms up to and including the theoretical 100-year flood.

69. Prior to the issuance of grading permits or the approval of improvement plans, a recorded drainage acceptance letter for any concentration or increase of drainage runoff to adjacent properties shall be required.

70. All storm drain systems shall be designed and constructed in accordance with the County of Orange Local Drainage Manual, Orange County Public Works Standard Plans, and applicable City standard engineering plans.

71. Prior to the issuance of a Certificate of Use and Occupancy, any storm drains modified by the Project, if any, shall be inspected by the County of Orange Underground Inspection Team (the City will arrange for the inspection). There will be additional fees for this inspection.

PUBLIC WORKS SOLID WASTE AND RECYCLING CONDITIONS

72. The Applicant shall comply with all requirements set forth in Laguna Hills Municipal Code Chapter 5-32.210 and 5-48 (Construction and Demolition Waste Recycling Program) and related CalRecycle regulations. Prior to issuance of building permits, the Applicant shall submit and obtain approval of a waste reduction and recycling plan as prescribed by the C&D Compliance Official and submit all applicable fees and security deposits.

73. Prior to the issuance of a building permit, the Applicant shall provide for review and approval by the City Engineer a trash and recycling plan detailing the expected trash and recycled material volume produced by the Project. Accordingly, all existing and proposed trash bin enclosures shall be sized to accommodate the required number of trash and recycling bins as required by the plan. At a minimum, any trash bin enclosure shall be built according to the City's standard engineering plan, which requires a floor drain connected to the

sanitary sewer system and a solid roof to prevent rain water intrusion, and shall accommodate one three-yard trash bin and one three-yard recycling bin (approximate dimensions 40" wide x 82" long) and one organics recycling cart (approximate dimensions 30” wide x 36” long) and enough room for personnel to access the trash bins. No trash bin shall be located outside an enclosure approved by the Community Development Director. If, at any time in the future it is determined by the Public Works Director that the trash enclosure is inadequate, the property owner at its expense shall expand the trash enclosure to accommodate extra bins as evidenced by operations or shall order more frequent trash and recycling bin pick-ups. All trash, storage of cartons, containers, and other discarded items shall be screened from public view at all times. LHMC Section 5-32.040 requires that the storage and collection of mixed solid waste and divertable materials be within enclosures.

74. Prior to the issuance of a Certificate of Use and Occupancy, in accordance with Section 5-32.100 of the Laguna Hills Municipal Code, the applicant shall subscribe to the City’s franchise waste hauler’s organics recycling service as required by State Senate Bill 1383. Further information can be found here: https://www.ci.laguna-hills.ca.us/211/Recycling-For-Businesses

75. Prior to the issuance a grading permit, the Applicant shall provide a will serve letter from the City’s franchise solid waste hauler demonstrating that the site and proposed plan of development will allow the franchise solid waste hauler to service the Project.

PUBLIC WORKS STORM WATER / WATER QUALITY CONDITIONS

76. All projects, in conjunction with a grading permit, require the preparation of an erosion control plan in conformance with the City of Laguna Hills Grading and Excavation Code. All erosion control plans shall incorporate Best Management Practices to the maximum extent possible. In addition, erosion control shall be implemented during construction year-round.

77. Prior to the issuance of any grading permit, evidence that proper clearances have been obtained from the San Diego Regional Water Quality Control Board such as the filing of a Notice of Intent to Discharge, shall be provided to the City Engineer. If a permit is required, the Applicant will be required to prepare a Storm Water Pollution Prevention Plan.

78. Prior to the issuance of a Certificate of Use and Occupancy, "No Dumping - Drains to Ocean" shall be stenciled directly above any inlets or an approved stencil shall be used to paint this message on inlets.

79. Prior to issuance of any precise grading permit, a Water Quality Management Plan (WQMP) shall be approved by the City Engineer. The WQMP shall be prepared in conformance with the City's WQMP Instructions and Template. The project design and construction shall comply with the requirements of the latest edition of the City's National Pollutant Discharge Elimination System (NPDES) Permit issued by the San Diego Regional Water Quality Control Board. Copies of the Permit may be downloaded from the Water Board's website at www.waterboards.ca.gov/sandiego. This order and the City's NPDES Local Implementation Plan (LIP) require the City to classify this Project as a priority project. The Applicant will be responsible for complying with the "priority development project" requirements of this Permit, which requires the Project to incorporate source control BMPs and structural treatment BMPs. The Applicant is advised that there are additional plan check fees for the review of this document.

80. Prior to the issuance of a Certificate of Use and Occupancy, all water runoff from the site (including sheet flow), including existing areas, shall be required to be filtered with a water quality device approved by the City Engineer, prior to the discharge of the water to the street gutter or storm drain system. This may require the installation of trench drains the entire width of the entrances to collect and treat sheet flow leaving the site.

81. Prior to the issuance of a Certificate of Use and Occupancy, the property owner shall furnish a recorded copy of a Maintenance Agreement outlining post construction Best Management Practices (BMP's) in accordance with the County of Orange Drainage Area Management Plan Appendix for New Development. The following non-structural BMP's are required to be implemented by the current property owner, and all subsequent property owners to satisfy National Pollution Discharge Elimination System requirements and requirements outlined in the Orange County Drainage Area Management Plan. A copy of these conditions of approval shall be provided to all subsequent property owners. The following BMP's will be required:

    a. Storage and Repair of Motor Vehicles - The property owner shall not allow motor vehicles stored on the premises to be washed on site, unless a car wash facility is proposed that is connected to the sanitary sewer system.

Motor vehicles may be lightly rinsed (with no detergents, soaps, or surfactants) provided that de-ionized water is used sparingly and any runoff is diverted to a landscaped area or collected on-site and disposed of into the sanitary sewer system. Vehicles parked at this facility that show evidence of leaking fluids must be stored with drip pans located to catch the leakage and protected from mixing with stormwater. All hazardous pollutants spilled from stored vehicles shall be cleaned and picked up immediately with an appropriate "dry method" absorbent material and disposed of properly. All spills must be contained and cleaned up on the premises.

b. Litter Control - The property owner will be required to implement trash management and litter control procedures in the common areas aimed at reducing pollution of drainage water. The property owner may contract with their landscape maintenance firm to provide this service with the regularly scheduled maintenance, which should consist of litter patrol, emptying of trash receptacles in common areas, and noting trash disposal violations and reporting the violations to the property owner for investigation.

c. Trash Enclosures and Dumpsters - The property owner shall post signs on trash enclosure gates that state "Keep Dumpster Lids Closed." The property owner will monitor dumpster usage such that dumpsters are not overfilled and the dumpster lids can close completely. The property owner shall increase the trash pickup schedule as necessary to prevent dumpsters from overfilling.

d. Landscape Maintenance - Ongoing maintenance must be consistent with the City's adopted water conservation ordinance, plus fertilizer and pesticide usage consistent with the "County Management Guidelines for Use and Fertilizers and Pesticides." Landscaping irrigation systems shall be adjusted and properly maintained to prevent over spray runoffs.

e. Green Waste Disposal - Green waste shall not be blown or swept into, or disposed of, in the street, gutter, public right-of-way, or storm drain catch basins or inlets. Leaf blowers, if used, shall be used to move green waste into piles so they can be swept and picked up and disposed of in green waste recycling containers.

f. Employee Training - The property owner shall prepare a training manual(s) for existing and future employees. The manual should include information

on non-point source pollution and how to use proper Best Management Practices (BMPs) to minimize runoff pollutants. Training shall be provided upon hire and at regular intervals thereafter.

g. Catch Basin/Inlet Inspection - The property owner must inspect all catch basins/inlets on site and clean the catch basins, if necessary, prior to the storm season (no later than October 15 each year).

h. Lot/Street Sweeping - The property owner must sweep outdoor lots regularly (minimum monthly), and prior to the storm season (no later than October 15 each year). Sweeping shall be done with a vacuum-type sweeper. Under no circumstances are outdoor areas/lots to be rinsed or washed with water unless said rinse/wash water is collected and disposed of properly (i.e. into the sewer).

i. Catch Basin Stenciling - All catch basins/inlets/outlets on site must be marked using the City's "No Dumping - Drains to Ocean" curb marker or stenciled using an approved stencil shall be used to paint this message on the top of curb directly above the inlet, and on one side of the curb face. Labeling for catch basins is to be inspected regularly and maintained so as to be reasonably legible at all times. The inspection and maintenance is to be performed by the property owner. This stencil is to alert the public/employees to the destination of pollutants discharged into the storm water.

j. BMP Maintenance - The property owner shall be responsible for implementation of each non-structural BMP and regularly scheduled cleaning of all BMP structural facilities (catch basin, storm drains, trash enclosures, etc.).

k. Title 22 CCR Compliance - The property owner must comply with Title 22 of the California Code of Regulations and relevant sections of the California Health and Safety Code regarding hazardous waste management, which will be enforced by County Environmental Health on behalf of the State.

l. Haz-Mat Disclosure Compliance - The property owner shall comply with County and City ordinances.

m. Uniform Fire Code Implementation - The property owner shall comply with Article 80 of the Uniform Fire Code.

n. Spill Response Plan/Kit- The property owner shall develop a spill response plan and maintain a spill response kit on site. Employees shall be properly trained to use the spill response kit. Owner shall maintain absorbent materials in the spill response kit to adequately contain any spills that can be anticipated (i.e. oil drips, engine coolant, etc.).

82. Prior to the issuance of a precise grading permit, the Applicant shall provide plans and supporting documentation for the review and approval of the City Engineer showing that areas requiring regular washing/cleaning (including dumpster areas) are isolated from the storm drain system. No discharge from such areas shall be allowed into the storm drains. This plan may be incorporated into the WQMP.

83. Prior to the issuance of a precise grading permit, the design plans shall include a solid roof over any proposed loading dock(s) and any drains within the proposed loading dock(s) shall be connected to the sanitary sewer system as required by the City's Best Management Practices (BMP) Design Manual dated August 31, 2019, and approved by the California Regional Water Quality Control Board, San Diego Region.

84. Prior to the issuance of a Certificate of Use and Occupancy, catch basin filters shall be installed on all catch basins which drain the subject site, including any existing catch basins. Specification sheets shall be submitted to the City Engineer for approval prior to the installation of the filters.

PUBLIC WORKS WATER, SEWER, AND UTILITIES CONDITIONS

85. The Applicant shall complete all improvements and comply with requirements of the Moulton-Niguel Water District, as set forth in its letter dated February 29, 2024, and/or any subsequent analysis performed by the Water District (Exhibit C). Prior to the issuance of any building permit or grading permit, Applicant shall provide evidence to the City of the Water District’s concurrence that all of its requirements to provide water and sewer service to the Project have been satisfied. Prior to the issuance of a precise grading permit, water and sewer improvement plans shall be approved by the appropriate water district and the City Engineer. All water and sewer facilities shall be constructed in accordance with the appropriate agency's specifications, with all incidental fees paid by the Applicant. These facilities shall be dedicated to the appropriate water district by the Applicant to the reasonable satisfaction of the City Engineer.

86. On-site water and sewer facilities that will not be maintained by Moulton-Niguel Water District shall be plan checked and inspected by the City's Building Department. All fees shall be paid in accordance with the City's fee schedule.

87. Any above ground valve assemblies or back-flow devices shall be placed on private property and an easement dedicated to Moulton-Niguel Water District.

88. Prior to the issuance of a Certificate of Use and Occupancy, any damage, either structural or aesthetic, to any public and/or private streets as a result of utility connections to service the Project shall be repaired by the Applicant to the reasonable satisfaction of the City Engineer. The improvements will not be accepted by the City until the necessary repairs are completed.

89. Any above ground utility cabinets shall be placed on private property and an easement dedicated to the appropriate utility company (if required).

90. No above ground utility structures, cabinets, pipes, or valves shall be constructed within the public right-of-way.

PUBLIC WORKS LANDSCAPING-RELATED CONDITIONS

91. The maintenance of any landscaping between the curb and the right-of-way line of any street abutting the parcel shall be the responsibility of the owner of that parcel, unless a recognized association or district has assumed responsibility for said maintenance.

92. All landscape plans shall reflect all improvements shown on the final approved grading plans and building plans including, but not limited to, improvements such as ramps, walkways, driveways, planter areas, fire access lanes, ingress and egress to buildings, and appurtenances constructed to support the use of any improvements such as gates, handrails, fences, or walls.

TRAFFIC AND PARKING CONDITIONS

93. Prior to the issuance of a precise grading permit, a plan for the placement and installation of traffic signing, pavement delineation, and other traffic devices on the subject property shall be prepared for review and approval by the City Engineer. Parking stalls shall be sized and striped according to City engineering standard plans and the Municipal Code, and stop signs along with

stop legend bar shall be provided at all locations as specified by the City Engineer. The City of Laguna Hills has adopted County of Orange Public Works Standard Plans as its engineering standard plans.

CONSTRUCTION ACCESS

94. During construction of the Project, the Applicant shall maintain adequate site vehicular and pedestrian ingress and egress for customers of adjacent commercial uses and utilize temporary directional signage in the public right-of-way as needed to the reasonable satisfaction of the Public Works Director and Community Development Director. Required directional signage shall comply with City standards and specifications, including but not limited to, the CalTrans design manual, the California Manual of Uniform Traffic Control Devices, and/or as recommended by the American Association of State Highway and Transportation Officials (AASHTO). Required private directional signage shall be provided as appropriate at the reasonable discretion of the Community Development Director.

95. During any construction, adequate emergency access for police, fire, and paramedic vehicles, to the standards of, and approval of, the OCFA, shall be maintained on the Subject Property at all times.

96. Prior to the issuance of any demolition, grading, building or other permit within a District, the Applicant shall submit a construction staging plan to the Community Development Director identifying areas to be used for equipment and material storage, placement of construction trailers, portable restrooms, delivery areas for loading and unloading of materials and equipment, construction waste diversion processing, and construction employee parking. The Applicant shall periodically submit an updated construction staging plan, as needed and/or when reasonably requested by the Community Development Director. Appropriate pedestrian and vehicular safety barriers shall be installed in all areas as required by the Community Development Director prior to the issuance of permits. In addition, prior to the issuance of any permits within a District, an on-site pedestrian and vehicle parking circulation plan shall be submitted to the City for review and approval by the Public Services Director and Community Development Director identifying pedestrian and vehicle access, including temporary parking for disabled patrons for businesses that will remain open during construction.

97. During the course of construction, the Applicant shall immediately respond to requests made by a City inspector to reasonably resolve any public safety or access issues identified during the work. Modifications to an approved construction staging plan shall be made when requested by a City inspector within 48 hours, or as soon as possible as determined by the Community Development Director.

AFFORDABLE HOUSING OBLIGATIONS

98. At Applicant's request, Applicant has been granted reduced parking ratios, an incentive/concession and multiple waivers or modifications of applicable development standards pursuant to the State Density Bonus Law (Government Code section 65915). To comply with the provisions of Government Code section 65915, the Applicant has offered to, and shall, reserve at least two (2) dwelling units in the project for initial occupancy by very low-income households. The following requirements apply with respect to the affordable units.

    a. The Applicant shall verify and certify that the initial buyer(s) of each affordable unit are very low-income households and shall require the initial buyer(s) of each affordable unit to occupy the affordable unit at all times until resale of the affordable unit.

    b. In order to enable the City to adequately enforce the proposed income restrictions and the continued affordability of the affordable units, the property owner(s) shall enter into and record an affordable housing regulatory agreement ("regulatory agreement") with the City, in a form acceptable to the City Manager, which satisfies the criteria set forth in subdivision (c) of Government Code section 65915. The regulatory agreement shall be approved by the City and recorded prior to final map approval. The City Manager shall be authorized to enter into and implement the regulatory agreement on behalf of the City. The regulatory agreement shall be prepared by the City at the Applicant's expense. Unless otherwise provided by State law or determined by the City Manager, the regulatory agreement shall include provisions addressing or providing for the following:

        i. The regulatory agreement shall identify which units will be reserved for the affordable households. The specific units to be reserved shall be subject to City approval.

ii. The regulatory agreement shall require the affordable units to be constructed concurrently with or prior to the market rate units.

iii. The regulatory agreement shall include uniform provisions governing Applicant's development of the project and the affordable units. The interior and exterior appearance, entrances to the units, and other architectural features of the units will vary within the project, but within the range of a common architectural theme. Within that range, the exterior appearance, entrances, and other architectural features and the interior features, fixtures, and amenities of each affordable unit shall be indistinguishable from those of the market rate units of the same size, model, and/or plan type, provided, however, that a buyer of a market rate unit may elect and pay for upgrades or improvements that are not included in the purchase price for a unit of the same price for a unit of the same size and model and thus not necessarily included in a corresponding affordable unit. Finishes and features shall be durable, of good quality, and consistent with contemporary standards for new housing.

iv. The regulatory agreement shall require that the owners and occupants of each affordable unit shall be provided or have access to the same amenities as the owners and occupants of the market rate units.

v. The regulatory agreement shall include uniform provisions requiring the buyer(s) of each affordable unit meet the applicable income and eligibility requirements established for the affordable unit and occupy the affordable unit at all times until resale of the affordable unit.

vi. The regulatory agreement shall contain provisions satisfying the criteria set forth in paragraph (2) of subdivision (c) of Government Code Section 65915. The regulatory agreement shall also require the initial purchaser and, if applicable, each subsequent purchaser, of an affordable unit, to execute and/or record one or more agreements and/or restrictive covenants benefiting and enforceable by the City, which address, among other things, the purchaser's obligations pertaining to certification of income, financing or refinancing of the unit, occupancy of the unit, property maintenance, insurance, periodic certification of compliance with applicable agreement terms, and re-sale of the unit (collectively, "Homebuyer

Documents"). Homebuyer Documents may include, without limitation promissory notes, deeds of trust, reimbursement agreements, option agreements, equity sharing agreements, and/or other covenants and regulatory documents necessary to ensure continued compliance with pertinent provisions of applicable law, conditions of approval, and the regulatory agreement for the required affordability period.

vii. The regulatory agreement shall contain provisions requiring the owner: (a) to prepare and obtain the City's approval of a marketing program for the sale of the affordable units to qualified purchasers prior to the issuance of a certificate of occupancy for any portion of the project; (b) to thereafter market the affordable units in accordance with the marketing program; and (c) to provide the City with periodic reports with respect to the leasing or sale of the affordable units. Except as otherwise approved by the City, the marketing program shall include, without limitation: (i) a plan for and detailed description of how the owner will solicit and identify potential qualified purchasers for the affordable units; (ii) a description of the process the owner will implement to evaluate and select qualified purchasers for the affordable units; (iii) the form of the purchase and sale agreement the owner proposes to enter into with qualified purchasers; (iv) copies of forms, disclosures, and other documents owner intends to provide to qualified purchasers; and (v) such other information reasonable requested or required by the City.

viii. The regulatory agreement shall contain a provision requiring the owner or successors in interest to reimburse the City for the estimated reasonable costs incurred by the City: (i) to monitor the owner's compliance with, and to otherwise administer, the regulatory agreement, prior to the initial sale of each affordable unit, and (ii) to monitor each subsequent purchaser's compliance with, and to administer, the homebuyer documents following the initial sale of each affordable unit.

ix. The regulatory agreement shall require the owner, at its expense, to defend (with counsel acceptable to City and subject to approval by owner), indemnify, and hold harmless City, and its officers, agents, employees and representatives from any and all losses, liabilities, claims, lawsuits, causes of action, judgments, settlements, court costs, attorneys’ fees, expert witness fees, and other legal expenses,

costs of evidence of title, costs of evidence of value, and other damages of whatsoever nature arising out of or in connection with owner's failure to perform its obligations under the agreement, the owner's ownership or operation of the site, or the development of the project, except for such liability arising from the gross negligence or willful misconduct of City.

c. The regulatory agreement shall remain a senior, non-subordinate covenant and as an encumbrance running with the land for the full term thereof. In no event shall the regulatory agreement be made junior or subordinate to any deed of trust or other documents providing financing for the construction or operation of the project, or any other lien or encumbrance whatsoever for the entire term of the required covenants.

d. The Applicant shall reimburse the City for the actual fees and costs incurred by the City in conjunction with negotiation and preparation of the regulatory agreement and homebuyer documents, review of the initial marketing plan required as part of the regulatory agreement, review and confirmation that potential purchasers of the affordable units meet the applicable income qualifications, and the preparation of escrow instructions and all associated escrow costs associated with execution and recordation of the homebuyer documents. Prior to the City commencing preparation of a regulatory agreement, the Applicant shall execute a reimbursement agreement with the City, in a form approved by the City Attorney, and provide a deposit in an amount equal to the estimated reasonable cost to be incurred by the City for the aforementioned items, as determined by the City Manager in his or her reasonable discretion.

PASSED, APPROVED, AND ADOPTED this 10th day of February, 2026.

_____
DON CASKEY, CHAIR

ATTEST:

_____
JENNIFER LEE, CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss
CITY OF LAGUNA HILLS)

I, Jennifer Lee, City Clerk of the City of Laguna Hills, California, DO HEREBY CERTIFY that the foregoing is a true and correct copy of Resolution No. _____ adopted by the Planning Agency of the City of Laguna Hills, California, at a Regular Meeting thereof held on the 10th day of February, 2026, by the following vote:

AYES:

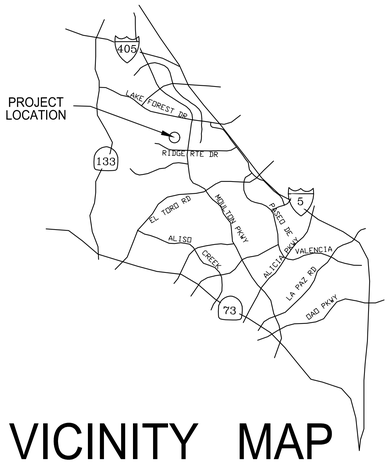
NOES:

ABSENT:

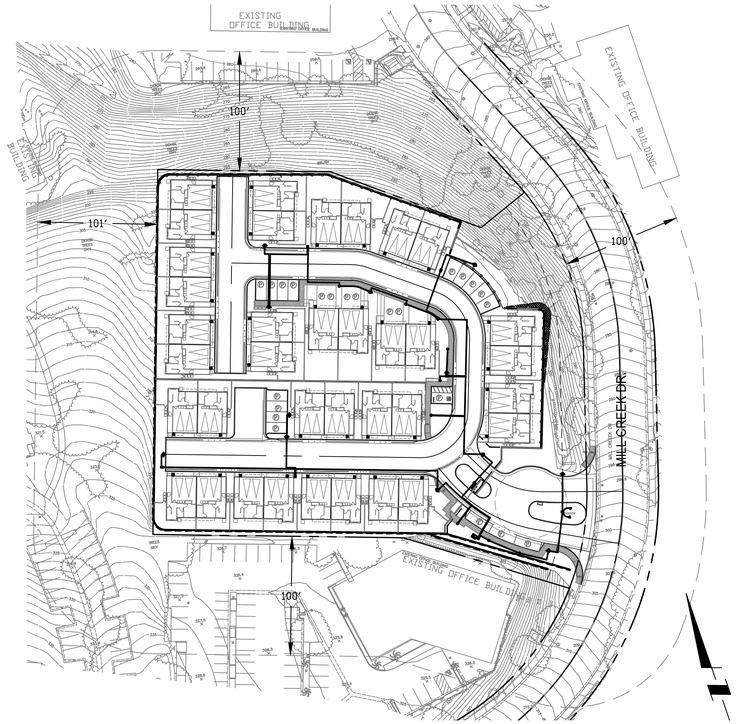
ABSTAIN:

_____
JENNIFER LEE, CITY CLERK

LAGUNA HILLS - 23161 MILL CREEK
VESTING TENTATIVE TRACT MAP NO. 19346



VICINITY MAP



LAND USE SUMMARY

DESCRIPTION	TOTAL
CONDOMINIUM DEVELOPMENT LOT (INCLUSIVE OF THE FOLLOWING)	2.44 AC
PRIVATE WAY	0.82 AC
PROJECT LANDSCAPE	0.55 AC.

ZONING

EXISTING: MIXED USE, MXU

SITE SUMMARY

DESCRIPTION	PROPOSED
TOTAL NUMBER OF UNITS	36
PROJECT ACREAGE	2.44 ACRES
PROJECT DENSITY	14.8 UNITS PER ACRE

DEVELOPMENT STANDARDS TABLE

DEVELOPMENT STANDARDS PER MUNICIPAL CODE MXU ZONING

ITEMS	RESIDENTIAL (HDR)	PROPOSED DEVELOPMENT
MINIMUM LOT SIZE	7,200 sq. ft.	106,364sf./2.44 AC
MINIMUM LOT WIDTH	60 ft.	±300 ft.
MINIMUM LOT DEPTH	100 ft.	±360 ft.
MAXIMUM LOT COVERAGE	70%	1.55/2.43= 64%
MAXIMUM DENSITY	20 DUs/acre	14.8 DUs/acre
MAXIMUM BUILDING HEIGHT	35 ft.	38 ft.
FLOOR AREA RATIO (TOTAL PROJECT BUILDING FOOTPRINT)	0.38%	0.30% 32,004sf.
DRIVE AISIE WIDTHS	24 ft. MIN	26 ft. MIN
MINIMUM SETBACK–FRONT		
PARKING LOT	20 ft.	N/A
PARKING STRUCTURE	20 ft.	N/A
BUILDING	20 ft.	20 ft.
MINIMUM SETBACK–SIDE (INTERIOR)	5 ft.	5 ft.
MINIMUM SETBACK–STREET SIDE	15 ft.	20 ft.
MINIMUM SETBACK–REAR	20 ft.	8.5 ft.
MINIMUM OPEN SPACE		
PUBLIC	N/A	N/A
PRIVATE (BALCONIES & PRIVATE YARDS)	10%	10,568sf= 9.9%
MINIMUM LANDSCAPE COVERAGE	20%	22%
MINIMUM BUILDING SEPARATION		
MAIN–MAIM	10 ft.	6.5 ft.
MAIN–ACCESSORY	2.5 ft.	N/A
ACCESSORY–ACCESSORY	2.5 ft.	N/A
PARKING	2 ASSIGNED AND COVERED PARKING STALL WITH A GARAGE OR PARKING STRUCTURE, PLUS 0.3 STALLS UNASSIGNED PER DWELLING UNIT	2 ASSIGNED AND COVERED PARKING STALL WITH A GARAGE OR PARKING STRUCTURE, PLUS 0.3 STALLS UNASSIGNED PER DWELLING UNIT
PARKING STALL SIZE– STANDARD STALLS	9'X18'	9'X18'
ACCESSIBLE STALLS	14'X18	14'X18

NOTE:
COMMON OPEN SPACE IS NOT REQUIRED FOR THIS PROJECT

PARKING SUMMARY

UNIT TYPE	NUMBER OF BEDROOMS	NUMBER OF UNITS	PARKING REQUIRED	PARKING PROVIDED
PLAN 1	4	18	90 (SEE NOTE 1)	95
PLAN 2	4	18		
TOTALS		36		

NOTE 1: PER GOVERNMENT CODE SECTION 65915(p)(1)
THE MAXIMUM PARKING RATIO FOR 4 BEDROOM HOMES IS 2.5 = 90 SPACES

ADDITIONAL STANDARDS	REQUIRED	PROVIDED
MINIMUM WIDTH OF PRIVATE WAY (FLOWLINE TO FLOWLINE)		28' (TYP.)
MINIMUM P.F.L.S. FIRE ROAD WIDTH AT GATED ENTRY	13'	15'

BUILDING SUMMARY (AREA)

UNIT TYPE	BEDROOM	BATHROOMS	LIVABLE AREA (SF)	GARAGE AREA (SF)	TOTAL (SF)	FIRST FLOOR TOTAL(SF)	UNITS NUMBER OF
PLAN 1	4	4	1,991	446	2,437	881	18
PLAN 2	4	4	2,033	450	2,483	897	18
TOTAL							36

AFFORDABLE UNITS (5% OF TOTAL) = 2 UNITS
FIRST FLOOR SQUEAR FOOTAGE IS (GARAGE, LIVABLE AND PORCHES)

SHEET LEGEND

C1 – SITE PLAN COVER SHEET
C2 – SITE PLAN
C3 – SECTIONS
C4 – CONCEPTUAL GRADING AND DRAINAGE
C5 – EXISTING SITE PLAN
C6 – PARKING AND ACCESS
C7 – TRASH PICK–UP
F1 – FIRE ACCESS PLAN
L1 – ILLUSTRATIVE SITE PLAN
L2 – CONCEPTUAL WALL AND FENCE PLAN
L3 – LANDSCAPE ELEVATIONS
L4 – CONCEPTUAL PLANTING PLAN
L5 – SHADE STUDY
L6 – TREE CANOPY/SHADE PLAN
EP1 – PHOTOMETRIC SITE PLAN
EP2 – PHOTOMETRIC FIXTURE TYPES
R1 – RENDERINGS
R2 – RENDERINGS
R3 – RENDERINGS
A1 – FLOOR PLANS
A2 – FLOOR PLANS
A3 – ELEVATIONS
A4 – ELEVATIONS WITH ROOF PLAN
A5 – SOLAR PANEL ASSESSMENT
A6 – COLOR AND MATERIALS BOARD

REGISTERED PROFESSIONAL ENGINEER
SCOTT M. WILSON
No. 49884
Exp. 9/30/26
CIVIL
STATE OF CALIFORNIA

I, Scott M. Wilson, HEREBY CERTIFY THAT I AM THE DESIGN PROFESSIONAL OR OWNER OF COPYRIGHT MATERIALS WHO PREPARED THE CIVIL ENGINEERING DRAWINGS FOR THE DEVELOPMENT APPLICATION OF THE ABOVE–DESCRIBED PROPERTY. I HEREBY GRANT THE CITY AUTHORIZATION TO REPRODUCE THE PLANS WITHIN THE AGENDA PACKET FOR PUBLIC HEARINGS AND POST THEM ON THE INTERNET AND FURTHER ACKNOWLEDGE THAT MEMBERS OF THE PUBLIC WILL HAVE ACCESS TO THESE PLANS, AND THEY MAY BE COPIED.

23161 Mill Creek Waiver List

Item	City Objective Design Standards	City Municipal Code	Description	Waiver Request
1		§9–30–040 – Rear Setback	15' minimum building rear setback	Reduce setback to 8.5'
2		§9–30–040 – Building Separation	10' minimum building separation	Reduce to 6.5'
3		§9–30–040 – Private Open Space	10% minimum private open space. A minimum of 100 sf of private open space shall be provided for each ground floor unit. A minimum of 40% of the residential units above the ground floow shall include a minimum of 50 sf of private open space (balcony, terrace or rooftop)	Reduce the requirement to 9%
4		§9–30–040 – Building Height	35' maximum building height	Increase to 38'
5		§9–40.100 – Fences walls and hedges	"Perimeter tract walls which are adjacent to a public street shall have articulated planes by providing, at a minimum for every one hundred (100) feet of continuous wall, an eighteen (18) inch deep by eight foot long landscaped recession. Walls should be constructed with pilasters provided at every change in direction, every five feet difference in elevation and at a minimum of every twenty–five (25) feet of continuous wall. Fences, walls, and hedges within the front yard setback shall not exceed 42"" in height. The height of retaining walls in the front yard shall be less than 30"" in height. The total wall height, including the retaining wall, shall not be greater than 42"""	Waive Requirement
6	§2.2.2 – Pedestrian Connections		"Primary entries to buildings or units shall be connected to a public sidewalk or publicly accessible pathway with a pedestrian pathway Entrances serving 1–2 units must have a minimum width of 4""	Waive Requirement
7	§2.3.1 – Active Frontage		Requires a minimum 70% of the building frontage facing the publicly accessible pathway to be ground floor residential uses. The majority of the building frontages are currently proposed as garages and would not meet this requirement	Reduce to 16% with porches being applied as a residential use.
8	§2.3.1.2 – Ground Floor to Floor Height		Ground floor shall have a minimum floor–to floor height of 12'	Reduce to 10'
9	§2.7.1.1 – Short term bicycle parking		Short–term bicycle parking shall be provided at a rate of one space per 10 dwelling units	Waive Requirement
10	§2.7.1.2 – Long Term bicycle parking		At least one long–term bicycle storage space is required for each unit. 36 required	Waive Requirement
11	§2.8.1 – Pedestrian pathways		"All on–site buildings, entries, facilities, amenities, and vehicular and bicycle parking areas shall be internally connected with a minimum 4' wide pedestrian pathway or pathway network. At least two amenities that include trellises and/or benches shall be provided on any pedestrian path longer than 200"	Waive Requirement
12	§3.1 – Massing		Buildings shall employ the specified massing strategies of modulation, roof form, or projections	Waive the requirement for 3 sides.
13	§3.2.1 – Step backs		Buildings above 2 stories or 35' are required to have a minimum of 30% of the frontage stepped back a minimum of 10'.	Waive Requirement
14	§3.4.2 – End Units		ODS Section 3.4.2 requires all end units to have at least 10% fenestration area. End units that face the street shall also have at least one architectural projection that is a minimum of 18".	Waive requirement except for Units 1, 14, and 36
15	§3.5.1 – Window Alignment		Windows in opposing units, facing each other and located within 40 feet of each other, shall be offset by a minimum 20 feet.	Waive Requirement
16	§3.9.1 – Entrance Types		"Primary building entrances for all residential buildings shall face a public sidewalk or publily accessible pathway. In a porch entrance type, the porch shall be 8' minimum and 18"" above sidewalk."	Reduce width to 4' and waive level above sidewalk
17	§3.9.3 – Parking & Access		The garage door is required to be located a minimum of 1' behind the primary façade.	Waive Requirement
18	§4.3.2 – Roofs, Required Elements		Overhanging eaves (minimum 24" on elevation that face a public street) with exposed rafter tails or beams are a required element and are missing from the architectural style.	Waive Requirement
19	§5.3.1.3 – Walls and Fences, Visual Interests		1) Perimeter walls shall incorporate multiple textures, staggered setbacks, and variations in height. 2) Perimeter walls shall incorporate columns or pilasters to provide relief. The maximum unbroken length of a perimeter wall shall be 50'. The perimeter walls do not meet these requirements.	Waive Requirement
19		OCPW Std 1107 – Guard Gate Setback from ROW	Guard gate: 100' minimum stacking distance	Reduce to 91'
20		OCPW Std 1107 – Location of Call box	Guard gate: the call box location should be after the turn–around.	Hove the turn around before the call box.
21		OCPW Std 1107 – Street Width	Local street: 40' minimum curb to curb with 8' sidewalk+parkway both sides	Reduce to 26' and waive sidewalk requirement

23161 Mill Creek Concession

Item	City Objective Design Standards	City Municipal Code	Description	Waiver Request
1	4.3.3 Walls and Windows		Casement or double–hung sash with flat or arched lintels and windows shall be recessed 2 to 12 inches from outer wall are required elements and are missing from the architectural style. Additionally, one of the following optional elements shall be incorporated: Pedimented or framed windows, paired decorative wood shutters, stepped windows at internal staircases, or balconettes.	Remove requirement

23161 Mill Creek Clarifications

Item	City Objective Design Standards	City Municipal Code	Description	Clarification	Proposed Design
1	4.3.5 Decorative Accents and Details		Requires at least six of the following elements to be incorporated into the design: window grilles, recessed doorways, rafter extensions, balconies, wrought iron light fixtures, courtyards, wood finish doors, stucco/stone finished chimneys, awnings, overhangs, wrought iron railing, or arcade at entry. The proposed project only includes five of these element (includes recessed doorways, balconies, wrought iron light fixtures, wood finish doors, and wrought iron railing). Please add one additional element.	City confirmed that the project as depicted on the plans adhere to 6 elements	1. Rafter extensions –Corbels shown on the front elevation meet this requirement. 2. Balconies 3. Wrought iron light fixtures –Dark finish metal meet this requirement. 4. Wood finish doors – Wood looking doors and not actual wood doors are proposed on this project. 5. Recessed doorways 6. Wrought iron railing – Dark finish metal meet this requirement.

11.25.2025

SITE PLAN COVER SHEET

23161 MILL CREEK | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

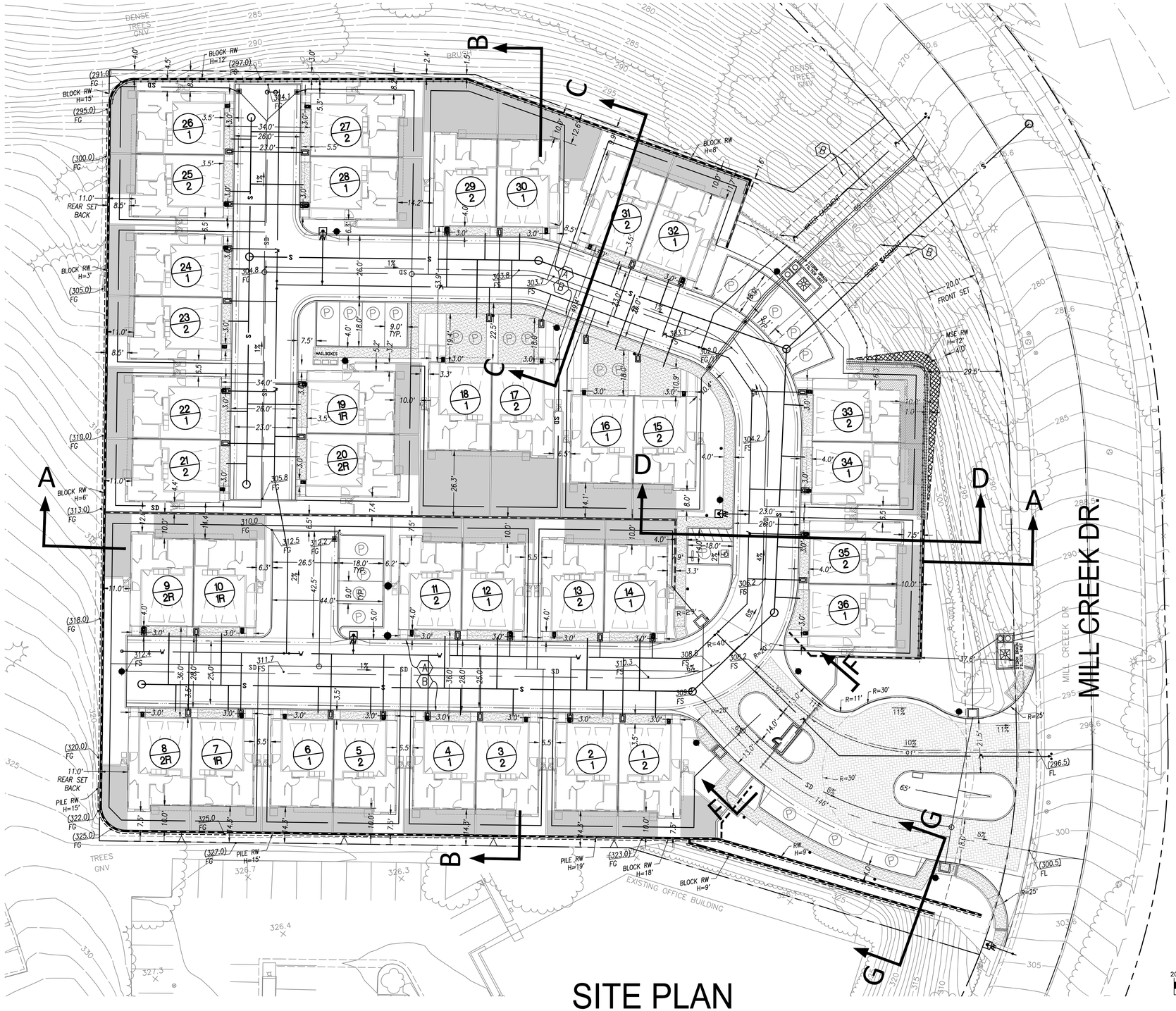
THESE DRAWINGS ARE INTENDED FOR DESIGN DEVELOPMENT AND PRELIMINARY STUDIES ONLY AND ARE NOT TO BE USED FOR ANY OTHER PURPOSE, SUCH AS FINAL PLOTTING OR FINAL ENGINEERING. COPYRIGHT WOODLEY ARCHITECTURAL GROUP, INC. THESE DRAWINGS MAY NOT BE USED OR DUPLICATED WITHOUT THE EXPRESS WRITTEN PERMISSION OF WOODLEY ARCHITECTURAL GROUP, INC.

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

WILSON MIKAMI CORPORATION
Wilson Mikami Corporation
9 Corporate Park, Suite 100, Irvine, CA, 92606
T: (949) 679-0090 | F: (949) 679-0091

LAGUNA HILLS - 23161 MILL CREEK

VESTING TENTATIVE TRACT MAP NO. 19346



LEGEND

- DOMESTIC WATER LINE (PROP) — W
- SANITARY SEWER LINE (PROP) — S
- STORM DRAIN LINE (PROP– PRIVATE) — SD
- DOMESTIC WATER LINE (EXIST) — W
- SANITARY SEWER LINE (EXIST) — S
- STORM DRAIN LINE (EXIST) — SD
- STREET CENTER LINE
- RIGHT OF WAY
- PROPOSED LOT LINE
- RECORDED LOT LINE
- RECORDED TRACT (N.A.P.) — 18176
- CURB & GUTTER
- ROLLED CURB & GUTTER
- CURB FLOW LINE
- TRACT BOUNDARY
- EASEMENT
- EXISTING CONTOUR — 205
- PROPOSED CONTOUR — 205
- FIRE HYDRANT
- CATCH BASIN (PROP)
- STREET LIGHT
- VERDURA 4:1 BLOCK WALL
- VERDURA BLOCK WALL GEOGRID LIMITS
- PROPOSED STREET OR WALK GRADE — 5.0%
- PROPOSED UNIT NUMBERS — 1
- TRASH CAN LOCATIONS
- YARD GATE AND STEPPING STONES
- AIR CONDITIONING UNIT — AC
- UNIT ENTRANCE
- UNIT NUMBER — 10
- UNIT TYPE — 1R
- ELECTRIC METER LOCATION — E
- PRIVATE OPEN SPACE (8'X8' MIN.) 10,568 SF

EASEMENT NOTES

- EASEMENT FOR EMERGENCY ACCESS PURPOSES TO THE CITY OF LAGUNA HILLS — (A)
- EASEMENT TO EL TORO WATER DISTRICT FOR SEWER AND WATER PURPOSES — (B)

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

SITE PLAN

9.8.2025

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23161 MILL CREEK | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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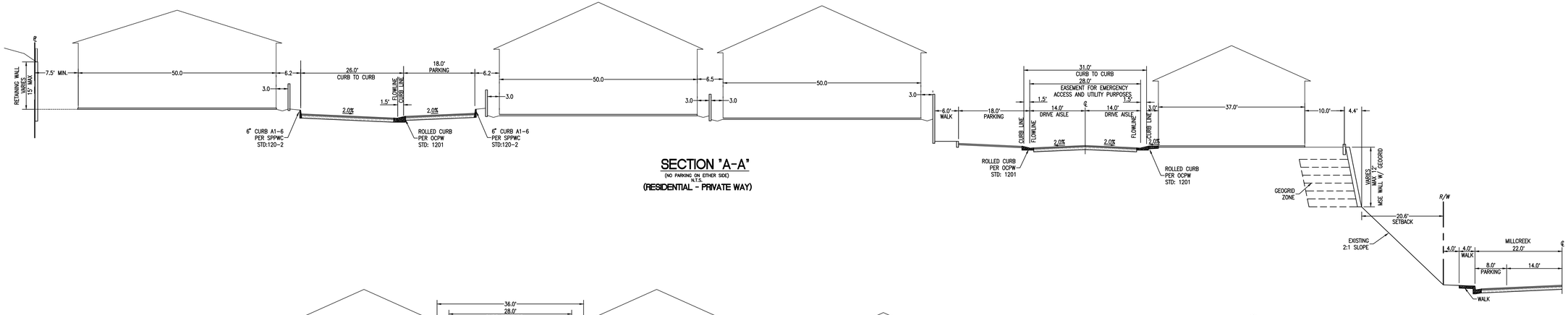
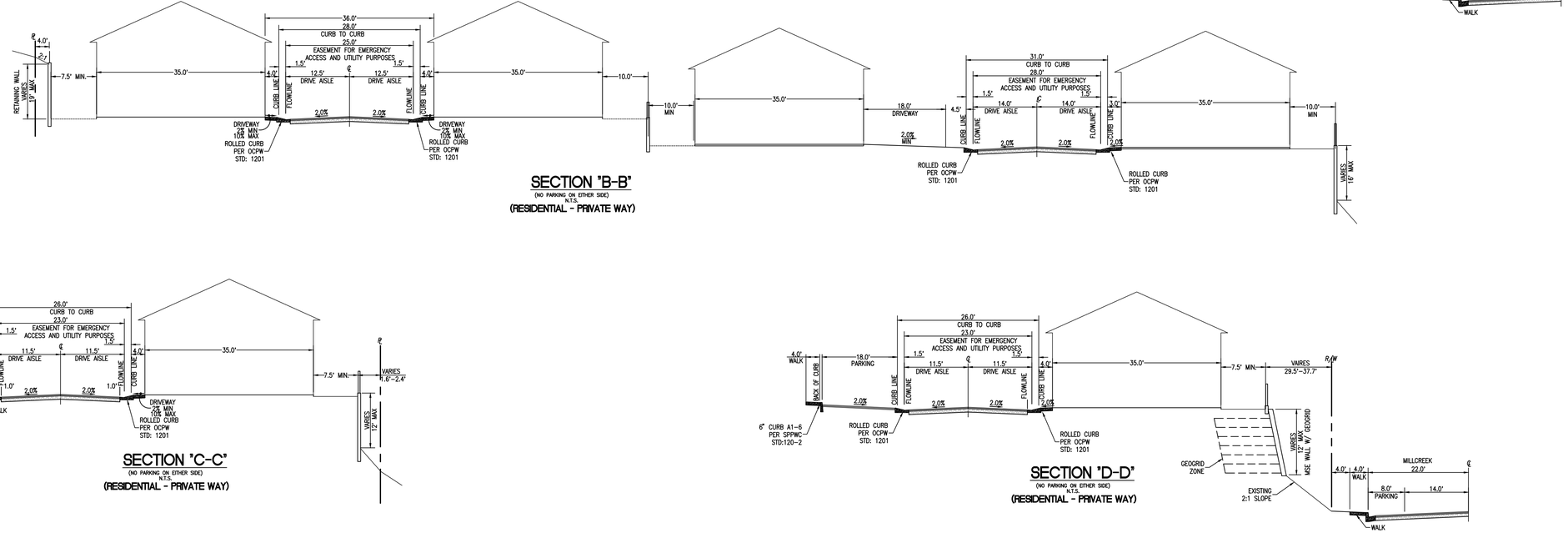
C2

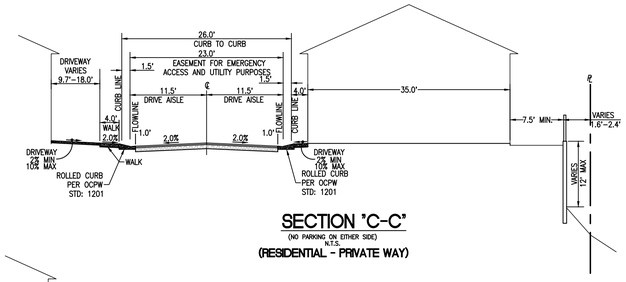
LAGUNA HILLS - 23161 MILL CREEK
VESTING TENTATIVE TRACT MAP NO. 19346



SECTION "A-A"
(NO PARKING ON EITHER SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)

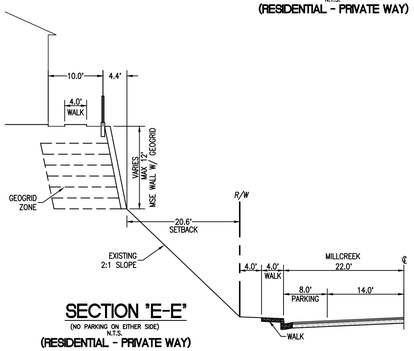


SECTION "B-B"
(NO PARKING ON EITHER SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)

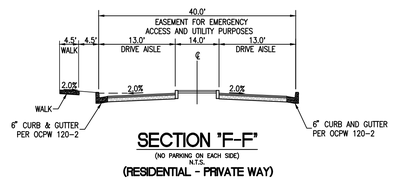


SECTION "C-C"
(NO PARKING ON EITHER SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)

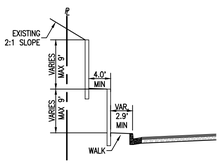
SECTION "D-D"
(NO PARKING ON EITHER SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)



SECTION "E-E"
(NO PARKING ON EITHER SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)



SECTION "F-F"
(NO PARKING ON EACH SIDE)
N.T.S.
(RESIDENTIAL - PRIVATE WAY)



SECTION "G-G"
(PARKING ON EACH SIDE)
N.T.S.

SECTIONS

7.17.2025

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LAGUNA HILLS, CALIFORNIA
NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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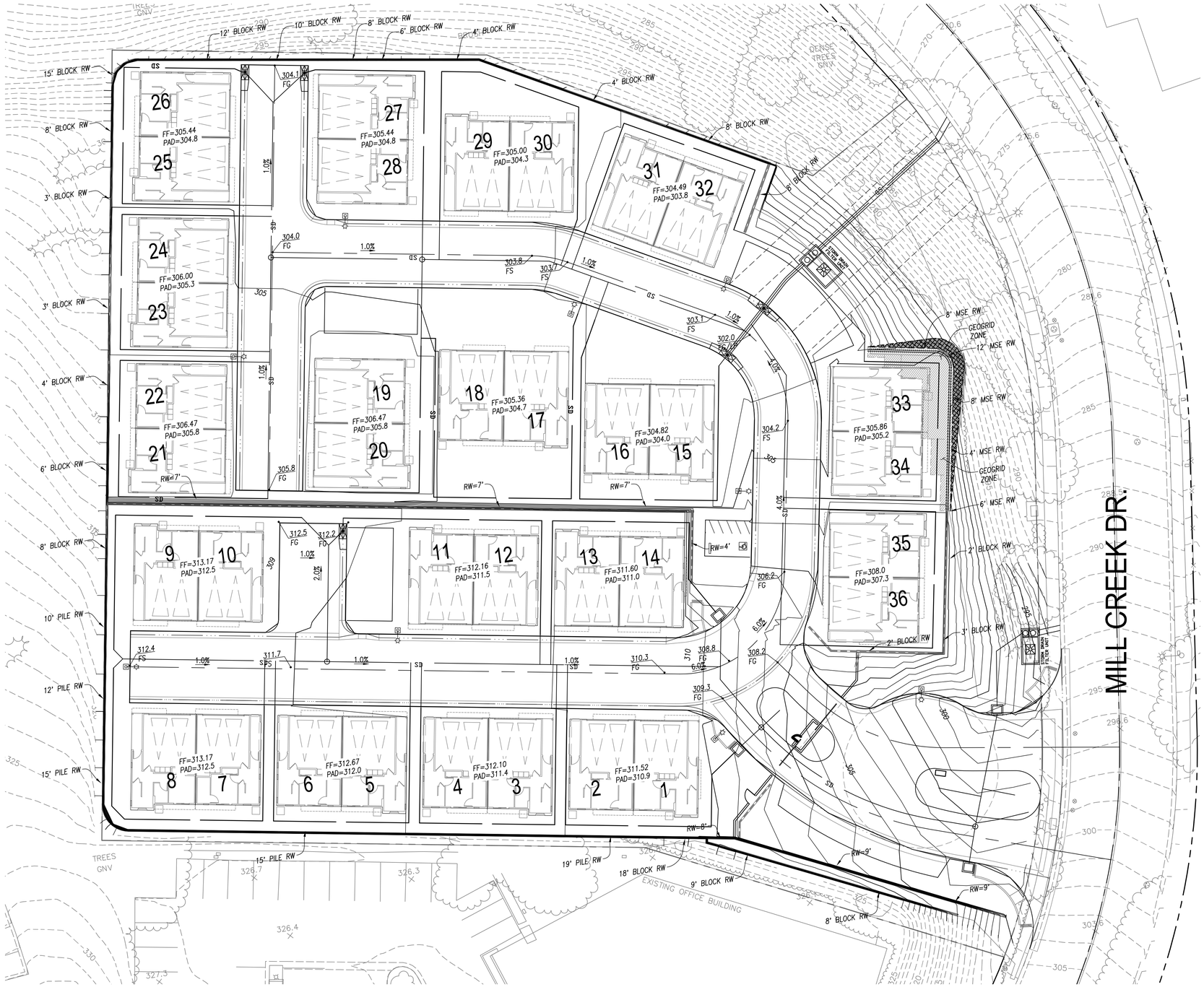
LAGUNA HILLS - 23161 MILL CREEK

VESTING TENTATIVE TRACT MAP NO. 19346



LEGEND

- STREET CENTER LINE
- RIGHT OF WAY
- TRACT BOUNDARY
- LOT LINE
- EASEMENT
- EXISTING CONTOUR 205
- PROPOSED CONTOUR 205
- STREET LIGHT
- FIRE HYDRANT
- STORM DRAIN CATCH BASIN
- STORM DRAIN GRATE INLET
- VERDURA 4:1 BLOCK WALL
- VERDURA BLOCK WALL GEOGRID LIMITS

PRELIMINARY EARTH WORK VOLUMES:

CUT VOLUME	3,109 CU. YD.
FILL VOLUME	7,889 CU. YD.
NET VOLUME	4,780 CU. YD.<FILL>

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

CONCEPTUAL GRADING AND DRAINAGE PLAN

7.17.2025

23161 MILL CREEK | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

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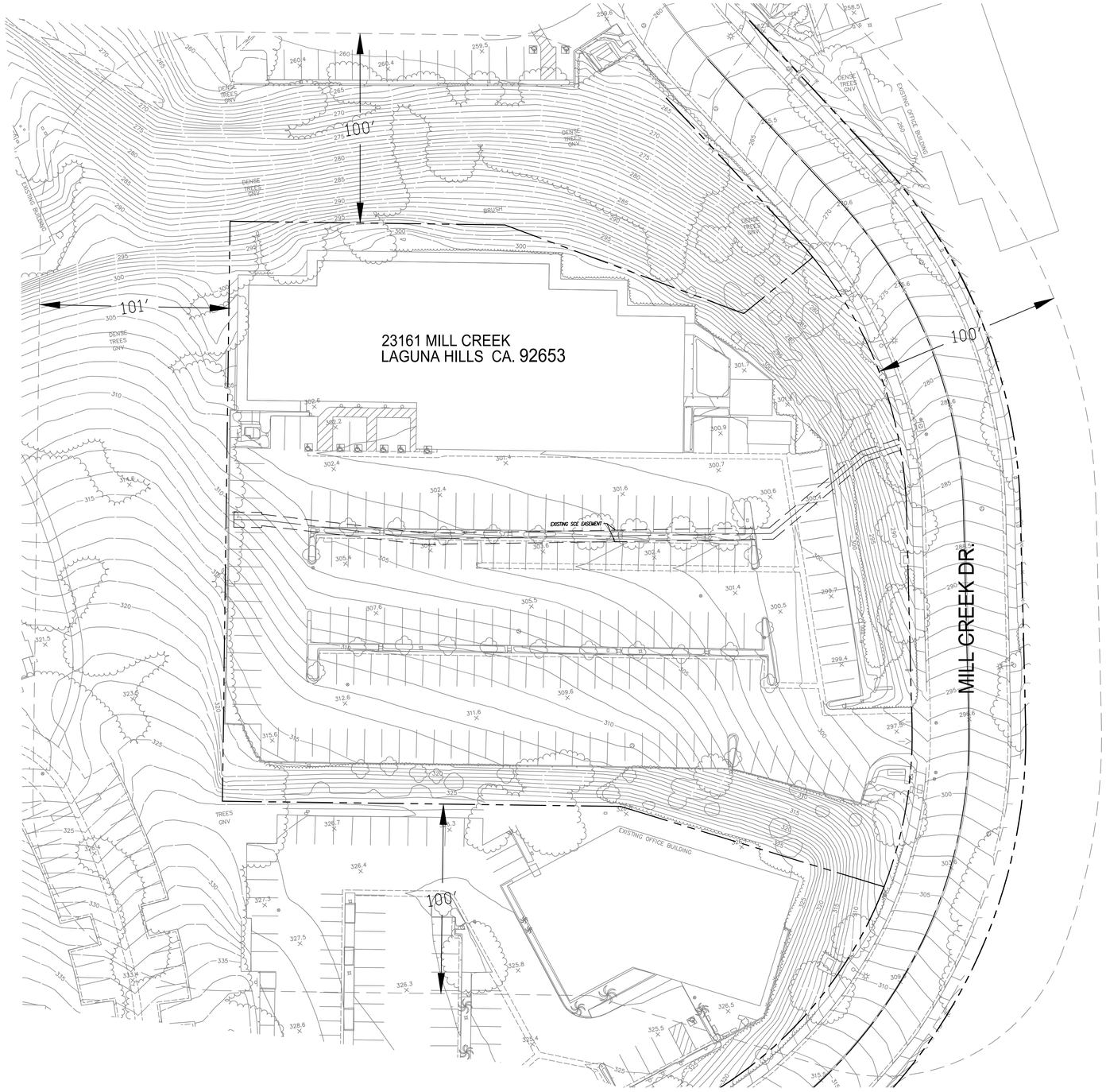
VESTING TENTATIVE TRACT MAP NO. 19346



LEGEND

- STREET CENTER LINE
- RIGHT OF WAY
- TRACT BOUNDARY
- LOT LINE
- EASEMENT
- EXISTING CONTOUR 205
- FIRE HYDRANT
- CATCH BASIN
- STREET LIGHT

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

EXISTING SITE PLAN

7.16.2025

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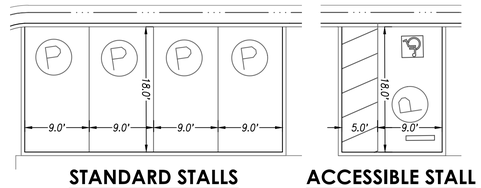
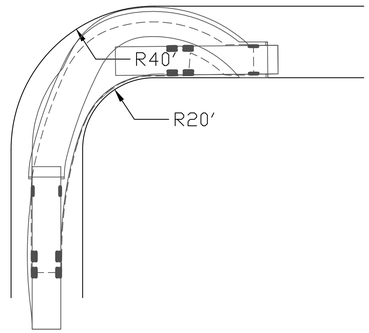


STANDARD STALLS | ACCESSIBLE STALL

MINIMUM PARKING STALL DIMENSIONS



TURNING RADII TYP.

PARKING SUMMARY

UNIT TYPE	NUMBER OF BEDROOMS	NUMBER OF UNITS	PARKING REQUIRED	PARKING PROVIDED
PLAN 1	4	18	90 (SEE NOTE 1)	95
PLAN 2	4	18		
TOTALS		36		

NOTE 1: PER GOVERNMENT CODE SECTION 65915(P)(1)
THE MAXIMUM PARKING RATIO FOR 4 BEDROOM HOMES IS 2.5 = 90 SPACES

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

PARKING AND ACCESS PLAN

7.17.2025

23161 MILL CREEK | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

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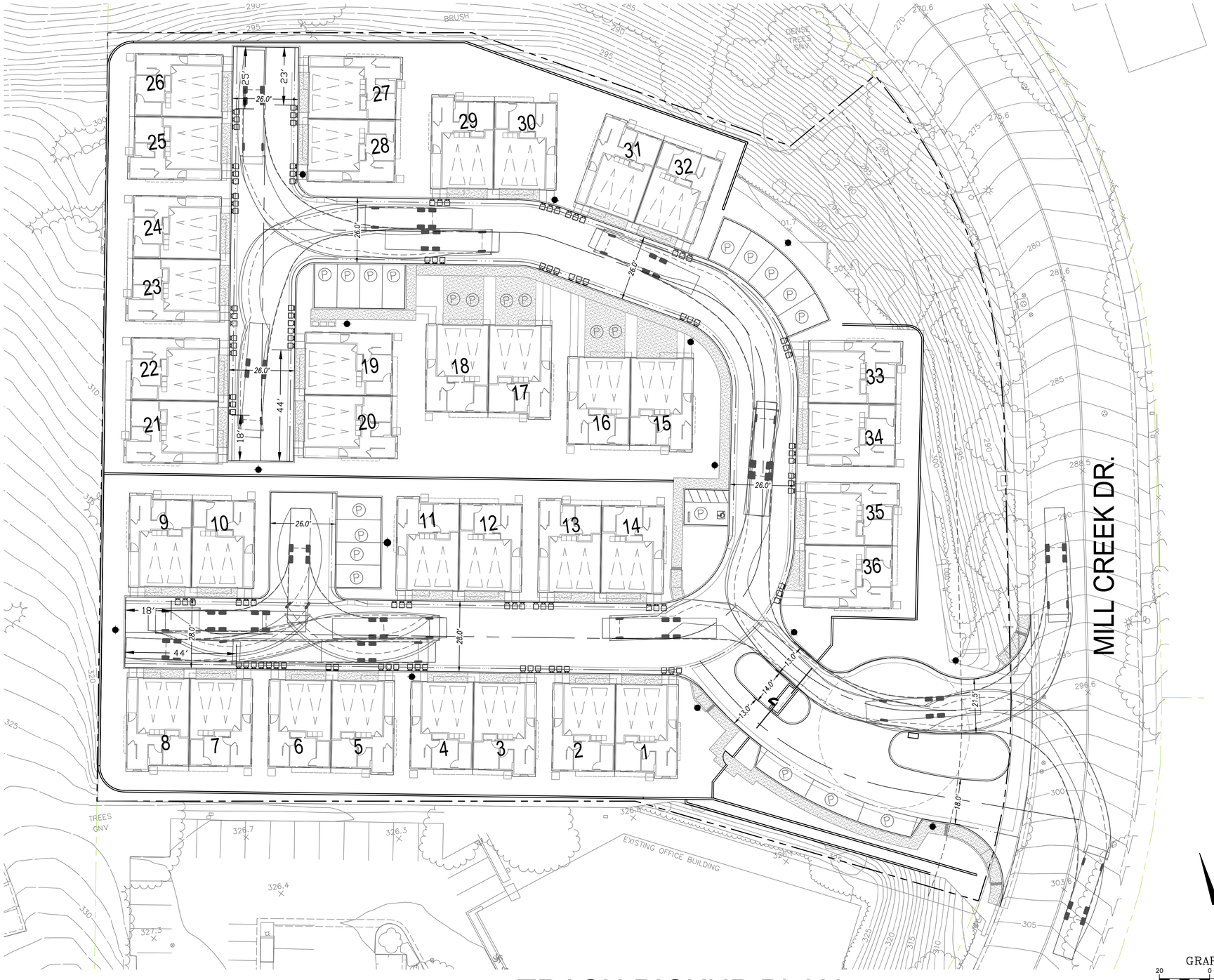
VESTING TENTATIVE TRACT MAP NO. 19346



LEGEND

- STREET CENTER LINE
- RIGHT OF WAY
- TRACT BOUNDARY
- LOT LINE
- EASEMENT
- EXISTING CONTOUR 205
- FIRE HYDRANT
- CATCH BASIN
- STREET LIGHT
- TRASH CAN STORAGE LOCATIONS
- TRASH CAN PICKUP LOCATIONS (1 CART–TRASH, 1 CART–RECYCLE, 1 CART–GREEN WEST/FOOD WASTE)

NOTE: BINS TO BE STORED WITHIN THE GARAGE. PAMPHLET TO BE PROVIDED TO HOMEOWNERS AND HOA IN REGARDS TO PROPER ORGANICS RECYCLING AND COMMON AREA LANDSCAPE MAINTENANCE SPOILS.

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

TRASH PICKUP PLAN

7.17.2025

23161 MILL CREEK | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

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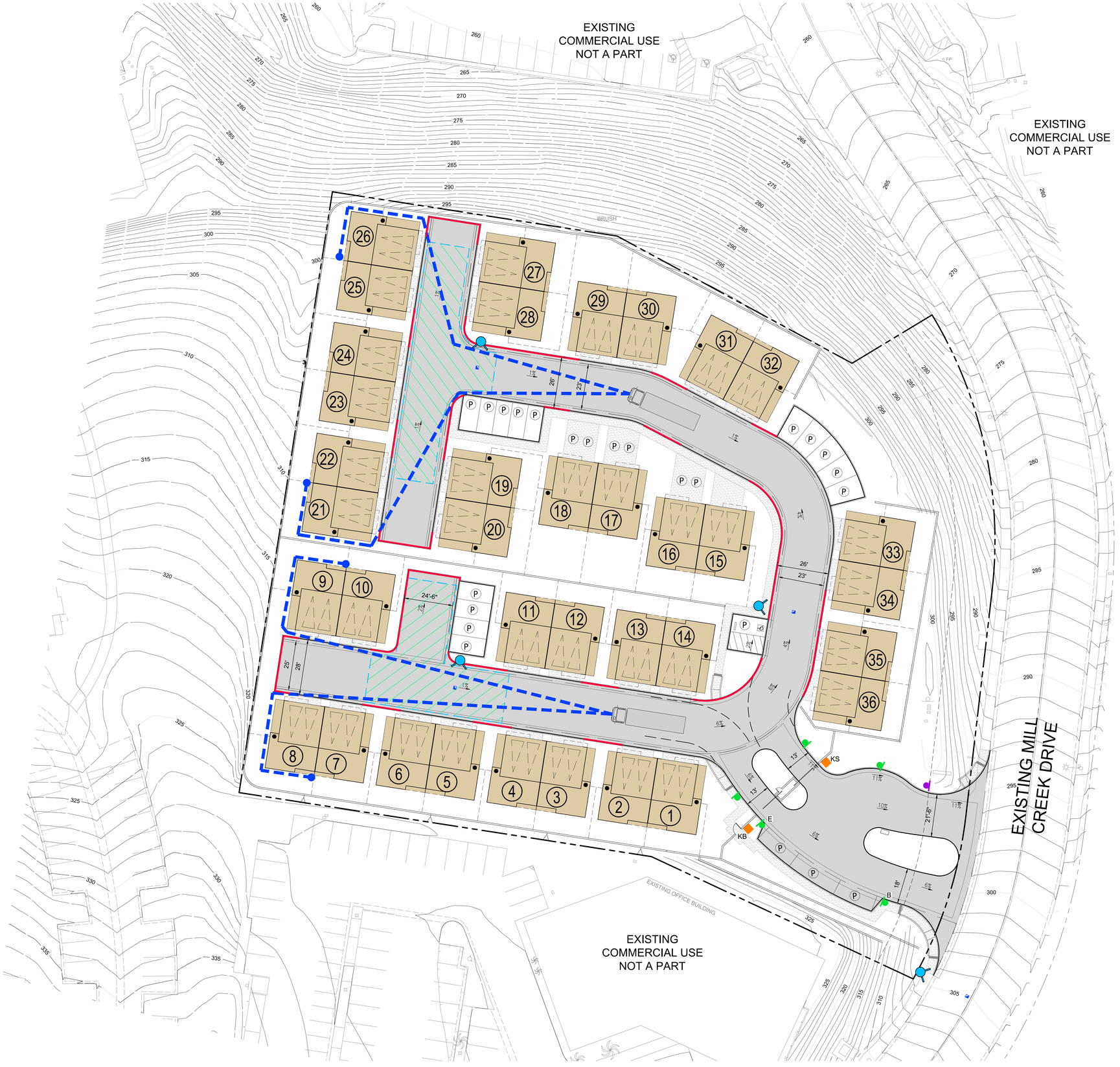
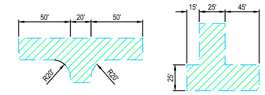
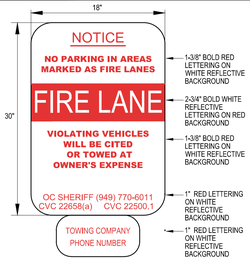


LEGEND

- INDICATES EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED FIRE LANE ENTRY SIGN
- PROPOSED FIRE LANE ENTRY SIGN
- B PROPOSED FIRE LANE ENTRY SIGN
- E PROPOSED FIRE LANE ENTRY SIGN
- PROPOSED PAINTED RED CURB WITH "FIRE LANE - NO PARKING" STENCILING PER DETAILS HEREON
- 300' MAXIMUM HOSE PULL DISTANCE TO THE FURTHEST POINT OF THE DUPLEX UNIT
- KS INDICATES APPROXIMATE LOCATION OF A SUB-KEYED KNOX KEY SWITCH FOR THE VEHICULAR ACCESS GATE
- KB INDICATES APPROXIMATE LOCATION OF THE SUB-KEYED KNOX BOX WITH 3-SETS OF ENTRY DOOR/GATE KEYS FOR THE PEDESTRIAN WALK IN GATE AT THE PROJECT ENTRY.
- INDICATES PROPOSED BUILDING
- PROPOSED PAVED ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT AN IMPOSED LOAD OF 94,000 LBS. PER OCFA REQUIREMENTS.
- INDICATES FIRE APPARATUS TURNING RADII: 20' WIDE PATH WITH 20' INSIDE AND 40' OUTSIDE
- # INDICATES UNIT NUMBER
- INDICATES FIRE DEPARTMENT TURNAROUND PER OCFA GUIDELINE B-01



FIRE LANE ENTRY SIGNS



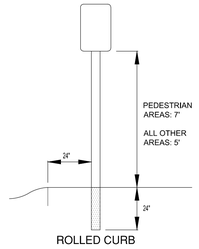
PROPOSED FIRE LANE ENTRY SIGN

PROPOSED "FIRE LANE NO PARKING" SIGN

TOWING COMPANY CONTACT INFORMATION IS REQUIRED FOR ALL PROPERTIES WITH A STANDING WRITTEN AGREEMENT FOR SERVICES WITH A TOWING COMPANY PER THE CALIFORNIA VEHICLE CODE.

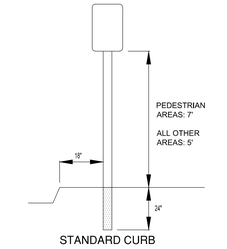
B PROPOSED " BEING FIRE LANE NO PARKING" SIGN

E PROPOSED "END FIRE LANE NO PARKING" SIGN



ROLLED CURB

SIGN SHALL BE MOUNTED FACING THE DIRECTION OF VEHICULAR TRAVEL.

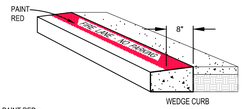


STANDARD CURB

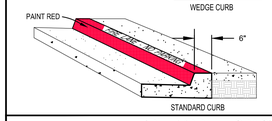
SIGNS MAY BE MOUNTED ON EXISTING POSTS OR BUILDINGS IF CENTERLINE OF SIGN IS NO MORE THAN 24 INCHES FROM EDGE OF ROADWAY.

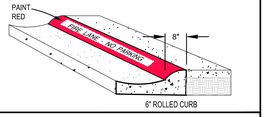
BURY DEPTH SHALL BE A MINIMUM OF 24 INCHES AND REBAR, A CONCRETE FOOTING, OR ANOTHER METHOD TO PREVENT REMOVAL OF THE SIGN IS RECOMMENDED.

FIRE LANE PAINTED RED CURB DETAILS



NOTE: CURBS ALONG ACCESS LANES SHALL BE PAINTED OSHA SAFETY RED OR EQUIVALENT. "FIRE LANE NO PARKING" SHALL BE PAINTED ON TOP OF CURB IN WHITE LETTERING 3 INCHES HIGH AND SHALL BE SPACED 30'-0" ON CENTER OR PORTION THEREOF.





FIRE HYDRANT SPACING REQUIREMENTS

THE PROPOSED R-3 DUPLEX UNITS ARE LESS THAN 6,200 SQ.FT. AND PROTECTED WITH AUTOMATIC FIRE SPRINKLERS, AND SHALL REQUIRE A FIRE FLOW NO LESS THAN 1,000 GPM AT 20PSI FOR 1 HOUR. THIS PROJECT SHALL MEET THE HYDRANT SPACING BELOW PER OCFA GUIDELINE B-01

Attachment 3 – Hydrant Quantity and Spacing in OCFA Jurisdiction

SINGLE FAMILY RESIDENCES/DUPLEXES/TOWNHOUSES *with* SPRINKLERS

Flow Requirement	Minimum Number of Hydrants	Maximum Distance to a Hydrant		Maximum Distance between Hydrants[1]		Average Distance between Hydrants[1]	
		Thru road	*Dead-end*	Thru road	*Dead-end*	Thru road	*Dead-end*
500 – 1750	1	300	*250*	600	*500*	600	*500*
1751+	Use the table below						

PLANS PREPARED BY:

firesafe PLANNING, INC.

28506 AIROSO STREET
RANCHO MISSION VIEJO, CA 92679
(949) 240-5911

N

GRAPHIC SCALE
0 20' 40'
1 inch = 20 ft.

23161 MILL CREEK DRIVE - LAGUNA HILLS
PRELIMINARY FIRE ACCESS EXHIBIT

SHEET 1 OF 1
DATE: 07/17/2025

LEGEND

1. Gate Entry with Call Box
2. Monument Signage Wall
3. Parking Stall and Stripping
4. Community Mailboxes
5. Private yard
6. View Fence on top of Retaining Wall
7. Planted Slope
8. Retaining Wall with Vine Planting
9. Concrete Pavers at Entry

A Elevation A - Entry Monument: See Sheet L-3

B Elevation B - Vehicular Gate: See Sheet L-3

I, Paul Haden, hereby certify that I am the design professional or owner of copyright materials who prepared the architectural drawings for the development application of the above-described property. I hereby grant the City authorization to reproduce the plans within the agenda packet for public hearings and post them on the internet and further acknowledge that members of the public will have access to these plans, and they may be copied.

REGISTERED LANDSCAPE ARCHITECT
Paul C. Haden, Lic. No. 5172
PAUL HADEN
Signature
Exp. 2/28/26
Date
STATE OF CALIFORNIA

Toll Brothers

23161 MILL CREEK DRIVE - ILLUSTRATIVE SITE PLAN

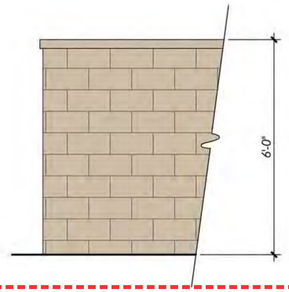
LAGUNA HILLS, CA

0 10' 20' 40'
Scale: 1" = 20'-0"

L-1

C2 Collaborative

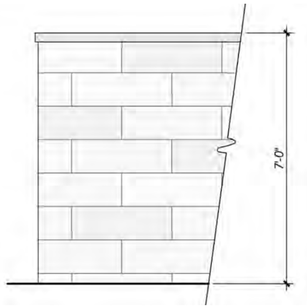
LEGEND



SIDEYARD WALL

-Split Face Block w/ Precision Cap

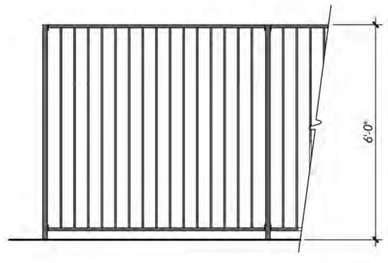
-6'-0" ht.



ENTRY WALL

-Cultured Stone Veneer with Cap

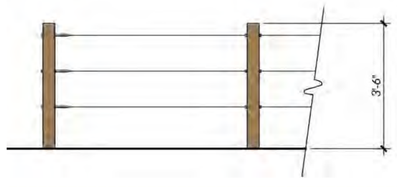
-7'-0" ht.



VIEW FENCE

-Tubular Steel

-6'-0" ht.



GUARDRAIL

-Steel Cable with Wood Posts

-3'-6" ht.

RETAINING WALL

-CMU Block with Cap or MSE Wall

-Height varies per Civil Engineer

REGISTERED LANDSCAPE ARCHITECT
Paul C. Hayden, Lic. No. 5977
PAUL HAYDEN
Signature
Exp. 2/28/26
Date
STATE OF CALIFORNIA

Toll Brothers

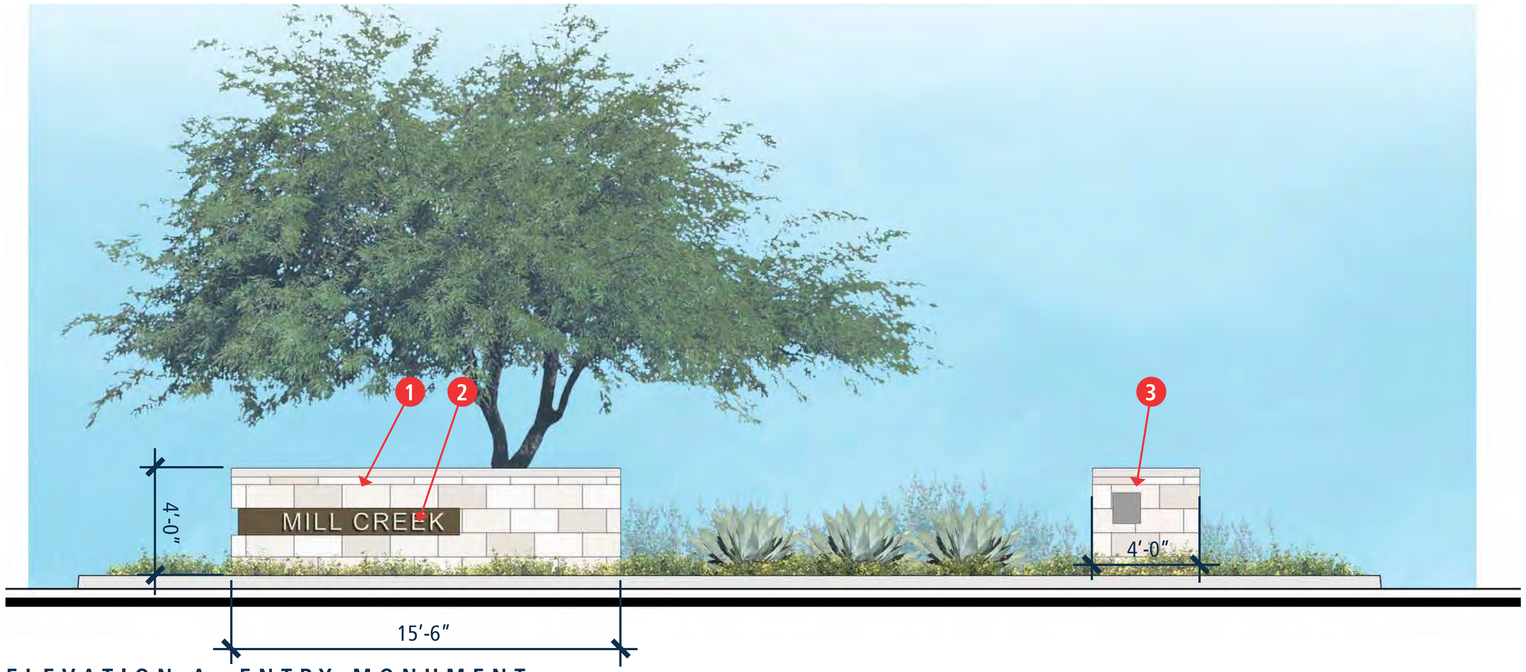
23161 MILL CREEK DRIVE - CONCEPTUAL WALL AND FENCE PLAN

LAGUNA HILLS, CA

0 10' 20' 40'
Scale: 1"= 20'-0"

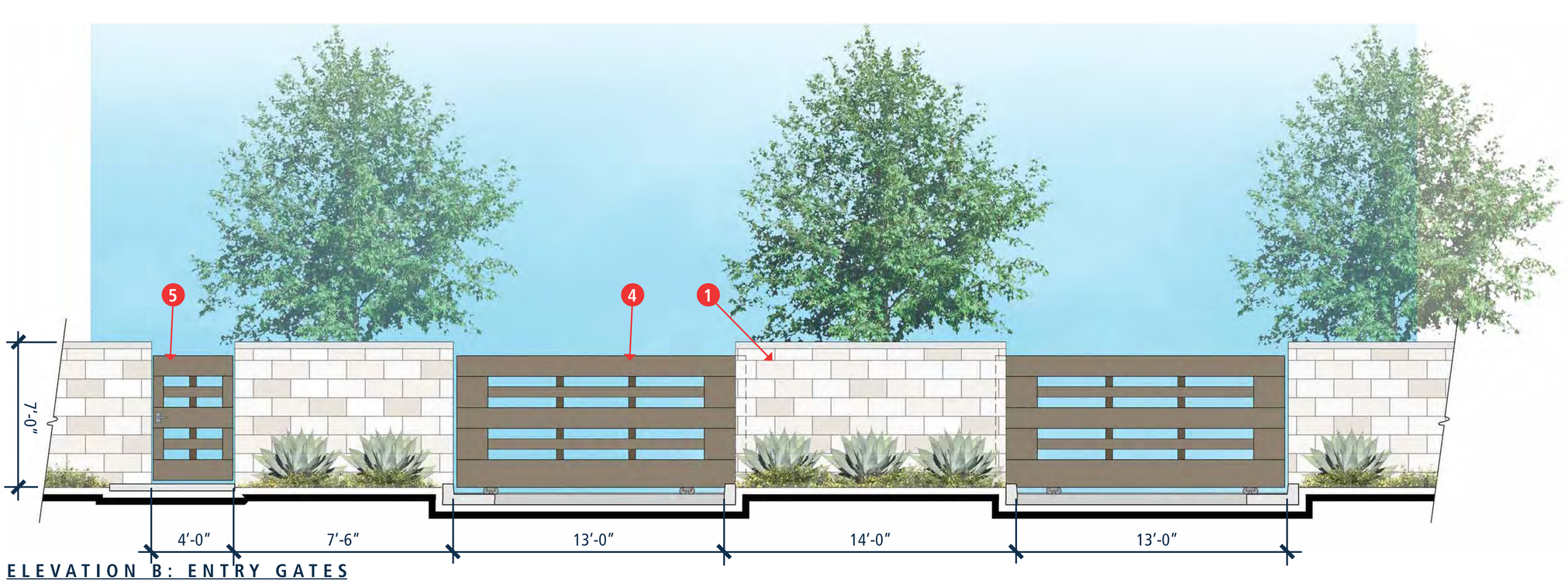
L-2

C2 Collaborative



ELEVATION A: ENTRY MONUMENT

SCALE: 3/8"=1'-0"



ELEVATION B: ENTRY GATES

SCALE: 3/8"=1'-0"

LEGEND

1. Cultured Stone Veneer w/ Cap
2. Project Signage
3. Call Box
4. Rolling Vehicular Gates
5. Pedestrian Gate

REGISTERED LANDSCAPE ARCHITECT
Paul Hatten, Lic. No. 1977
PAUL HADEN
Signature
Exp. 2/28/26
Date
STATE OF CALIFORNIA

TREES:

LARGE CANOPY TREES (48" BOX MIN.) QTY: 7

SYMBOL	SCIENTIFIC NAME	COMMON NAME	WUCOLS
	Cercidium 'Desert Museum'	Desert Museum Palo Verde	VL
	Pistacia chinensis	Chinese Pistache	L
	Platanus racemosa	Western Sycamore	M
	Podocarpus gracilior	African Fern Pine	M
	Quercus virginiana	Southern Live Oak	M
	Ulmus parvifolia	True Green Chinese Elm	M

MEDIUM ACCENT TREE (36" BOX MIN.) QTY: 19

SYMBOL	SCIENTIFIC NAME	COMMON NAME	WUCOLS
	Cercis canadensis	Eastern Redbud	M
	Lagerstroemia ssp.	Crape Myrtle	M
	Olea europaea 'Swan Hill'	Olive	L
	Platanus acerfolia	London Plane Tree	M
	Searsia lancea	African Sumac	L

PERIMETER SCREENING TREE (24" BOX MIN.) QTY 5

SYMBOL	SCIENTIFIC NAME	COMMON NAME	WUCOLS
	Arbutus 'Marina'	Marina Strawberry Tree	L
	Laurus nobilis	Sweet Bay	L
	Tristania confereta	Brisbane Box	M

SMALL ACCENT TREE (24" BOX MIN.) QTY 14

SYMBOL	SCIENTIFIC NAME	COMMON NAME	WUCOLS
	Cercis occidentalis	Western Redbud	L
	Feijoa sellowiana	Pineapple Guava	L
	Podocarpus elongatus 'Monmal'	Icee Blue Podocarpus	M
	Podocarpus macrophyllus	Fern Podocarpus	M
	Prunus caroliniana 'Bright and Tight'	Carolina Cherry Laurel	M

SHRUBS/VINES:

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	WUCOLS
	Agave spp.	Agave	5 gal.	VL
	Aloe spp.	Aloe	5 gal.	L
	Buxus japonica 'Green Beauty'	Japanese Boxwood	5 gal.	M
	Callistemon spp.	Bottle Brush	5 gal.	L
	Cistus 'Sunset'	Magenta Rockrose	5 gal.	L
	Dasyliron spp.	Desert Spoon	5 gal.	VL
	Dianella ssp.	Flax Lily	5 gal.	L
	Dietes bicolor	Fortnight Lily	5 gal.	L
	Festuca mairei	Atlas Fescue	5 gal.	L
	Hesperaloe spp.	Yucca	5 gal.	L
	Heteromeles arbutifolia	Toyon	15 gal.	VL
	Juncus patens	California Gray Rush	5 gal.	M
	Lavandula ssp.	Lavender	5 gal.	L
	Leymus condensatus 'Canyon Prince'	Canyon Prince Wild Rye	5 gal.	L
	Ligustrum japonicum 'Texanum'	Waxleaf Privet	5 gal.	L
	Lomandra spp.	Dwarf Mat Rush	5 gal.	L
	Olea europaea 'Montra'	Little Ollie Dwarf Olive	5 gal.	VL
	Pittosporum tobira variegata	Vairegated Mock Orange	5 gal.	M
	Rhaphiolepis spp.	Indian Hawthorn	5 gal.	L
	Salvia 'Bees Bliss'	Bee's Bliss Sage	5 gal.	L
	Westringia spp.	Coast Rosemary	5 gal.	L
	Bougainvillea spp. [V/E]	Bougainvillea	15 gal.	L
	Calliandra haematocephala [V/E]	Pink Powderpuff	15 gal.	M
	Trachelospermum jasmnoides [V/E]	Star Jasmine	15 gal.	M
	Rosa banksiae [V/E]	Lady Banks Rose	15 gal.	L

QUANTITIES:
1 gal: 3942 sf
[631 plants]

5 gal: 1971 sf
[219 plants]

15 gal: 655 sf
[73 plants]

GROUNDCOVERS:

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	WUCOLS
	Acacia redolens	Prostrate Acacia	1 gal.	VL
	Carissa 'Boxwood Beauty'	Natal Plum	1gal.	L
	Carex tumulicola	Foothill Sedge	1 gal.	L
	Lonicera japonica	Japanese Honeysuckle	1 gal.	L
	Myoporum p. 'Putah Creek'	Creeping Myoporum	1 gal.	L
	Rhaphiolepis spp.	Indian Hawthorn	5 gal.	L
	Rosmarinus officinalis	Rosemary	5 gal.	L
	Trachelospermum asiaticum	Asian Star Jasmine	1 gal.	M
	Westringia 'Low Horizon'	Coast Rosemary	5 gal.	L

QUANTITIES:
2788 sf
[697 plants]

HOMEOWNER YARD: PLANTED AND MAINTAINED BY HOMEOWNER

***NON-DEVELOPED SLOPE AREA: 14,412SF**

REGISTERED LANDSCAPE ARCHITECT
Paul Hayden, Lic. No. 5972
PAUL HAYDEN
Signature
Exp. 2/28/26
Date
STATE OF CALIFORNIA

Toll Brothers

23161 MILL CREEK DRIVE - CONCEPTUAL PLANTING PLAN

LAGUNA HILLS, CA

L-4

C2 Collaborative

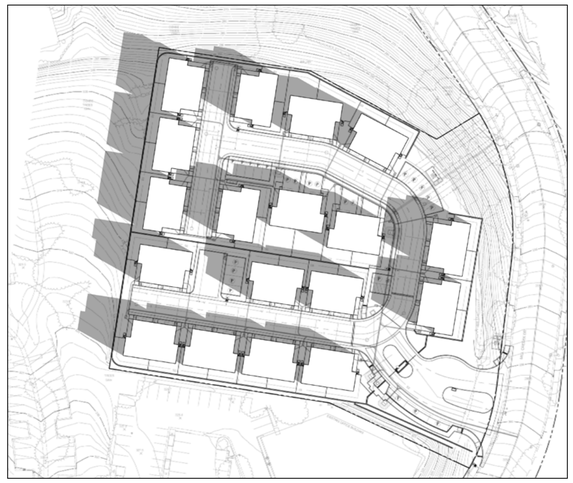
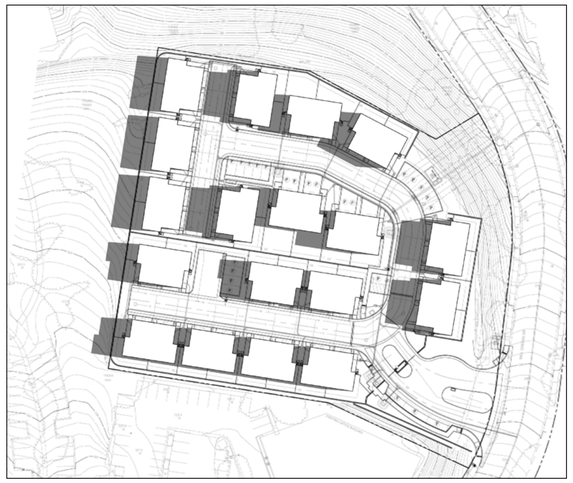
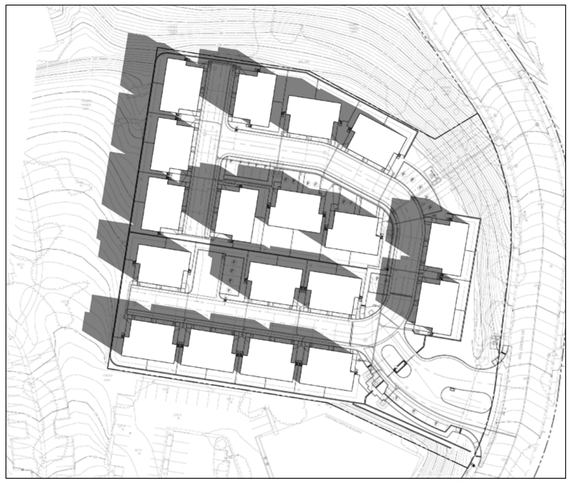
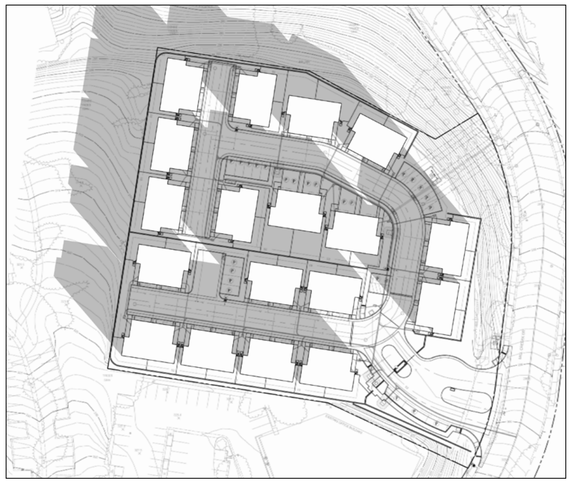
MARCH

JUNE

SEPTEMBER

DECEMBER

09:00AM

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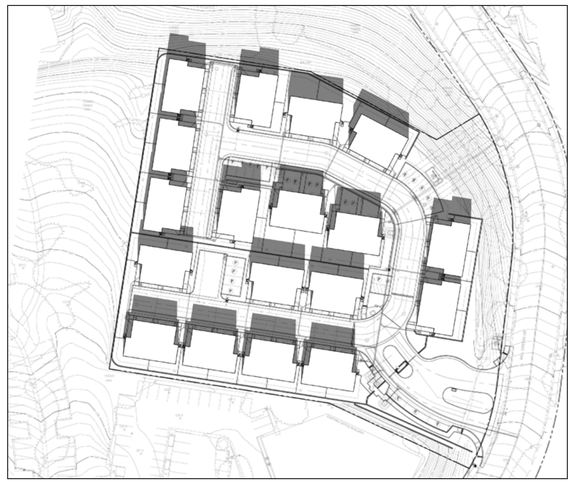
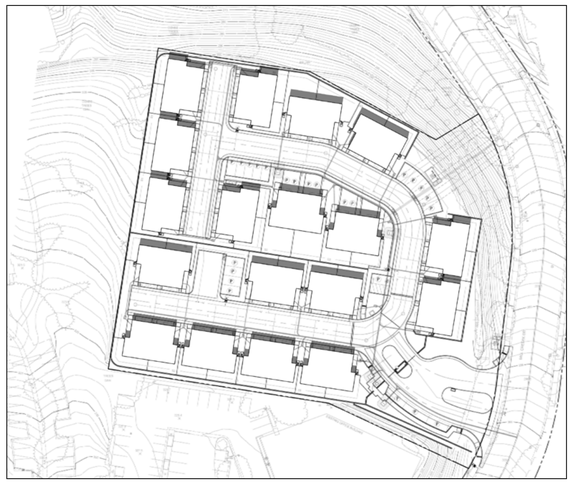
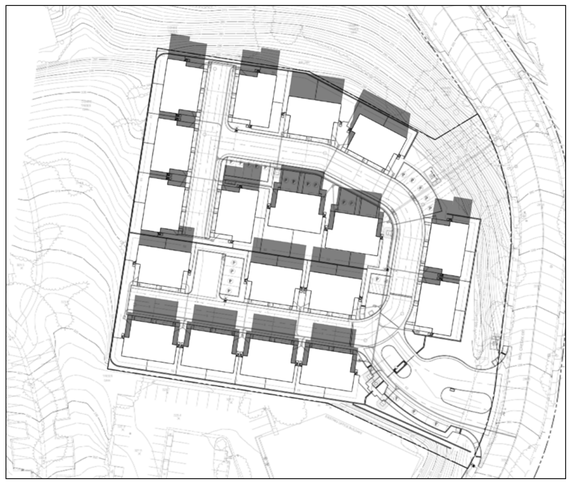

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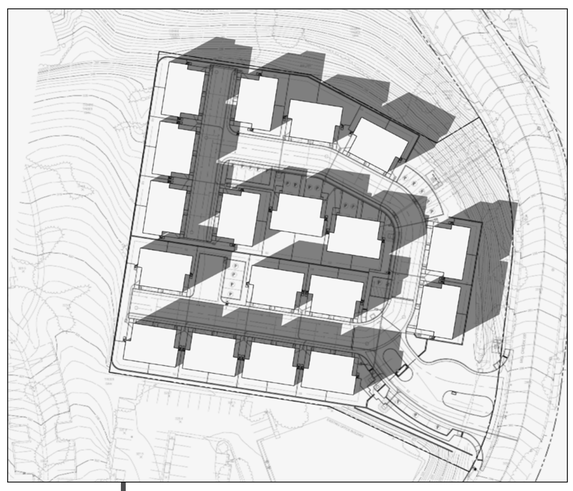
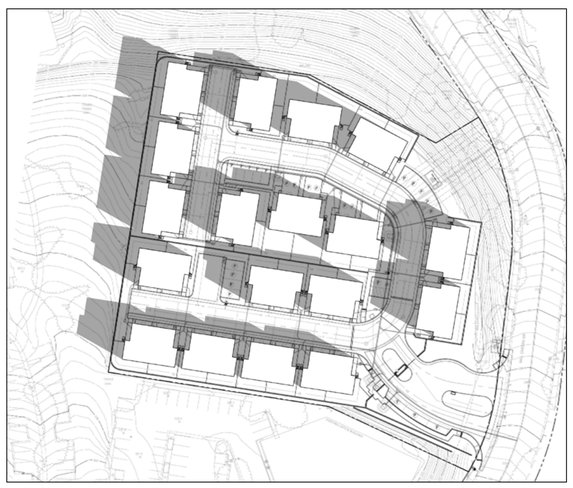
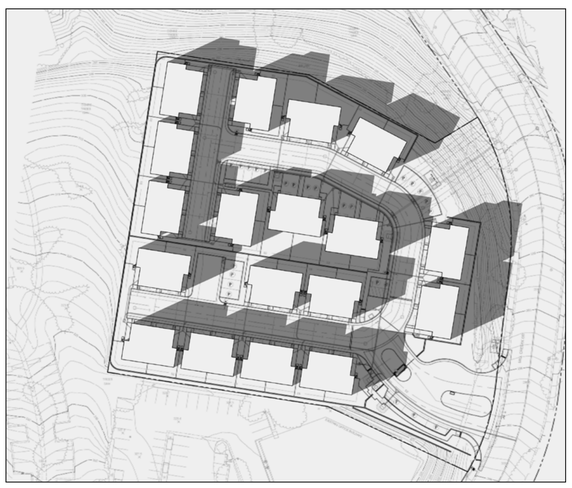
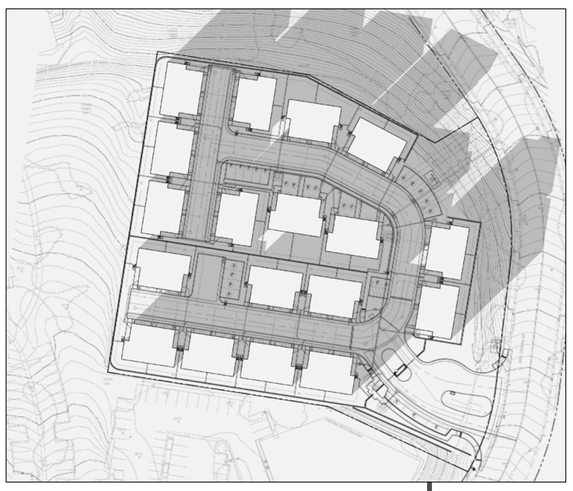





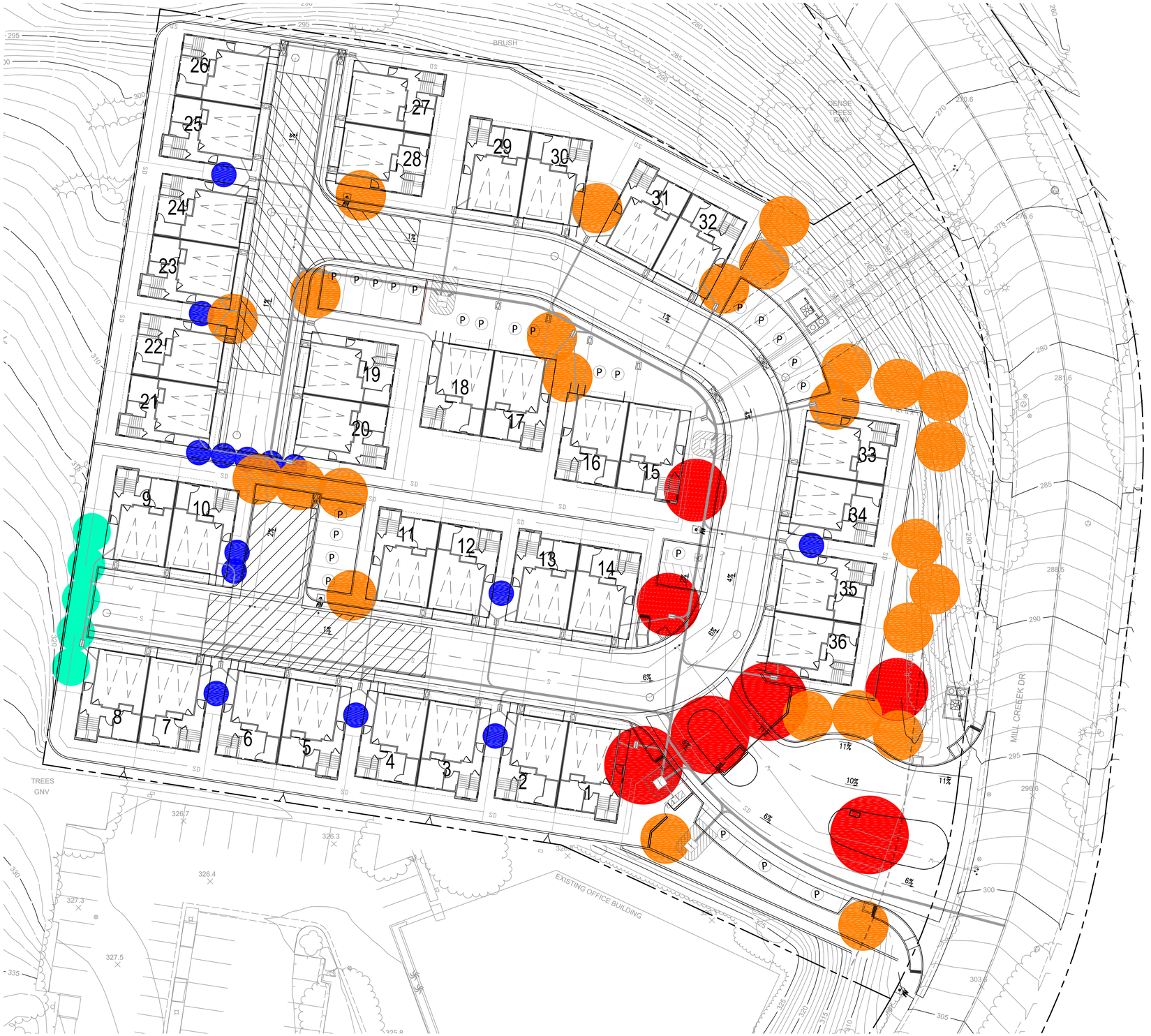
Toll Brothers

23161 MILL CREEK DRIVE - SHADE STUDY ANALYSIS

LAGUNA HILLS, CA

L-5

C2 Collaborative



LEGEND

LARGE CANOPY TREE [25' - 30' CANOPY]

Cercidium 'Desert Museum'	Desert Museum Palo Verde
Pistacia chinensis	Chinese Pistache
Platanus racemosa	Western Sycamore
Podocarpus gracilior	African Fern Pine
Quercus virginiana	Southern Live Oak
Ulmus parvifolia	True Green Chinese Elm

MEDIUM ACCENT TREE [20' CANOPY]

Cercis canadensis	Eastern Redbud
Lagerstroemia ssp.	Crape Myrtle
Olea europaea 'Swan Hill'	Olive
Platanus acerfolia	London Plane Tree
Searsia lancea	African Sumac

PERIMETER ACCENT TREE [15' CANOPY]

Arbutus 'Marina'	Marina Strawberry Tree
Laurus nobilis	Sweet Bay
Tristania confereta	Brisbane Box

SMALL ACCENT TREE [10' CANOPY]

Cercis occidentalis	Western Redbud
Feijoa sellowiana	Pineapple Guava
Podocarpus elongatus 'Monmal'	Icee Blue Podocarpus
Podocarpus macrophyllus	Fern Podocarpus
Prunus caroliniana 'Bright and Tight'	Carolina Cherry Laurel

REGISTERED LANDSCAPE ARCHITECT
Paul L. Haden, Lic. No. 1972
PAUL HADEN
Signature
Exp. 2/28/26
Date
STATE OF CALIFORNIA

Toll Brothers

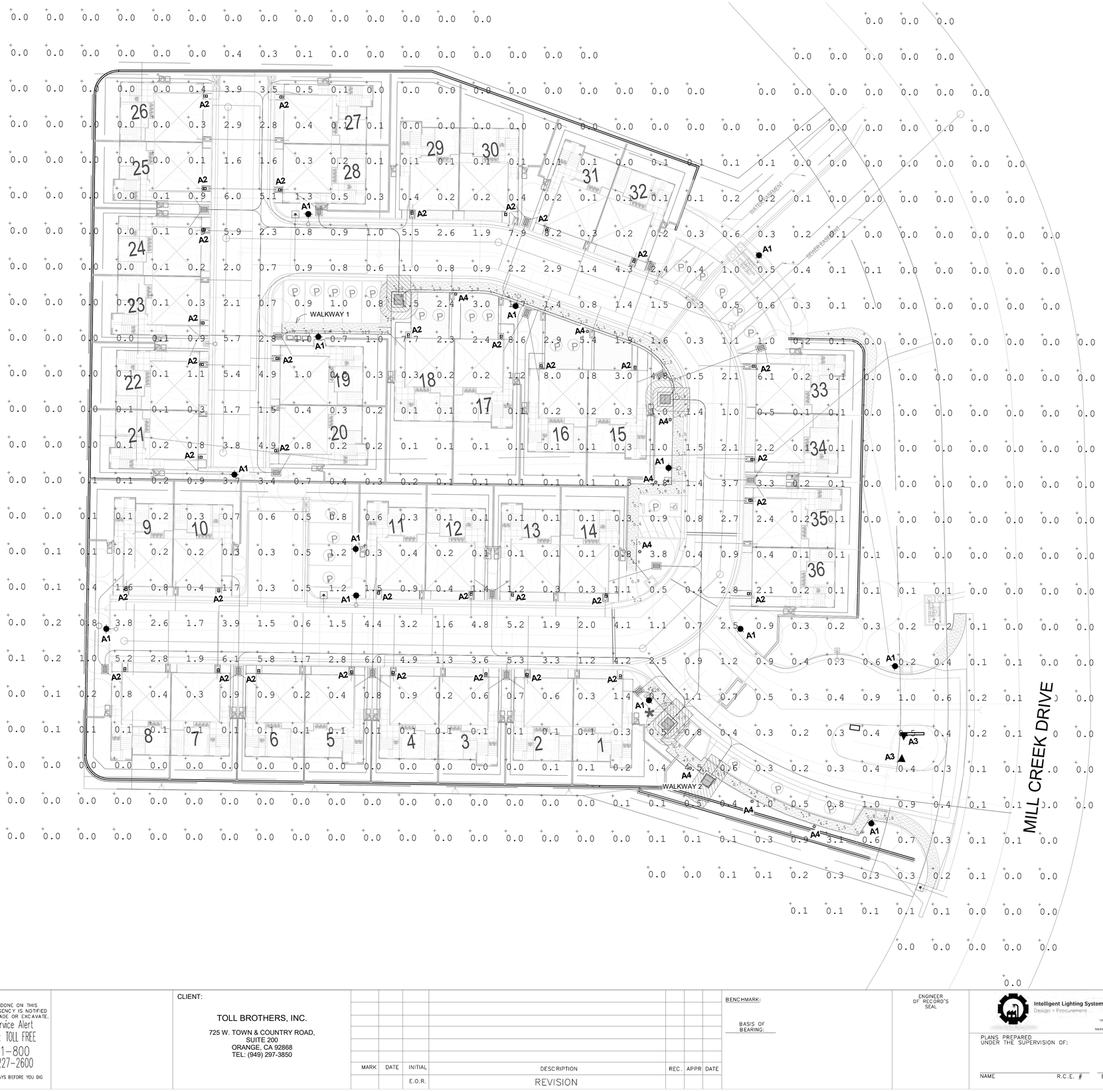
23161 MILL CREEK DRIVE - TREE CANOPY SHADE PLAN

LAGUNA HILLS, CA

0 10' 20' 40'
Scale: 1" = 20'-0"

L-6

C2 Collaborative



LIGHTING FIXTURE LEGEND

A1

36W LED POST LIGHT ON 16FT POLE
TYPE 3 DISTRIBUTION WITH HOUSE SIDE SHIELD
3000K - 3096 LUMENS

A2

BUILDING COACH LIGHT

A3

12.6W LED SIGN LIGHT
3000K - 1119 LUMENS

A4

17W BOLLARD LIGHT
3000K - 1309 LUMENS

PHOTOMETRIC RESULTS

PHOTOMETRIC RESULTS OBTAINED USING A LLF OF 0.9.

CALCULATION SURFACE	MIN	MAX	AVERAGE
ON-SITE STREETS	0.2 FC	6.1FC	1.35 FC
WALKWAY 1	0.6 FC	5.1 FC	2.05 FC
WALKWAY 2	0.6 FC	4.7 FC	1.82 FC
OVERALL SITE	0.0 FC	8.6 FC	0.64 FC

*OFF-SITE STREET LIGHTING NOT INCLUDED IN CALCULATION.

SCALE: 1" = 20'

20' 10' 0' 20' 40'

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.
Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

CLIENT:

TOLL BROTHERS, INC.

725 W. TOWN & COUNTRY ROAD,
SUITE 200
ORANGE, CA 92868
TEL: (949) 297-3850

MARK	DATE	INITIAL	DESCRIPTION	REC.	APPR	DATE
		E.O.R.	REVISION			

BENCHMARK:

BASIS OF BEARING:

ENGINEER OF RECORD'S SEAL

Intelligent Lighting Systems
Design + Procurement
1205 W. COLTON AVE STE 619
REDLANDS, CA 92374
(909) 307-4444
SALES@ILIGHTINGSYSTEMS.COM

PLANS PREPARED UNDER THE SUPERVISION OF:

NAME R.C.E. # EXP. DATE

CITY OF LAGUNA HILLS
ORANGE COUNTY

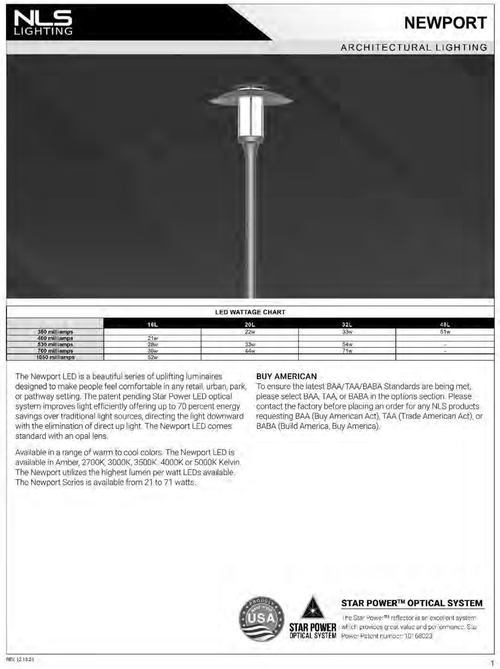
ACCT. NO.

23161 MILL CREEK
LAGUNA HILLS, CA
PHOTOMETRIC SITE PLAN

SHEET EP1 OF 2

FOR: W.O CITY I. D. NO.

FIXTURE TYPE A1



NLS LIGHTING

NEWPORT

ARCHITECTURAL LIGHTING

LED WATTAGE CHART

	16L	20L	32L	48L
350 milliamps				51w
400 milliamps	21w	32w	38w	
530 milliamps	28w	33w	54w	
700 milliamps	36w	44w	71w	-
1050 milliamps	52w			

The Newport LED is a beautiful series of uplifting luminaires designed to make people feel comfortable in any retail, urban, park, or pathway setting. The patent pending Star Power LED optical system improves light efficiently offering up to 70 percent energy savings over traditional light sources, directing the light downward with the elimination of direct up light. The Newport LED comes standard with an opal lens.

Available in a range of warm to cool colors. The Newport LED is available in Amber, 2700K, 3000K, 3500K, 4000K or 5000K Kelvin. The Newport utilizes the highest lumen per watt LEDs available. The Newport Series is available from 21 to 71 watts.

BUY AMERICAN
To ensure the latest BAA/TAA/BABA Standards are being met, please select BAA, TAA, or BABA in the options section. Please contact the factory before placing an order for any NLS products requesting BAA (Buy American Act), TAA (Trade American Act), or BABA (Build America, Buy America).

STAR POWER™ OPTICAL SYSTEM
The Star Power™ reflector is an excellent system which provides great value and performance. Star Power Patent number: 10168223

REV. 12.18.21

1

Project Name: | Type:

NEWPORT ORDERING GUIDE

Cat#	Shade	# of Bars	Light Dist.	# of LEDs	Milliamps
Newport (NWP-1)	Shade 1 (S1) Shade 2 (S2) Shade 3 (S3)	2 Bar Mounting (2B) 4 Bar Mounting (4B)	Type 2 (T2) Type 3 (T3)	16 (16L) 20 (20L)[1] 32 (32L) 48 (48L)[2]	350 (35) 400 (40)[1] 530 (53) 700 (70) 1050 (1)[1]

Kelvin	Volts	Mounting	Color	Controls Options	Options
Amber 1864-6004K (AMBER)[4, 11, 12] 2700K, 80 CRI (27K7) 3000K, 80 CRI (30K7) 3000K, 90 CRI (30K9)[3] 3500K, 80 CRI (35K7)[3] 4000K, 70 CRI (40K7) 4000K, 80 CRI (40K9)[3] 5000K, 70 CRI (50K7) 5000K, 80 CRI (50K9)[3]	120-277 (UNV)	Post Top Type 3 DC (PT3)[1, 7]	Bronze Textured (BRZ) White - textured (WHT) Smooth White Gloss (SWT) Silver Metallic (SVR) Black - textured (BLK) Smooth Black Gloss (SBK) Graphite Textured (GPH) Grey Textured (GRY) Green Textured (GRN) Hunter Green Textured (HGN) Custom* (CS)	Custom Control Integration (CCI)[6] Photocell - Button Type (PC)[8]	Medical Grade Finish (MGF) Designer Bare (DB) Clear Lens (CL)[9] Buy American Act (BAA)[10] Trade Agreement Act (TAA)[10, 11] Build America Buy American (BABA)[10]

NOTES:
1. Type 3 Only
2. 350mA Max
3. Consult Factory for Lead Time. Consult Factory for 90 CRI Requests.
4. Consult Factory for other provisions.
5. Universal Voltage 120-277
6. Clear Lens Utilizes (DB) Decorative Band option
7. 16L Only
8. Please contact Factory for Custom Control Integration requests (Hi-Light, NX, WaveLinx, Crestron, DMX/RDM, Synapse, Casambi, Dali II, Avi-On, or other control systems)
9. Turtle Safe
10. Consult factory for all BAA/TAA/BABA requests
11. Consult Factory for Lead Time
12. Not Available above 700mA

NLS LIGHTING 701 Kingshill Place, Carson, CA 90745. **Call Us Today** (310) 341-2037 **nlslighting.com**

2

FIXTURE TYPE A2

PROGRESS LIGHTING
DESIGN+SERIES™

Project:
Fixture Type:
Location:
Contact:

P560022-031
Gibbes Street

Incorporate a flawless lighting experience that fills your home with an understated elegance and rustic charm with this wall lantern. This farmhouse-inspired masterpiece cradles clear beveled glass panes just right for offering a warm, welcoming glow to your friends and family. A traditional lantern frame with a beautiful black finish houses the light bases in this timeless design.

- This farmhouse-inspired masterpiece cradles clear beveled glass panes just right for offering a warm, welcoming glow to your friends and family.
- A traditional lantern frame with a beautiful black finish houses the light bases in this timeless design
- Incorporate a flawless lighting experience that fills your home with an understated elegance and rustic charm with this wall lantern
- Ideal for any foyer, bedroom, entryway, porch, or patio.
- Perfect for any transitional or new traditional setting.
- Measures 7-inch width by 21-3/4-inch height.
- Uses two candelabra base bulbs that are sold separately (60w max - LED or incandescent).
- Able to be fully dimmable with dimmable bulbs.
- Includes installation instructions and mounting hardware.
- Progress Lighting products are designed for exceptional quality, reliability, and functionality.

Category: Outdoor
Finish: Black (Painted)
Construction: Cast Aluminum Construction
Glass/Shade: Clear Beveled glass Panel

Width: 7 in
Height: 21-3/4 in
Depth: 8-3/4 in
H/CTR: 8-3/8 in

Clear Beveled glass Panel
Width: 6-1/16 in
Height: 10-13/16 in

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted	Prewired	Quantity: Two 60 W max. Candelabra Base or LED equivalent	CCSAus Wet Location Listed
Swivel mounting strap for outlet box included	6 inches of wire supplied		1-year Limited Warranty
Canopy covers a standard 4" recessed outlet box; 4.5" W, 9" ht., 0.812" depth	120 V	E12 base Porcelain sockets	

701 Millennium Blvd. Greenville, South Carolina 29607 www.progresslighting.com Rev. 12/19

FIXTURE TYPE A3

C-Series LED 16221-16222

120V-277V LED Small Flood, 12W & 23W

Select Models

PROJECT:
TYPE:
ORDERING:
COMMENTS:

APPLICATIONS
Kichler's 120V-277V LED flood lighting fixtures are designed for outdoor lighting applications requiring uniform light sources, with long life, and little maintenance requirements.

CONSTRUCTION
Die-cast aluminum construction with durable polyester powder coating. Vandal resistant hardware, reinforced knuckle design, a water draining front end with an integrated cowl.

ELECTRICAL
ETL listed to UL and CSA Standards for 120V-277 VAC (50/60 Hz), and suitable for wet locations. Integrated surge protection (4kV) comes standard.

OPTICS
Utilizes a single LED chip-on-board light source that provides for center-to-edge uniformity and enhances beam control. NEMA 6 x 5 wide flood. Three-step binning for tight color consistency.

LISTINGS
ETL wet label listed to UL and CSA Standards. IP66 rated. FCC compliant.

ORDERING MATRIX (Model # =Finish & CCT Codes) & LUMEN INFORMATION
The standard model is the Knuckle Mount Fixture. For Slip Fit or Trunnion, add SL or TR respectively.

Model #	Finish	CCT (30 / 40)	Mount	Wattage	CRI	Lumen	Lm/W	L70 (hrs)
*16221	AZT or BKT	3000K	Knuckle	12.6	80 (+)	1119	89	60,000
*16221	AZT or BKT	4000K	Knuckle	12.0	80 (+)	1210	100	60,000
16222	AZT or BKT	3000K	Knuckle	23.8	80 (+)	2049	86	60,000
16222	AZT or BKT	4000K	Knuckle	23.4	80 (+)	2082	89	60,000

ADDITIONAL MOUNTING OPTIONS

Slip-Fit Mount

Trunnion Mount

Example: 16221BK140 is model 16221 in textured black, 4000K (to then change from knuckle to Slip Mount, add SL after 40)
Each model is available with a finish in BKT - Textured Black or AZT - Textured Architectural Bronze

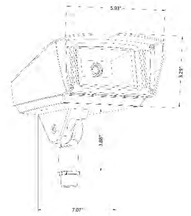
*DLC Qualified Products. For the most current listing, visit www.designlights.org

KICHLER

C-Series LED

120V-277V LED Small Flood, 12W & 23W

DIMENSIONS



INCLUDED ACCESSORIES:
Three (3) King Innovation Gel-Filled twist-on wire connectors

ACCESSORIES
Ordered & shipped separately (for knuckle only)
15645 AZT, BKT - 6" Stem
15656 AZT, BKT - 12" Stem
15657 AZT, BKT - 18" Stem
15658 AZT, BKT - 24" Stem
Corrosion resistant aluminum alloy with baked thermoset powder coating.

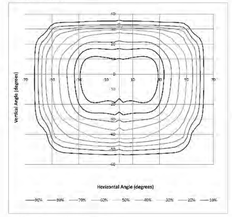
15276 BKT - Power Post: A Fast, One-Step Connector Made of Impact / Corrosion Resistant PVC 2.25" Inside Diameter to Accommodate Conduits of Different Sizes Accepts .50 NPSM Thread Designed For 120V-277V Line Voltage Landscape Lighting, Eliminating Need For Above or Below Ground Boxes. Built-in Stabilizer Removes Need For Concrete

15601 AZT, BKT - Cast Aluminum Surface Mounting Flange with Bronze or Black Finish, Neoprene Gasket For Watertight Seal

15609 AZT, BKT - Junction Box Mounting Bracket Corrosion Resistant Cast Aluminum Alloy with Baked Thermoset Bronze or Black Powder Coat Finish

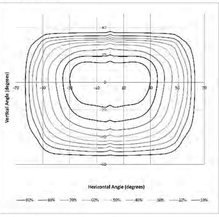
PHOTOMETRIC DIAGRAMS

16221 Small Flood



16221BKT30 shown (1000 Lumens)

16222 Small Flood



16222BKT30 shown (2000 Lumens)

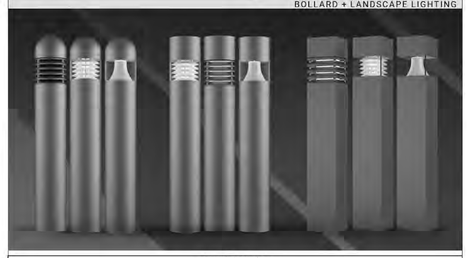
KICHLER

FIXTURE TYPE A4

NLS LIGHTING

SEA SIDE BOLLARD

BOLLARD + LANDSCAPE LIGHTING



LED WATTAGE CHART

	16L
400 milliamps	21w
530 milliamps	28w
700 milliamps	36w

The Sea Side Bollard is a combination of security, style and Vandal resistance that blends beautifully into any pathway environment.

This luminaire tower can disperse light in 45° angle with the cast Cutoff Grill (COG45). Paracline Reflector (PR) or Stacked Louver (SL) are also optional light distributions.

The Sea Side Bollard uses the patented Star Power™ reflector system. The Dome Top selection offers either Dome or Flat and are available in either 8" or 6" Round or 8" Square. Kelvin temperature offering of Amber, 2700K, 3000K, 3500K, 4000K and 5000K.

Conforms to the strictest Made in America standards—designed, tooled, fabricated and assembled in the USA.

BUY AMERICAN
To ensure the latest BAA/TAA/BABA Standards are being met, please select BAA, TAA, or BABA in the options section. Please contact the factory before placing an order for any NLS products requesting BAA (Buy American Act), TAA (Trade American Act), or BABA (Build America, Buy America).

STAR POWER™ OPTICAL SYSTEM
The Star Power™ reflector is an excellent system which provides great value and performance. Star Power Patent number: 10168223

REV. 04.01.24

1

Project Name: | Type:

SEA SIDE BOLLARD ORDERING GUIDE

Cat#	Height	Shaft Dim.	Light Dist.	No. of LEDs	Milliamps
Sea Side Flat Top (SSF) Sea Side Dome Top (SSD)[2]	06" (2) 36" (3) 48" (4)	6" Round (6R)[2] 8" Round (8R)[2] 8" Square (8S)	Cut Off Grill (COG45) Stacked Louver (SL) Paraclinic Reflector (PR)	16 (16L)	400 (40) 530 (53) 700 (7)

Kelvin	Volts	Mounting	Color	Options
Amber 1800-6004K (AMBER)[3,4] 2700K, 75 CRI (27K7) 2700K, 90 CRI (27K9)[1] 3000K, 75 CRI (30K7) 3000K, 90 CRI (30K9)[1] 3500K, 80 CRI (35K8)[1] 4000K, 75 CRI (40K7) 4000K, 90 CRI (40K9)[1] 5000K, 75 CRI (50K7) 5000K, 90 CRI (50K9)[1]	120-277 (120V) 347-480 (HV)	Anchor Base (AB)	Bronze Textured (BRZ) White Textured (WHT) Smooth White Gloss (SWT) Silver Metallic (SVR) Black Textured (BLK) Smooth Black Gloss (SBK) Graphite Textured (GPH) Grey Textured (GRY) Green (GRN) Custom (CS)	Button Photocell (PC)[5] Hybrid Fire Island Trans (VRB) Marine Grade Finish (MGF) House Side Shield (HSS) Surge Protector (20K) Emergency Battery Bu (EMB)[6,7,8,9] Buy American (BAA)[9] Trade American (TAA)[9] Build America Buy American (BABA)[9] California Dimmable Integrated (CCI)[6] Integral GFCI Outlet (GFCI) USB Charging Outlet (USB)

Notes:
1. Consult Factory for Lead Time. Consult Factory for 90 CRI Requests.
2. Dome Top and Flat Top only available as 8 round and 8 square
3. Please contact Factory for Custom Control Integration requests (Hi-Light, NX, WaveLinx, Crestron, DMX/RDM, Synapse, Casambi, Dali II, Avi-On, or other control systems)
4. Turtle Safe
5. Consult Factory for All BAA/TAA/BABA Requests
6. Contact Factory
7. Not Available with Battery Options Certified CA Title 24
8. Not Available with GFCI/USB options

NLS LIGHTING 701 Kingshill Place, Carson, CA 90746. **Call Us Today** (310) 341-2037 **nlslighting.com**

2

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.
Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

CLIENT:

TOLL BROTHERS, INC.

725 W. TOWN & COUNTRY ROAD,
SUITE 200
ORANGE, CA 92868
TEL: (949) 297-3850

MARK	DATE	INITIAL	DESCRIPTION	REC.	APPR	DATE
		E.O.R.	REVISION			

BENCHMARK:

BASIS OF BEARING:

ENGINEER OF RECORD'S SEAL

Intelligent Lighting Systems
Design + Procurement
1205 W. COLTON AVE, STE 619
REDLANDS, CA 92374
424.888.9071
SALES@ILIGHTINGSYSTEMS.COM

PLANS PREPARED UNDER THE SUPERVISION OF:

NAME R.C.E. # EXP. DATE

CITY OF LAGUNA HILLS
ORANGE COUNTY

ACCT. NO.

23161 MILL CREEK
LAGUNA HILLS, CA
FIXTURE CUT SHEETS

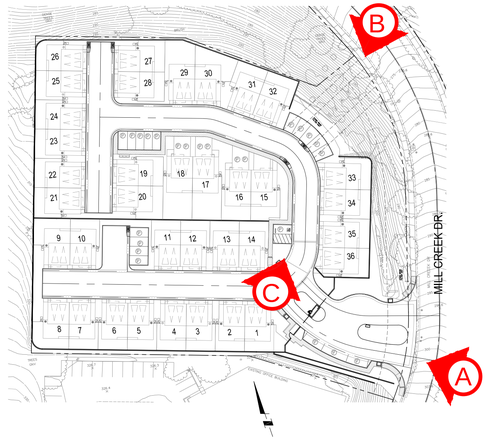
SHEET EP2 OF 2

FOR: | W.O | CITY I. D. NO.

VIEW A - PROJECT ENTRY

VIEW C - PRIVATE WAY

VIEW B - MILL CREEK DRIVE



Toll Brothers
AMERICA'S LUXURY HOME BUILDER

COLOR RENDERINGS

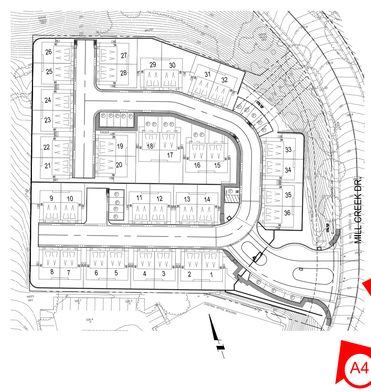
R1

VIEW A1 - PROJECT ENTRY EXISTING

VIEW A1 - PROJECT ENTRY PROPOSED

VIEW A4 - PROJECT ENTRY EXISTING

VIEW A4 - PROJECT ENTRY PROPOSED



Toll Brothers
AMERICA'S LUXURY HOME BUILDER

COLOR RENDERINGS (EXISTING AND PROPOSED)

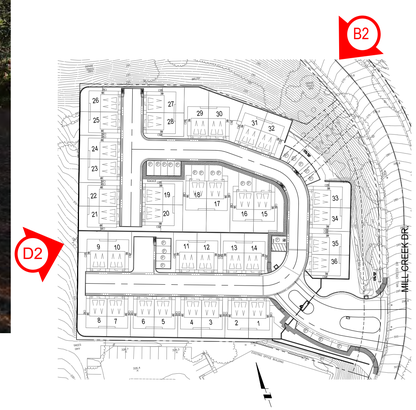
R2

VIEW B2 - PROJECT FRONTAGE EXISTING

VIEW B2 - PROJECT FRONTAGE PROPOSED

VIEW D2 - PROJECT SIDE EXISTING

VIEW D2 - PROJECT SIDE PROPOSED



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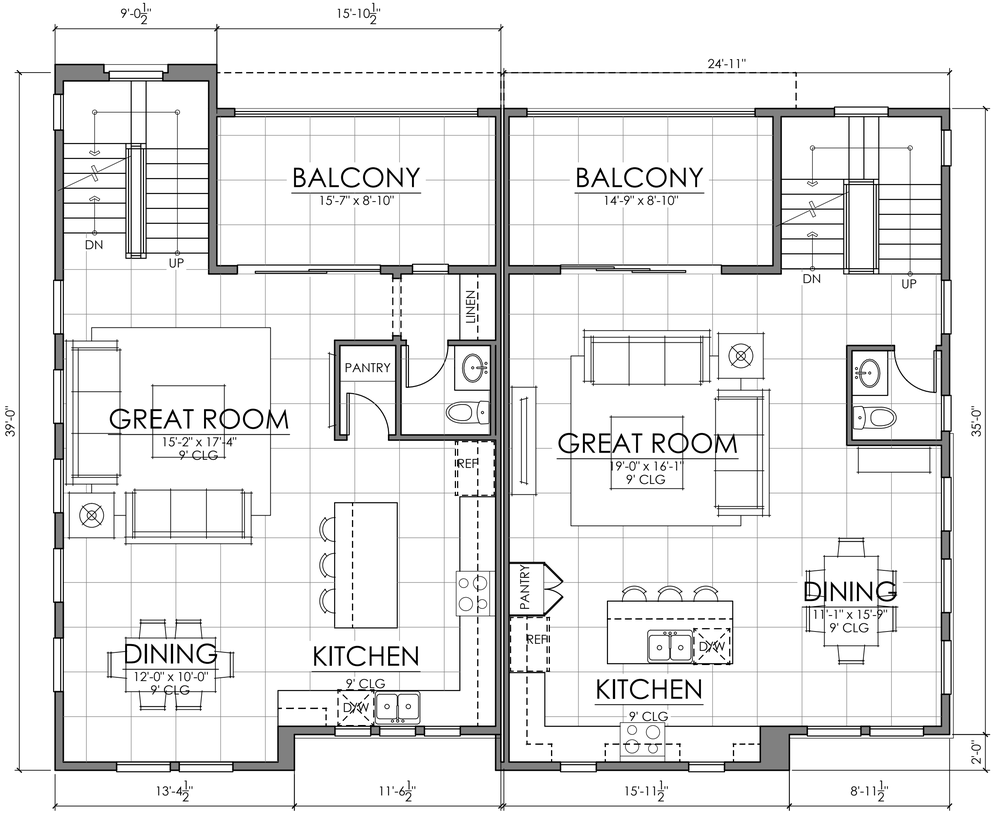
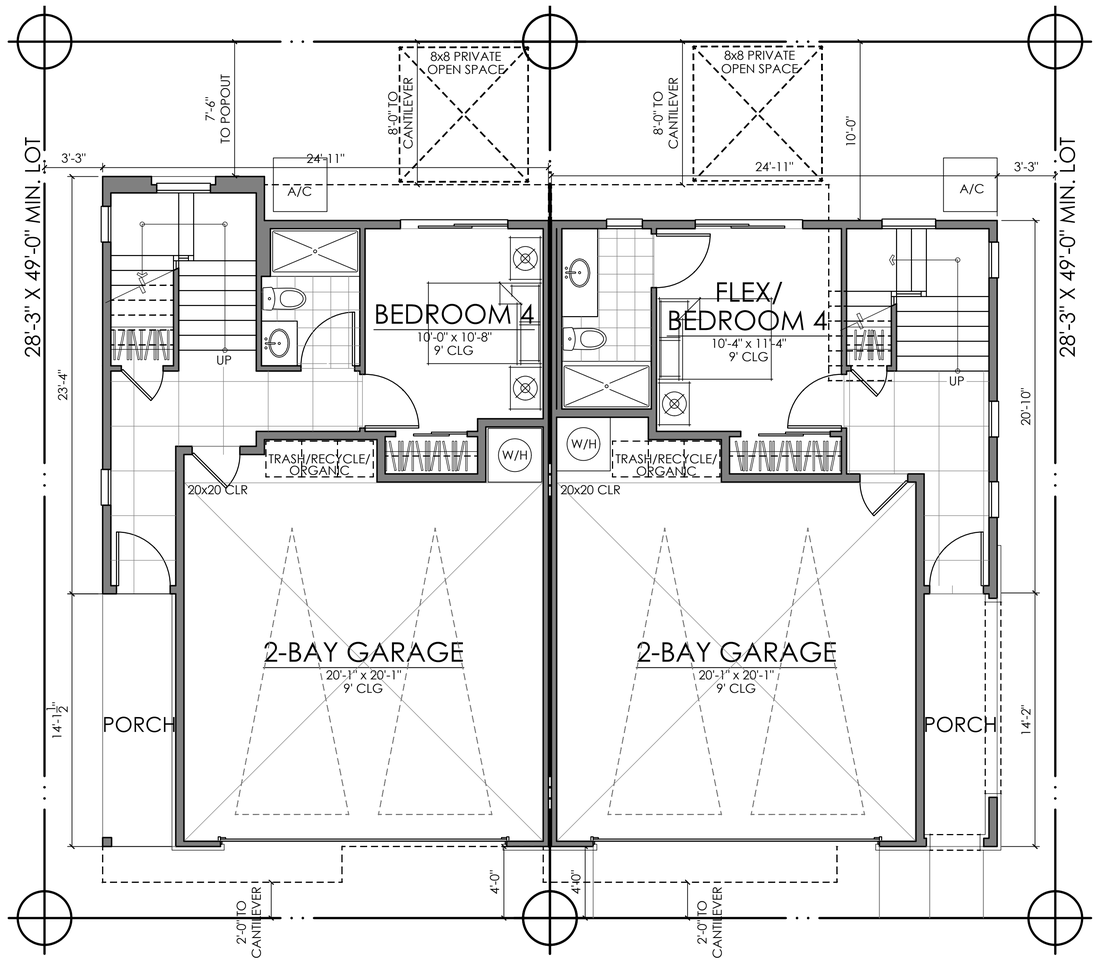
AMERICA'S LUXURY HOME BUILDER

COLOR RENDERINGS (EXISTING AND PROPOSED)

R3



PLAN TWO PLAN ONE



PLAN TWO PLAN ONE

PLAN TWO

LOWER LEVEL	378 SQ. FT.
MAIN LEVEL	776 SQ. FT.
UPPER LEVEL	879 SQ. FT.
TOTAL LIVING	**2033 SQ. FT.**
GARAGE	450 SQ.FT.

PLAN ONE

LOWER LEVEL	363 SQ. FT.
MAIN LEVEL	770 SQ. FT.
UPPER LEVEL	858 SQ. FT.
TOTAL LIVING	**1991 SQ. FT.**
GARAGE	446 SQ.FT.

07.03.25

DUETS

TOLL-2407

23161 MILL CREEK DRIVE | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

SCALE = ¼" = 1'-0"

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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california // 2943 pullman st. suite A
santa ana, ca 92705 / 949 553.8919

PLAN TWO PLAN ONE

PLAN TWO	
LOWER LEVEL	378 SQ. FT.
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MATERIAL NOTES:
1. 'S' TILE ROOF
2. STUCCO BODY
3. STUCCO OVER FOAM WINDOW TRIM
4. DECORATIVE CORBELS
5. CULTURED STONE VENEER
6. COACH LIGHT & ADDRESS

FRONT ELEVATION 23% GLAZING AT FRONT ELEVATION SCALE: 1/4" = 1'-0"

REAR ELEVATION 30% GLAZING AT FRONT ELEVATION SCALE: 1/4" = 1'-0"

07.03.25

DUETS ELEVATIONS

23161 MILL CREEK DRIVE | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

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TOLL-2407

SCALE = $\frac{1}{4}$" = 1'-0"

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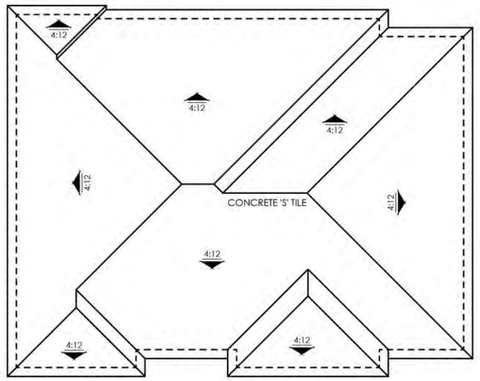
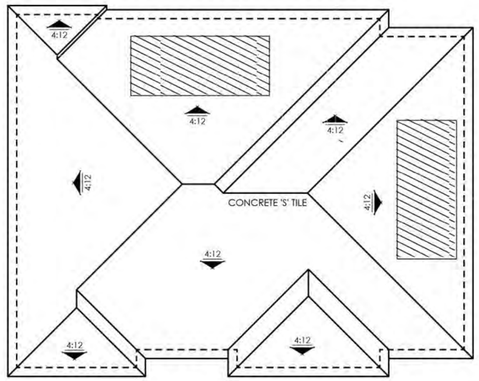


ROOF PLAN

SCALE: 1/8" = 1'-0"



ROOF PLAN WITH SOLAR

SCALE: 1/8" = 1'-0"

LEFT ELEVATION 20% GLAZING AT LEFT ELEVATION

SCALE: 1/4" = 1'-0"

RIGHT ELEVATION 15% GLAZING AT RIGHT ELEVATION

SCALE: 1/4" = 1'-0"

07.03.25

DUETS ELEVATIONS

TOLL-2407

23161 MILL CREEK DRIVE | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

SCALE = $\frac{1}{4}$" = 1'-0"

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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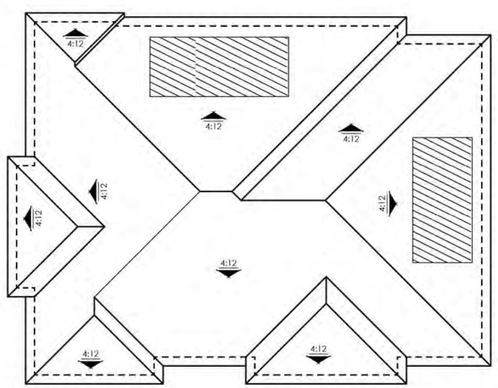
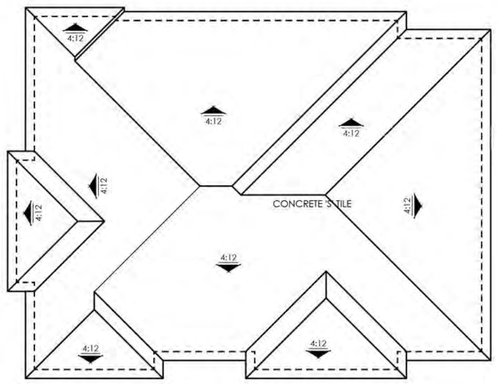


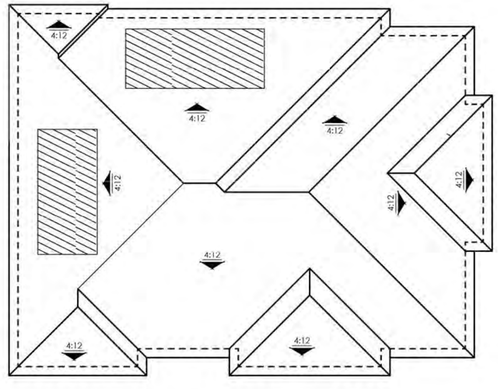
ROOF PLAN WITH SOLAR

SCALE: 1/8" = 1'-0"



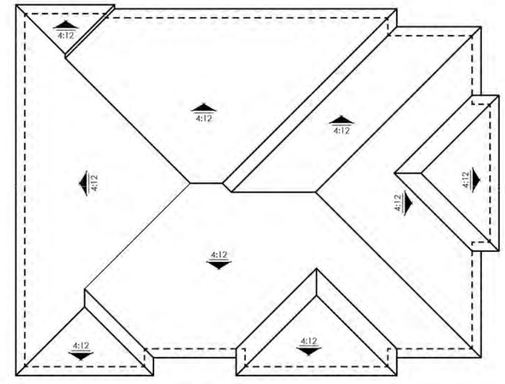
ROOF PLAN

SCALE: 1/8" = 1'-0"



ROOF PLAN WITH SOLAR

SCALE: 1/8" = 1'-0"



ROOF PLAN

SCALE: 1/8" = 1'-0"

LEFT ELEVATION 20% GLAZING AT LEFT ELEVATION

SCALE: 1/4" = 1'-0"

RIGHT ELEVATION 15% GLAZING AT RIGHT ELEVATION

SCALE: 1/4" = 1'-0"

07.03.25

DUETS ELEVATIONS | ENHANCED

TOLL-2407

23161 MILL CREEK DRIVE | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

SCALE = $\frac{1}{4}$" = 1'-0"

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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Solar Panel Assessment - 23161 Mill Creek

Home Size = ~ 2,000 sq. ft. – Home Electricity Consumption: 6,677 kWh/yr using NREL Data ➔

Title 24 Estimation: Photovoltaic Sizing 3.2 kW (8 panels) producing 5,300 kWh/yr yielding ~ 80% Offset
Systems installed on south & west roofs for T24 Compliance per CA Energy Comm.

RIGHT ELEVATION

REAR ELEVATION

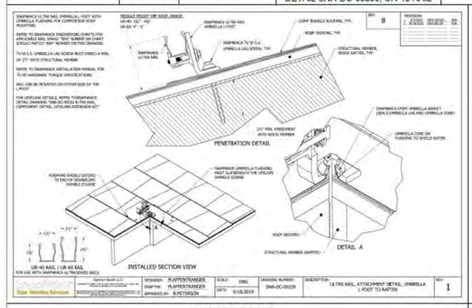
Prepared by
Addison Marks
New Homes Sales Director Sunrun Corp.

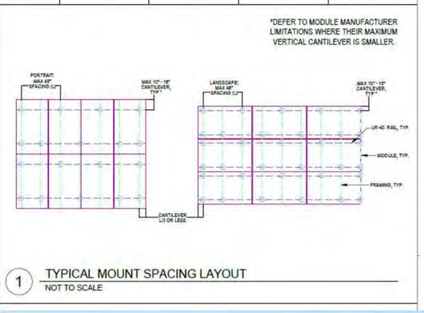
Solar Modules to be Installed

Sample
INSET Installation
On Comp Pad

STRUCTURAL DETAILS

ROOF INFORMATION			ATTACHMENT INFORMATION					
TYPE	HEIGHT	ROOF PITCHES (X:12)	DETAIL	MAX PORTRAIT (OC SPACING)	MAX PORTRAIT (OVERHANG)	MAX LANDSCAPE (OC SPACING)	MAX LANDSCAPE (OVERHANG)	CONFIGURATION
COMPOSITE SHINGLE	2-STORY	3,4,5,6	ULTRA RAIL, UMBRELLA L-FOOT, SEE DETAIL SNR-DC-00339, UR-40 RAIL	48"	L/3	48"	L/3	STAGGERED





1 TYPICAL MOUNT SPACING LAYOUT
NOT TO SCALE

DESIGN CRITERIA

MODULES:
HANWHA: Q.PEAK DUO BLK ML-G10+ 405W

MODULE DIMENSIONS:
74" x 41.1" x 1.26"

MODULE CLAMPS:
PORTRAIT: 9.84" - 17.72"
LANDSCAPE: 0" - 9.84"

LAG SCREWS:
5/16" x 4 1/2", 2 1/2" MIN. EMBEDMENT

MAX DISTRIBUTED LOAD:
3 PSF

SNOW LOAD:
0 PSF

WIND SPEED:
96 MPH 3-SEC GUST.

GENERAL NOTES:

*THIS INFORMATION PRESENTED ON THIS PAGE IS MEANT TO ILLUSTRATE GENERAL SUNRUN MATERIALS AND INSTALLATION PRACTICES.
*THE INFORMATION HERE IS SUBJECT TO CHANGE UNIQUE PLANS WILL BE CREATED FOR EACH BUILDING PRIOR TO CONSTRUCTIONS FOR REVIEW.

THE ROOF FRAMING, RIPPERS ON THE ROOF DO NOT QUALIFY AS THE ROOF FRAMING WHERE SOLAR PV MOUNT EMBEDMENT IS CONCERNED. INSTALLERS SHALL VERIFY SCREW EMBEDMENT REQUIREMENTS ARE MET FOR ALL MOUNTS.

23161 MILL CREEK DRIVE | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

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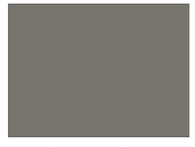
Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

Mediterranean Elevation Color Schemes

Color Scheme 1

STUCCO BODY	TRIM/PRECAST	EAVES	ROOF (S)	LIMESTONE
Agreeable Gray	Pure White	Gauntlet Gray	Tuscon Blend	Marquee24 Dove Tail

DOOR STAIN	DOOR STAIN	SHUTTERS	METAL	GARAGE
				
Therma Tru Driftwood	Jeld-Wen Ebony	Cityscape	Black Fox	Gauntlet Gray

Color Scheme 2

STUCCO BODY	TRIM/PRECAST	EAVES	ROOF (S)	LIMESTONE
Creamy	Relaxed Khaki	Foothills	Santa Cruz Blend	Marquee24 Dove Tail

DOOR STAIN	DOOR STAIN	SHUTTERS	METAL	GARAGE
Therma Tru New Earth	Jeld-Wen Mocha	Web Gray	Black Fox	Foothills

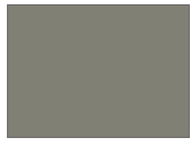
Color Scheme 3

STUCCO BODY	TRIM/PRECAST	EAVES	ROOF (S)	LIMESTONE
Loggia	City Loft	Virtual Taupe	Santa Cruz Blend	Marquee24 Sanderling

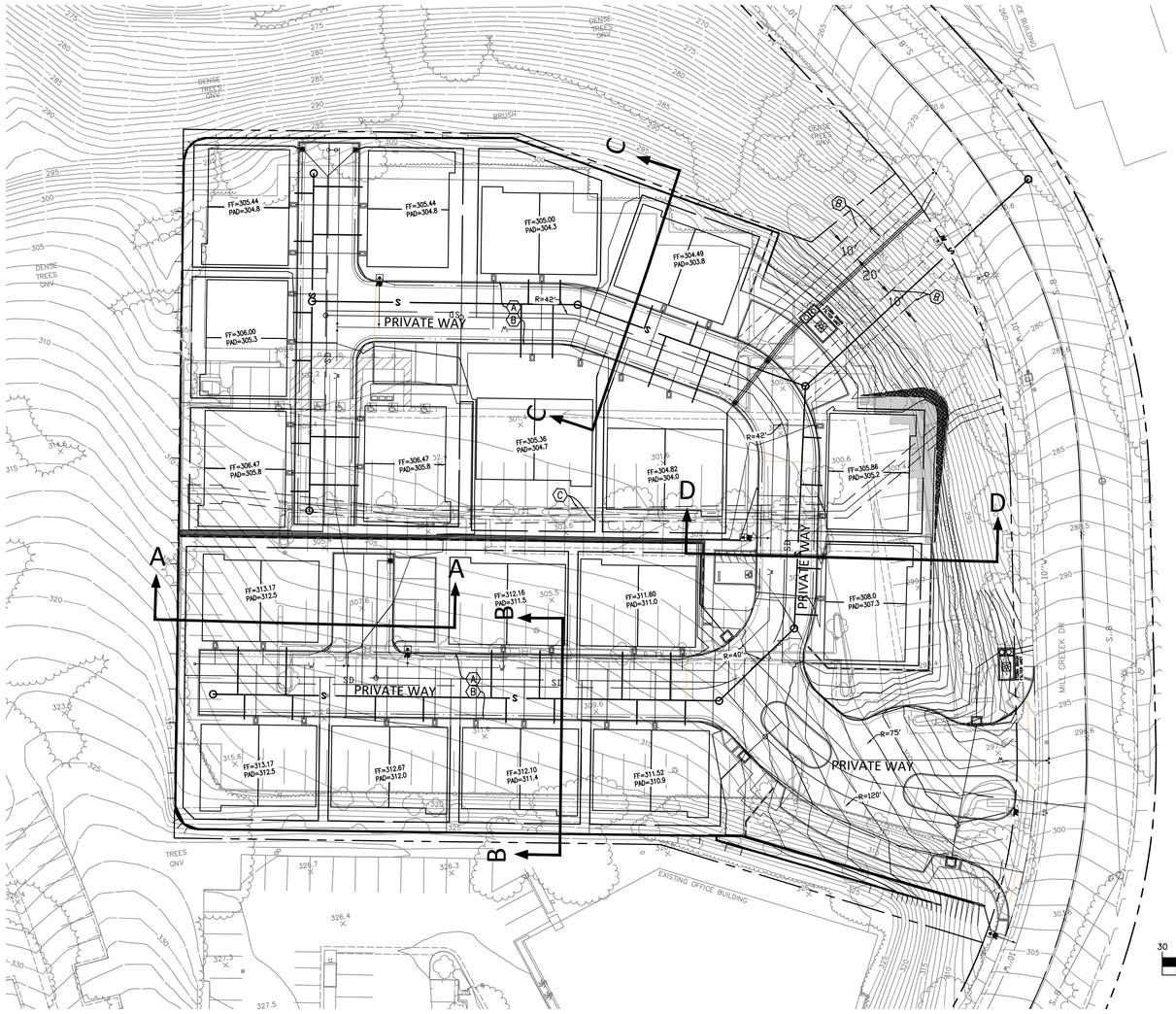
DOOR STAIN	DOOR STAIN	SHUTTERS	METAL	GARAGE
Therma Tru New Earth	Jeld-Wen Mocha	Grizzle Gray	Black Fox	Virtual Taupe

Color Scheme 4

STUCCO BODY	TRIM/PRECAST	EAVES	ROOF (S)	LIMESTONE
Canvas Tan	Barcelona Beige	Anonymous	Santa Cruz Blend	Marquee24 Sanderling

DOOR STAIN	DOOR STAIN	SHUTTERS	METAL	GARAGE
				
Therma Tru Driftwood	Jeld-Wen Ebony	Link Gray	Black Fox	Anonymous

LAGUNA HILLS - 23161 MILL CREEK
VESTING TENTATIVE TRACT MAP NO. 19346
SITE PLAN



EASEMENT NOTES

EASEMENT FOR EMERGENCY ACCESS PURPOSES TO THE CITY OF LAGUNA HILLS — (A)

EASEMENT TO EL TORO WATER DISTRICT FOR SEWER AND WATER PURPOSES — (B)

EX. EASEMENT FOR UNDERGROUND ELECTRICAL SUPPLY SYSTEMS, COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED DECEMBER 17, 1986 AS INSTRUMENT NO. 86-622574 OF OFFICIAL RECORDS. — (C)

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF LAGUNA HILLS, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 6, IN THE CITY OF LAGUNA HILLS, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP FILED IN BOOK 147, PAGES 43 THROUGH 47, INCLUSIVE, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPTING ALL OIL, OIL RIGHTS, MINERALS, MINERAL RIGHTS, NATURAL GAS RIGHTS, AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN, GEOTHERMAL STEAM, AND ALL PRODUCTS DERIVED FROM ANY OF THE FOREGOING, TOGETHER WITH THE PERPETUAL RIGHT OF DRILLING, MINING, EXPLORING, AND OPERATING THEREFOR AND STORING IN AND REMOVING THE SAME, INCLUDING THE RIGHT TO WHIPSTOCK OR DIRECTIONALLY DRILL AND MINE FROM LANDS OTHER THAN THOSE HEREIN DESCRIBED, OIL OR GAS WELLS, TUNNELS, AND SHAFTS INTO, THROUGH OR ACROSS THE SUBSURFACE OF THE LAND HEREIN DESCRIBED, AND TO BOTTOM SUCH WHIPSTOCK OR DIRECTIONALLY DRILL WELLS, TUNNELS AND SHAFTS UNDER AND BENEATH OR BEYOND THE EXTERIOR LIMITS THEREOF, AND TO REDRILL, RETUNNEL, EQUIP, MAINTAIN, REPAIR, DEEPEN AND OPERATE ANY SUCH WELLS OR MINES WITHOUT, HOWEVER, THE RIGHT TO DRILL, MINE, STORE, EXPLORE, AND OPERATE THROUGH THE SURFACE OR THE UPPER 500 FEET OF THE SUBSURFACE OF SAID LAND AS GRANTED TO TITLE INSURANCE AND TRUST COMPANY, AS TRUSTEE, IN A DEED RECORDED FEBRUARY 14, 1979 IN BOOK 13034, PAGE 1317 OF OFFICIAL RECORDS.

SAID LAND IS ALSO DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWESTERLY CORNER OF PARCEL 6, IN THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP FILED IN BOOK 147, PAGES 43 THROUGH 47, INCLUSIVE, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY;

THENCE SOUTH 81° 55' 24" EAST 145.00 FEET;

THENCE SOUTH 62° 19' 45" EAST 134.52 FEET;

THENCE NORTH 58° 11' 05" EAST 47.00 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF MILL CREEK DRIVE, SAID POINT BEING THE BEGINNING OF A NON-TANGENT CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 220.00 FEET, A RADIAL LINE TO SAID POINT BEARS SOUTH 58° 11' 05" WEST;

THENCE SOUTHWESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 37° 38' 25" AN ARC DISTANCE OF 144.53 FEET;

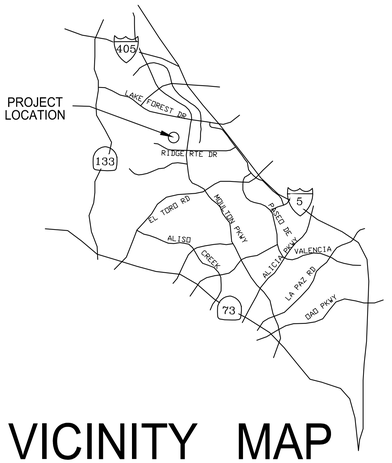
THENCE SOUTH 05° 49' 30" EAST 114.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 220.00 FEET;

THENCE SOUTHWESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22° 38' 14" AN ARC DISTANCE OF 86.92 FEET;

THENCE LEAVING SAID RIGHT OF WAY LINE, NORTH 65° 42' 50" WEST 145.48 FEET;

THENCE NORTH 81° 55' 24" WEST 210.00 FEET;

THENCE NORTH 08° 04' 36" EAST 306.00 FEET TO THE POINT OF BEGINNING.



VICINITY MAP

LOT SUMMARY

DESCRIPTION:	AREA (SF)	AREA (AC)
CONDOMINIUM DEVELOPMENT LOT (INCLUSIVE OF THE FOLLOWING)	106,364	2.44
PRIVATE LOCAL STREET	29,180	0.69
LANDSCAPE (NON-DEVELOPED SLOPE AREA)	12,632	0.29

PROPOSED PHASING

SINGLE PHASE CONSTRUCTION
- A. ROUGH GRADING
- B. ONSITE & OFFSITE UTILITIES
- C. PRECISE GRADING
- D. BUILDING CONSTRUCTION
- E. SITEWORK & LANDSCAPING

TELEPHONE / CABLE TELEVISION
VERIZON / GTE - (800) 483-1000
AT&T - (800) 310-2355
COX - (800) 234-3993

ELECTRIC
SOUTHERN CALIFORNIA EDISON
4155 BAKE PARKWAY
IRVINE, CA 92618

WASTE MANAGEMENT
CR&R
30111 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CA 92677

ASSESSOR PARCEL NUMBERS
588-142-07

GAS
SOUTHERN CALIFORNIA GAS COMPANY
738 SOUTH HARBOR BLVD.
SANTA ANA, CA 92704

WATER & SEWER
EL TORO WATER DISTRICT (ETWD)
24251 LOS ALISOS BLVD.
LAKE FOREST, CA 92630

LEGEND AND ABBREVIATIONS

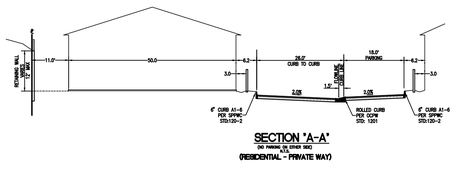
———	PROJECT BOUNDARY	———	FLOWLINE
— — —	RIGHT OF WAY	- - - -	FLOOD PLAIN LIMIT (EL. 1265.8 NGVD88)
— - —	STREET CENTERLINE	—SS—	PROPOSED SEWER
A	LOT NUMBER	—SD—	PROPOSED STORM DRAIN
10	CONDOMINIUM UNIT NUMBER	—W—	PROPOSED WATER
PAD=1275.0	PAD ELEVATION	— —	SWALE HIGH POINT
	TOP AND TOE OF SLOPE	- - - -	GRADE BREAK
1250	PROPOSED CONTOUR	EX	EXISTING
1250	EXISTING CONTOUR	PR	PROPOSED
2%	SHEET FLOW RATE	HP	HIGH POINT
	WATER QUALITY UNIT	LP	LOW POINT
	GEOGRID ZONE	GB	GRADE BREAK

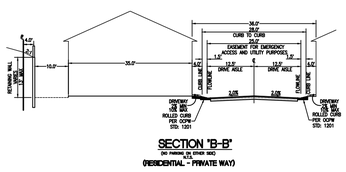
ENGINEER'S NOTES

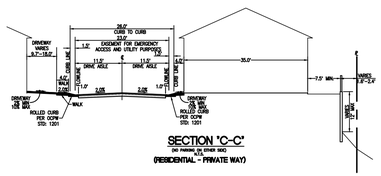
1. ALL GUTTER FLOWLINE SLOPES SHALL BE 0.5% MINIMUM SLOPE AND DRAIN AS NOTED.
2. PROPOSED CURB SHALL BE 6" ROLLED CURB PER COUNTY STANDARDS.
3. CURB ELEVATIONS HAVE BEEN OMITTED FOR CLARITY BUT SHALL BE 6" ABOVE THE FINISHED SURFACE OR GUTTER FLOWLINE AS NOTED ON THE PLAN.
4. ONSITE SANITARY SEWER LINE SHALL BE 8" PVC SDR-35 PIPE.
5. SANITARY SEWER SYSTEM SHALL BE GRAVITY FLOW DISCHARGED INTO PUBLIC LINE OPERATED BY ETWD.
6. ONSITE FIRE/DOMESTIC WATER MAIN SHALL BE 8" PVC C-900 PIPE.
7. EACH PROPOSED UNIT SHALL HAVE INDIVIDUAL METERS.
8. ONSITE PRIVATE STORM DRAIN LINE SHALL BE AS NOTED.
9. ALL ONSITE STORMDRAIN PIPING SHALL BE DESIGNED TO CONVEY THE 100 YEAR STORM PEAK FLOWRATES AND SHALL HAVE A MINIMUM SLOPE OF 0.35%.
10. PROPOSED INCREASE IN STORMWATER VOLUME AND RUNOFF SHALL BE MITIGATED BY AN ONSITE UNDRGROUND STORMWATER DETENTION SYSTEM WITH AN OUTLET STRUCTURE THAT TIES INTO THE EXISTING MILLCREEK STREET.
11. ONSITE UNDERGROUND STORMWATER DETENTION SYSTEM SHALL BE CONTECH, STORMTECH, OR ADS AND SHALL BE DESIGNED TO DETAIN THE DIFFERENTIAL VOLUME BETWEEN THE PRE-CONSTRUCTION AND POST-CONSTRUCTION 10 YEAR, 24 HOUR STORM EVENTS.
12. NO OFFSITE DRAINAGE AREAS ARE TRIBUTARY TO THE SITE.
13. ALL OPEN SPACE AND LANDSCAPE AREAS SHALL DRAIN AT 1% MINIMUM AND LANDSCAPE ARCHITECT SHALL DESIGN A YARD DRAIN SYSTEM TO CONVEY NUISANCE WATER TO THE PRIVATE STREETS AND/OR THE ONSITE STORM DRAIN NETWORK. YARD DRAINS ADJACENT TO PROPOSED BUILDINGS SHALL BE A MINIMUM OF 0.3' LOWER THAN THE ADJACENT BUILDING PAD ELEVATION.
14. DEEPENED FOOTINGS SHALL BE PROVIDED AROUND BUILDING PERIMETERS WHERE THE ADJACENT FINISHED GRADES ARE HIGHER OR LOWER THAN THE BUILDING PAD ELEVATIONS.
15. PLUMBER SHALL DESIGN ROOF DRAINAGE SYSTEM WITH GUTTER DOWNSPOUTS, DECK DRAIN SYSTEM AND PATIO DRAINAGE SYSTEM TO DRAIN INTO THE ADJACENT LANDSCAPE AND OPEN SPACE AREAS WHERE POSSIBLE.
16. THE GEOGRID WILL EXTEND BELOW BUILDING FOUNDATIONS IN SOME LOCATIONS.
17. THE PROPOSED CONDOMINIUM MAP IS FOR 36 UNITS.
18. ALL EXISTING EASEMENT AND IRREVOCABLE OFFERS OF DEDICATION THAT AFFECT THE PROPERTY BEING SUBDIVIDED ARE SHOWN HERE ON.

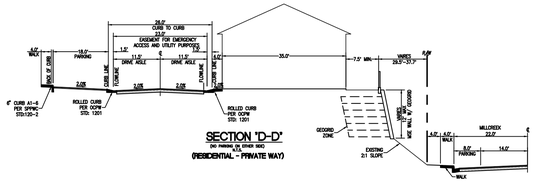
DATE OF FILING: 01/31/25

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.









REVISION	DATE	DESCRIPTION	APPROVED

REGISTERED PROFESSIONAL ENGINEER — SCOTT M. WILSON — No. 49884 — Exp. 09/30/26 — CIVIL — STATE OF CALIFORNIA

PREPARED BY:
WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100, IRVINE, CA 92606
T: 949-679-0090 | F: 949-679-0091

CIVIL ENGINEER: SCOTT M. WILSON | 49884 LICENSE NO. | 9-30-26 EXP. DATE

OWNER:
Toll Brothers
AMERICA'S LUXURY HOME BUILDER®
350 COMMERCE, SUITE 200
IRVINE, CA 92602
OFFICE: (714) 347-1375
CONTACT: AYLENE CHU

VESTING TENTATIVE TRACT NO. 19346
23161 LAGUNA HILLS MILL CREEK
FOR CONDOMINIUM PURPOSES

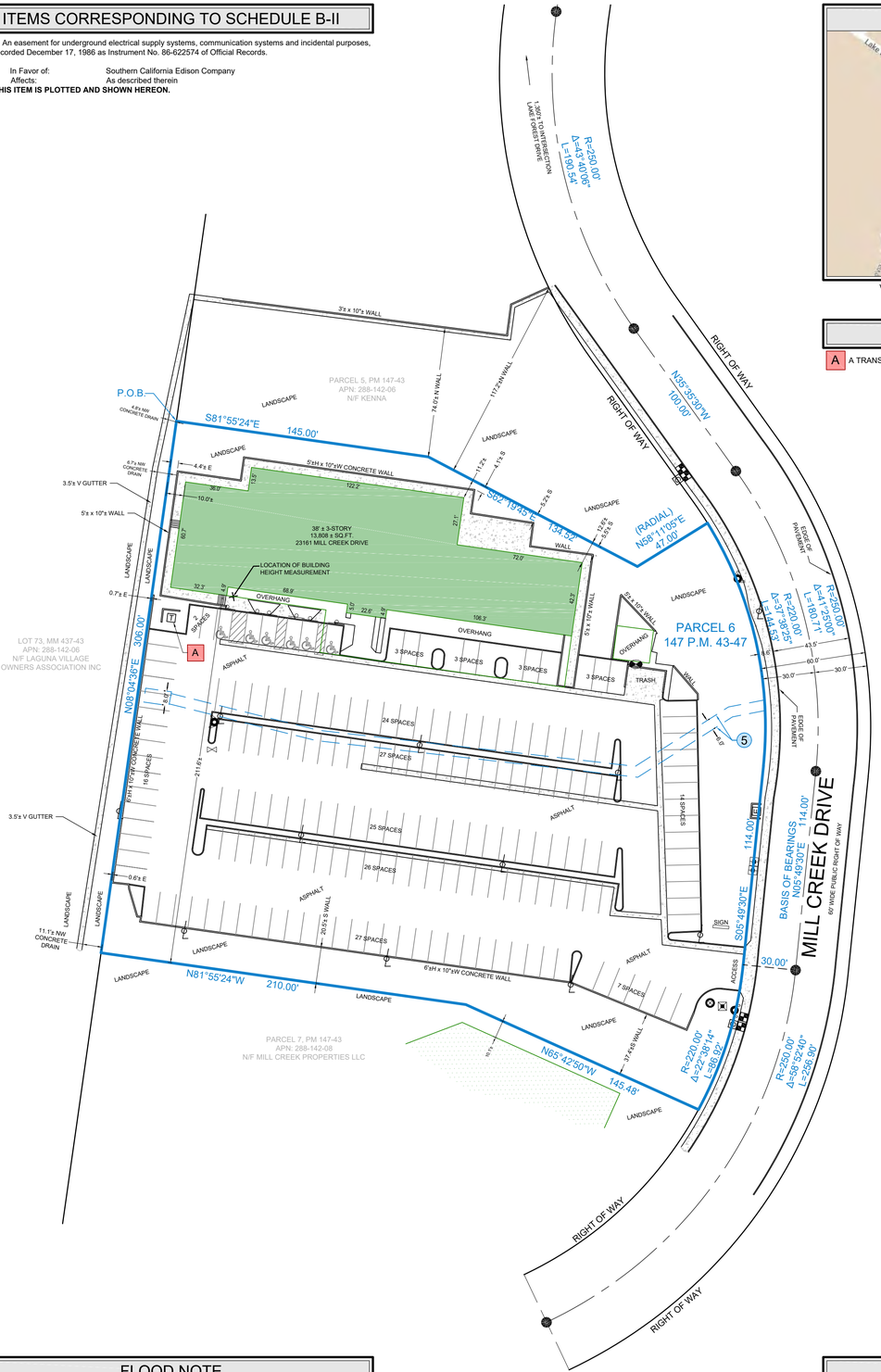
SHEET T.1 OF 1

ITEMS CORRESPONDING TO SCHEDULE B-II

5. An easement for underground electrical supply systems, communication systems and incidental purposes, recorded December 17, 1986 as Instrument No. 86-622574 of Official Records.

(5)

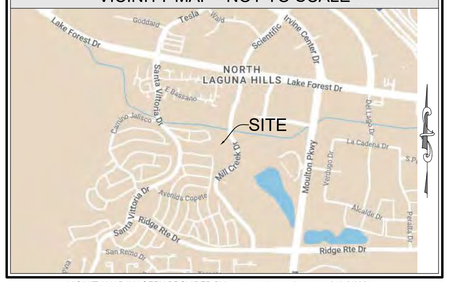
In Favor of: Southern California Edison Company
Affects: As described therein
THIS ITEM IS PLOTTED AND SHOWN HEREON.



SCALE : 1" = 40'

0' 20' 40' 80'

VICINITY MAP - NOT TO SCALE



VICINITY MAP IMAGERY PROVIDED BY www.google.com/maps on 04/18/2024

SIGNIFICANT OBSERVATIONS

A A TRANSFORMER RESIDES OUTSIDE OF THE EASEMENT DESCRIBED IN SCHEDULE B-II ITEM NO. 5.

MISCELLANEOUS NOTES

MN1 SURVEY PERFORMED BY:
BOCK & CLARK CORPORATION, AN NV5 COMPANY
2525 NATOMAS PARK DRIVE STE 350
SACRAMENTO, CA 95833
PHONE: 800-787-8397, EMAIL: Jayne.Leavitt@nv5.com

MN2 SOME FEATURES SHOWN ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR CLARITY. ALL DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF. UNLESS OTHERWISE NOTED, ALL MEASURED BEARINGS AND DISTANCES MATCH RECORD.

MN3 BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF MILL CREEK DRIVE, ORANGE COUNTY, CALIFORNIA, SHOWN ON PM 147-43, HAVING A BEARING OF N05°49'30"E.

MN4 PURSUANT TO TABLE A ITEM 2 AN ADDRESS OF 23161 MILL CREEK DRIVE WAS POSTED ON THE SURVEYED PROPERTY.

MN5 PURSUANT TO TABLE A ITEM 4 THE SURVEYED PROPERTY CONTAINS AN AREA OF 2.441 ACRES (106,345 SQUARE FEET), MORE OR LESS.

MN6 PURSUANT TO TABLE A 7 BUILDING SQUARE FOOTAGE WAS CALCULATED FROM THE OBSERVED APPARENT FOOTPRINT OF EACH BUILDING AT GROUND LEVEL.

MN7 PURSUANT TO TABLE A ITEM 8 ONLY OBSERVABLE SURFACE AND ABOVE GROUND FEATURES WERE LOCATED. AT THE TIME OF SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF SITE USE AS A BURIAL GROUND OR CEMETERY, NOR SUBSTANTIAL AREAS OF REFUSE.

MN8 PURSUANT TO TABLE A ITEM 9 THERE ARE 180 STRIPED REGULAR PARKING SPACES AND 6 STRIPED HANDICAPPED PARKING SPACES FOR A TOTAL OF 186 STRIPED PARKING SPACES ON THE SURVEYED PROPERTY.

MN9 PURSUANT TO TABLE A ITEM 10 NO DIVISION OR PARTY WALLS WERE DESIGNATED BY THE CLIENT OR LOCATED BY SURVEYOR WITH RESPECT TO ADJOINING PROPERTIES.

MN10 SURVEYOR IS NOT LIABLE FOR UTILITIES OBSTRUCTED OR COVERED FROM VIEW. THE LOCATION OF UTILITIES SHOWN HEREON IS FROM OBSERVED SURFACE AND ABOVE GROUND APPURTENANCES IN ORDER TO DEPICT UNDERGROUND UTILITIES, IF POSSIBLE. UTILITY PLANS OR GROUND MARKINGS WERE NOT PROVIDED IN ACCORDANCE WITH TABLE A 11a.

MN11 PURSUANT TO TABLE A ITEM 16 AT THE TIME OF SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS.

MN12 PURSUANT TO TABLE A ITEM 17 AT THE TIME OF SURVEY, THE SURVEYOR WAS UNAWARE OF ANY PROPOSED CHANGES IN STREET RIGHT OF WAY LINES OR OBSERVABLE EVIDENCE OF STREET OR SIDEWALK REPAIRS.

MN13 THE SURVEYED PROPERTY HAS DIRECT ACCESS TO MILL CREEK DRIVE, BEING A 60 FOOT WIDE DEDICATED AND ACCEPTED PUBLIC RIGHT OF WAY, AS SHOWN HEREON.

MN14 OWNERSHIP OF FENCES, IF ANY, WAS NOT DETERMINED UNDER THE SCOPE OF THIS SURVEY.

MN15 THE SURVEYED PROPERTY CREATES A MATHEMATICALLY CLOSED FIGURE, WITH NO GAPS, GORES, OVERLAPS OR HIATUS INHERENT TO THE SURVEYED PROPERTY BASED ON THE FIELD SURVEY PERFORMED AND THE TITLE COMMITMENTS PROVIDED.

MN16 THIS SURVEY IS NOT INTENDED FOR CONSTRUCTION OR CONSTRUCTION DESIGN PURPOSES.

MN17 ADJOINING OWNERSHIP INFORMATION SHOWN HEREON WAS OBTAINED FROM AVAILABLE PUBLIC RECORDS.

LEGEND OF SYMBOLS & ABBREVIATIONS

- LIGHT POLE
- ELECTRIC VAULT
- TRANSFORMER
- COMMUNICATIONS VAULT
- CABLE BOX
- HANDICAPPED PARKING
- GAS METER
- HANDCAPPED SIGN
- CONCRETE
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- WATER METER
- FIRE DEPT CONNECTION
- O.R. OFFICIAL RECORDS
- N/F NOW OR FORMERLY
- BSL BUILDING SETBACK LINE
- NO PARKING
- PUNCHED SPIKES, WASHERS ILLEGIBLE

ZONING INFORMATION

THE SURVEYOR WAS NOT PROVIDED WITH ZONING INFORMATION BY THE CLIENT PURSUANT TO TABLE A ITEM 6a & 6b.

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, NUMBER 06059C0313J, WHICH BEARS AN EFFECTIVE DATE OF DECEMBER 3, 2009 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON THE FEMA WEBSITE (HTTP://MSC.FEMA.GOV), BY FIRMETTE CREATED ON APRIL 18, 2024. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

PROJECT REVISION RECORD

DATE	DESCRIPTION	DATE	DESCRIPTION
04/23/2024	EMAILED FOR NV5 REVIEW	-	-
05/10/2024	REVISED PER COMMENTS	-	-
05/20/2024	REVISED PER CLIENT COMMENT	-	-

LEGAL

THIS SURVEY WAS PREPARED FOR THE PURPOSE OF THIS REAL ESTATE TRANSACTION ONLY AND NO FURTHER PARTIES OTHER THAN THOSE CERTIFIED ABOVE SHALL RELY ON IT FOR ANY OTHER PURPOSE OR TRANSACTION

RECORD DESCRIPTION

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THENCE NORTH 08° 04' 36" EAST 306.00 FEET TO THE POINT OF BEGINNING.

APN: 588-142-07

THE LANDS SURVEYED, SHOWN AND DESCRIBED HEREON ARE THE SAME LANDS AS DESCRIBED IN THE TITLE COMMITMENT PROVIDED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NO. OSA-7107080, DATED MARCH 28, 2024.

ALTA/NSPS LAND TITLE SURVEY

for

Mill Creek Drive Update

NV5 Project No. 202401363-001
23161 Mill Creek Drive, Laguna Hills, CA

BASED UPON TITLE COMMITMENT NO. OSA-7107080
OF FIRST AMERICAN TITLE INSURANCE COMPANY
BEARING AN EFFECTIVE DATE OF MARCH 28, 2024

Surveyor's Certification

To: Toll West Coast LLC, a Delaware limited liability company, and its successors and/or assigns; and First American Title Company; and Bock & Clark Corporation, an NV5 Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 6a, 6b, 7a, 7b1, 7c, 8, 9, 10, 13, 14, 16, 17, and 19 of Table A thereof. The field work was completed on APRIL 23, 2024.

LICENSED LAND SURVEYOR
JAYNE E. LEAVITT
NO. 8898
STATE OF CALIFORNIA

JAYNE E. LEAVITT
REGISTRATION NO. PLS 8898
IN THE STATE OF CALIFORNIA
DATE OF PLAT OR MAP: APRIL 23, 2024
DATE OF LAST REVISION: MAY 20, 2024
NETWORK PROJECT NO. 202401363-001 ICW

05/13/2024

THIS SURVEY IS CERTIFIED TO DATE OF FIELD SURVEY, NOT DATE OF SIGNATURE.
NOT VALID UNLESS SIGNED, DATED AND STAMPED WITH SURVEYOR'S SEAL

SHEET 1 OF 1

Bock & Clark Corporation
an NV5 Company

Transaction Services **1-800-SURVEYS (787-8397)**
4580 Stephen Circle N.W., Suite 300, Canton, Ohio 44718
www.BockandClark.com maywehelpyou@bockandclark.com www.NV5.com

SURVEY • ZONING • ENVIRONMENTAL • ASSESSMENT

CALIFORNIA BRANCH PROJECT NO. 520240XXXX

Chronology of Key Dates

- January 30, 2025: The formal entitlement application is submitted to city.
- February 28, 2025: Staff deemed the application incomplete due to missing information and materials.
- April 2, 2025: Applicant resubmits application to the city.
- May 1, 2025: Staff deemed the revised application remained incomplete.
- May 9, 2025: Applicant resubmits application to the city.
- May 28, 2025: Application is deemed (this determination initiated a zoning consistency review of the Project).
- June 27, 2025: Staff completed the initial zoning consistency review of the Project and found it did not comply with all the requirements of the zoning ordinance and objective design standards.
- July 25, 2025: Applicant resubmits the project plans.
- August 22, 2025: Staff determined portions of the Project remained inconsistent with the zoning ordinance and objective design standards.
- September 9, 2025: Applicant resubmits the project plans.
- October 9, 2025: Staff found the project plans are consistent with the requirements of the zoning ordinance and objective design standards.

Buchalter

425 Market Street
Suite 2900
San Francisco, CA 94105
415.227.0900 Phone
415.227.0770 Fax

415.227.3508 Direct
aguerra@buchalter.com

December 2, 2025

VIA E-MAIL

David Blumenthal
Contract Planner
City of Laguna Hills
24035 El Toro Road
Laguna Hills, CA 92653

Re: 23161 Mill Creek Drive Density Bonus Law Request Letter

Dear Mr. Blumenthal:

Buchalter, a Professional Corporation, represents Toll Bros. Inc. ("Toll Brothers") with respect to its entitlement process for the proposed development of 36 townhomes or duplex units, roadways, and associated infrastructure (the "Mill Creek Project" or "Project") on the property located at 23161 Mill Creek Drive in the City of Laguna Hills (the "City"). The Property is approximately 2.43 gross acres in size and is identified as APN 588-142-07.

On December 18, 2024, Toll Brothers filed a preliminary application for the Project in accordance with Senate Bill 330 ("SB 330"), otherwise known as the Housing Crisis Act. On April 2, 2025, Toll Brothers filed its formal development project application. The City reviewed Toll Brothers formal development project and provided comments on May 1, 2025. Toll Brothers filed a revised application on May 9, 2025. Although the City deemed the formal application complete on June 27, 2025, the City provided additional comments regarding the application. In response to those comments, Toll Brothers further revised the Project, which necessarily required revisions to the requested Density Bonus Law ("DBL") waivers. The purpose of this letter is to outline the Project's eligibility for the benefits of the DBL, as well as to summarize the requested revised waivers and concession from development standards that would otherwise physically preclude development of the Project.

The Project

The Project consists of the demolition of the existing three-story office building and surface parking lot on the Property and the redevelopment of the Property with 36 duplexes (i.e., 36 two-story single-family townhome units), six driveway parking stalls, and 18 guest parking spaces at a density of approximately 14.8 units per acre. Two units will be deed-restricted as

affordable for very low-income households which amounts to 5.5% of the total Project units. Because more than 5% of the units will be set aside for very low-income households, the Project will qualify for the State Density Bonus Law. (Gov. Code, § 65915(b)(1)(B).) To that end, Toll Brothers will seek waivers of the development standards identified below, in addition to a concession granted pursuant to the Density Bonus Law.

Density Bonus Law

The State Density Bonus Law (Government Code section 65915 *et seq.*) allows projects that provide a specified number of units as affordable for lower-income households to obtain a density bonus, if elected, and to request waivers of development standards and other incentives or concessions. The Density Bonus Law requires a local agency to waive development standards that would physically preclude development of the project at the density provided under the law, if requested by an applicant. (Gov. Code, § 65915(e)(1).) With respect to very low-income units, the Density Bonus Law requires a project to provide at least 5% of the total units as affordable to very low-income households to qualify for the benefits of the Density Bonus Law. (Gov. Code, § 65915(b)(1)(B).) Consequently, by providing the two units as affordable for very low-income households, the Project qualifies for the benefits of the Density Bonus Law.

At 14.8 units per acre, the Project is consistent with the applicable density limit of 20 units per acre. Although Toll Brothers is not seeking a density bonus to increase the density, it is seeking the following waivers of development and design standards[1] that would otherwise physically preclude development of the Project at the proposed density:

- **Setbacks.** The Project requires reductions in the rear setback requirement. Without this reduction, Toll Brothers cannot physically fit the 36 townhome units on the Property. Additional acreage is necessary to maximize the number of residential units and to be able to compensate for the loss of acreage associated with the setbacks in order to provide the affordable housing units. Therefore, unless otherwise reduced, the rear 15-foot setback would physically preclude development of the Project. Consequently, Toll Brothers requests a rear setback reduction to 8.5 feet.

- **Building Separation.** The Project requires a reduction in the minimum building separation standard from 10 feet to 6.5 feet. Compliance with this standard will reduce the buildable area on the Property, thereby reducing the overall Project density and the ability to provide the affordable units. Thus, compliance with this standard physically precludes development of the Project at 14.8 units per acre. Consequently, Toll Brothers requests a reduction in the 10-foot building

[1] Unless otherwise indicated, the following development standards are required under Table 9-30.040 of the Laguna Hills Municipal Code ("L.H.M.C.").

separation requirement to 6.5 feet.

- **Private Open Space.** The L.H.M.C. requires development in the *MXU* to preserve at least 10% of the project site as private open space. The small parcel is constrained by steep slopes along its northern and southern boundaries, as well as along Mill Creek Drive, limiting the buildable area on the Property. Compliance with this standard would require dedicating land for open space where either housing, infrastructure, or parking is planned. Consequently, compliance with this standard would reduce the overall density of the Project and would physically preclude development of the Project. Therefore, Toll Brothers requests a waiver to allow a 9% private open space requirement that meets this 8-foot-by-8-foot requirement.

- **Pedestrian Connections.** Section 2.2.2 of the ODS requires primary entrances in buildings to be connected to a public sideway or pathway at least 4 feet wide (for entrances serving one-to-two units). Toll Brothers intends to comply with this standard, where feasible. However, where compliance is infeasible, it requests a waiver of this standard to allow three-foot wide pathways for entrances serving units where compliance is infeasible. Compliance with this standard will reduce the developable area for the townhome units. Thus, this standard physically precludes development of the Project at the proposed density. Toll Brothers requests a waiver of this standard.

- **Pedestrian Pathway Amenities.** Section 2.8 requires the inclusion of two amenities that include trellises and/or benches on pedestrian paths longer than 200 feet. The only pedestrian pathways in the Project are located along the building frontages and directly adjacent to the private streets. Inclusion of these amenities would require encroaching into the dwelling unit footprint and each unit's driveway, which would require a redesign of the Project and the elimination of numerous units. Therefore, compliance with this measure would reduce the Project's overall density and Toll Brothers requests a waiver of this pathway amenity requirement.

- **Pedestrian Pathways.** Section 2.8.1 of the ODS requires all buildings, entries, facilities to be internally connected with a minimum four-foot wide pedestrian pathway or pathway network. Additional requirements include that pedestrian pathways be separated by vehicular circulation by a physical barrier and that pathways are adjacent to a four-foot minimum width planted area. Pedestrian pathways longer than 200 feet must provide amenities that include trellises and/or benches. As detailed above, Toll Brothers will comply with the four-foot wide pathways to entrances, where feasible. Where compliance is infeasible, the Project will provide three-foot wide entrances. Compliance with this standard will

reduce the developable area for the townhome units. Thus, this standard physically precludes development of the Project at the proposed density and Toll Brothers requests a modification of this standard as described above.

- **Street Width.** We understand that the City relies on the Orange County Facilities and Resources Department Standard Plans for Public Works. Public Works Standard 1107 requires local streets to provide 40-foot minimum widths curb to curb with 8-foot sidewalks and parkways on both sides. Adherence to this standard would significantly reduce the amount of Property area on which Toll Brothers may develop the townhomes. Therefore, this standard physically precludes development of the Project. Instead, Toll Brothers requests a waiver that allows a reduction in street width to 26 feet, curb to curb, with a sidewalk on one side.

- **Guard Gate Stacking Distance.** Orange County Public Works Standard 1107 requires guard gates to provide one foot of stacking distance per dwelling unit with a minimum of 100 feet. Compliance with this minimum stacking distance would require extending the guard gate into the community, pushing internal roadways further back and resulting in the elimination of some townhome units, physically precluding Project development at the proposed density. Toll Brothers requests a waiver of the standard to reduce the stacking distance to 91 feet and to place the call box before the turnaround.

- **Short-Term Bicycle Parking.** Section 2.7.1.1 of the ODS requires residential developments to provide one short-term bicycle parking space for every 10 dwelling units within 50-feet of the primary pedestrian building entrance. Compliance with these standards would require a total of four short-term bicycle racks, which would reduce the amount of buildable space that may be dedicated to the townhomes, therefore reducing the proposed residential density. Toll Brothers therefore requests a waiver of this standard.

- **Long-Term Bicycle Parking.** Section 2.7.1.2 requires one long-term bike parking space for each unit. Compliance with these standards would require a total of 36 long-term bicycle parking spaces, which would reduce the amount of buildable space that may be dedicated to the townhomes, therefore reducing the proposed residential density. Toll Brothers therefore requests a waiver of this standard.

- **Fence, Wall, and Hedge Development Standard.** Section 9-40.100 of the L.H.M.C. requires perimeter walls to be set by an 18-inch by eight-foot long landscaped recession. This standard additionally requires pilasters along walls at

defined intervals. Compliance with this measure would require encroaching the wall setback into the buildable area, therefore reducing the number of townhomes and physically precluding development of the Project at the proposed density. Toll Brothers requests a waiver of this development standard, and instead proposes to construct a 20-foot high mechanically stabilized earth retaining wall along the street frontage, with no proposed recessions and a five-foot fence atop the stabilized earth retaining wall. This will preclude the installation of pilasters.

- **Wall and Fencing Visual Interests.** Section 5.3.1.3 requires perimeter walls to incorporate multiple textures, staggered setbacks, and variations in height. Perimeter walls must incorporate columns or pilasters with a maximum of 50 feet of unbroken wall length. The perimeter walls are already set back 29 feet from the right-of-way and offer visual interest by use of mechanically stabilized earth, fencing, and landscape buffering. Implementation of this standard, especially with varying setbacks, would encroach upon the unique Project site, resulting in a reduction in the overall density of the Project. Toll Brothers requests a modification of this standard to allow for the proposed perimeter wall feature.

- **Active Uses Floor to Floor Height.** Section 2.3.1.2 of the ODS requires the ground floor of residential units to have minimum floor-to-floor heights of 12 feet. Toll Brothers proposes reducing this height to nine-foot one-inch to better fit within the scale and massing of the townhomes and offset the replacement of market rate units with the affordable units.

- **Massing.** Section 3.1 of the ODS requires residential projects to implement physical strategies that use building modulation, roof forms, and projections as detailed in the design standards. However, these measures are physically impossible to implement in these two-unit duplex buildings. Each building face is comprised primarily of the two garages for each unit. Complying with these massing requirements is physically impossible with the garage faces. Compliance would otherwise require elimination of at least one garage, if not an entire unit in each two-unit building. Toll Brothers requests a waiver of this design standard because it physically precludes development of the Project and this standard would otherwise reduce the total number of proposed units if implemented. Please refer to the massing designs in the architectural plans for additional details.

- **Stepbacks.** Section 3.2.1 of the ODS requires floors above the lesser of two stories or 35 feet to provide a minimum 10-foot stepback from the minimum setback line across at least 30% of the building frontage. Because these units sit on narrow footprints, each unit's primary living spaces can only be located on the second and third floors. Compliance with this standard would reduce the overall

square footage of each unit, resulting in an elimination of third-floor bedrooms. Thus, implementation of this standard physically precludes development of the Project and Toll Brothers requests its waiver.

- **Window Alignment.** Section 3.5.1 of the ODS requires windows in opposing units facing each other within 40 feet to be offset by at least 20 feet. Because the proposed medium-density Project would be located on a physically constrained site, compliance with this standard is not feasible. Buildings with windows facing each other cannot be offset by 20 feet because the narrow footprint of each building limits the degree to which windows can be relocated. Otherwise, compliance with this standard may result in the elimination of windows or bedroom space entirely. Toll Brothers requests a waiver of this standard because compliance physically precludes development of the Project.

- **Entrance Types.** Section 3.9.1 of the ODS requires primary entrances for all residential buildings to face either a public sidewalk or pathway and that each entrance frontage adhere to one of several identified frontages. The ODS additionally requires porches to be eight feet wide and 18 inches above the sidewalk. The proposed density on the physically constrained site precludes implementation of this standard. The only feasible method of placing these duplex units is to design them such that the garage and primary entrance front the Project's private drives. Compliance with the width requirement would require elimination of an adjacent unit, reducing the Project's overall density and compliance with the density requirement would require modifications to Project grading that would additionally result in the elimination of units. Because these standards physically preclude development of the Project, Toll Brothers requests a modification of this standard to reduce porch width to four feet and to allow porches to be level to the adjacent sidewalk.

- **Parking & Access.** Section 3.9.3 of the ODS requires that the garage door of each unit to be located at least one foot behind each building's primary façade. The narrow footprint of each building limits the amount that each building's garage may be set back. Compliance with this measure would require additional square footage where the adjacent unit is otherwise proposed. Therefore, compliance with this measure would reduce the Project's overall density and Toll Brothers requests a waiver of this requirement.

- **Height.** Section 9-30.040 of the L.H.M.C. imposes a 35-foot height limit on residential development. Due to the unique nature of these dwelling units and the density of this Project, meeting other objective development standards and complying with the 35-foot height requirement would physically preclude

development of the Project by limiting the size of interior livable space, which could compromise the overall number of units. Therefore, compliance with this measure would reduce the Project's overall density and Toll Brothers requests a waiver of this requirement to allow for a 38-foot height limit.

- **End Units.** Section 3.4.2 of the ODS requires all end units to have at least 10% fenestration area and that those end units that face the street also have architectural projection that projects a minimum of 18 inches from the street facing façade. Implementing this standard would require placing windows in such a manner that affects interior layout, which reduces the interior living area. Applying this requirement across all end units could require eliminating units to make up for the impact to interior living area. Therefore, compliance with this measure would reduce the Project's overall density and Toll Brothers requests a waiver of this requirement to allow application of this standard only to units 1, 14, and 36.

- **Required Design Elements for Roofs.** Section 4.3.2 of the ODS provides standards for the design of roofs, requiring overhanging eaves (minimum 24 inches on elevations that face a public street) with exposed rafter tails or beams are required elements. Compliance with this design requirement, together with the required setbacks, will reduce the overall require square footage on the site by pushing the occupiable space further into the building site. This will reduce overall buildable space on the site, resulting in a reduction in the overall number of units on the project site. Because this standard physically precludes development of the Project at the proposed density, Toll Brothers requests a waiver of this standard. Instead, Toll Brothers will incorporate 12-inch overhangs with no exposed rafter tails or beams.

These waivers would not have a specific, adverse impact to public health and safety. We appreciate the City's consideration of Toll Brothers' request for waivers from the applicable development standards for the Project. With the requested waivers, Toll Brothers will be able to develop the 36 townhomes, including two units affordable for very low-income households consistent with the City of Laguna Hills Housing Element.

Design Standards Concession. The DBL allows, for projects providing at least 5% of base units as affordable for very low-income households, to request an incentive or concession that would result in identifiable and actual cost reductions to provide for the affordable housing costs or rents for the affordable units. (Gov. Code, § 65915(d)(1)(A), (d)(2)(A).) The DBL defines concession or incentive to include a modification or reduction in "architectural design requirements that exceed the minimum building standards approved by the California Building Standards Commission . . ." that would

result in identifiable and actual cost reductions that provide for affordable housing costs. (Gov. Code, § 65915(k)(1).)

Courts have construed the DBL to broadly apply, allowing incentives/concessions in almost any situation that results in cost reductions. (*Schreiber v. City of Los Angeles* (2021) 69, Cal.App.5th 549, 555.) A local agency can only deny an incentive/concession if it makes one of three findings: that the concession will not result in a cost reduction, the concession would have a specific health and safety impact, or the concession would be contrary to state or federal law. (*Id.* at pp. 555-56.) Thus, the burden is on a city to justify denial of an incentive/concession; approval of a concession is the default. (*Id.* at p. 556.)

To that end, Toll Brothers requests a concession for the following design standard (contained in the City's Objective Development Standards guidebook):

- **ODS section 4.3.3**, applicable to walls and windows, requires a casement or double-hung sash with flat or arched lintels and windows recessed 2 to 12 inches from outer wall are required elements. Additionally, development must incorporate one of: pedimented or framed windows, paired decorative wood shutters, stepped windows at internal staircases, or balconettes. Instead of complying with this requirement, Toll Brothers will incorporate single-hung windows framed and recessed by surrounding wood trim.

This concession related to the ODS' design provisions is necessary because adding these details to building designs will increase costs that would render the Project (and thus the affordable units) infeasible. Removing these requirements is necessary to maximize the building design to accommodate construction of affordable housing.

With respect to **ODS section 4.3.5**, applicable to decorative accents, the City confirmed that the Project will meet this standard by incorporating rafter extensions, balconies, wrought iron light fixtures, wood finish doors, recessed doorways, and wrought iron railing. The Project, therefore, meets this design requirement.

Additionally, in its consistency review letter, dated June 27, 2025, the City claimed that the Project must comply with ODS section 2.3.1 for active frontages. However, this requirement only applies to a building "facing a local or collector public street or publicly accessible pathway." This Project is a private gated community where no buildings face a public street. Accordingly, this standard does not apply to this Project. Nonetheless, some building frontages will include porches to activate building façades. To the extent that the City determines that this standard still applies to the Project despite no public street fronting the dwelling units, Toll Brothers requests a waiver of this requirement because including commercial space in these units will require eliminating space dedicated for housing. This would eliminate numerous residential

units, if not the entire development, physically precluding development of the Project. Therefore, a waiver of this standard is warranted.

Toll Brothers reserves the right to propose additional waivers of development standards or concessions in the future, should they come to Toll Brothers' attention. These waivers and concession are not only necessary to accommodate the two units affordable to very low-income households, but to also limit costs for the market-rate units. The market-rate units bring diversity to the City's housing stock by providing units that are ideal starter homes for young families.

We appreciate your consideration of our density bonus request and look forward to the expeditious processing of Toll Brothers' applications.

Sincerely,

BUCHALTER
A Professional Corporation

Alicia Guerra

AG:nj

Attachment

cc: Jason Certilman
Peter Kim
Aylene Chu
Salvador Avila

State Density Bonus Law
(Government Code Section 65915 *et seq.*)

The California State Density Bonus Law ("SDBL"), California Government Code Section 65915, encourages construction of affordable and senior housing units by allowing a developer to increase density in a residential or mixed-use housing project above the maximum allowable in a City's General Plan and utilize incentives, concessions, or waivers or reductions in development standards in exchange for providing a certain percentage of affordable units within its project. SDBL offers three categories of benefits:

1. A project may seek an increase in residential density;
2. A project may receive incentives or concessions (generally defined as a reduction of development standards, modifications of zoning code requirements, or approval of mixed-use zoning) to offset the costs of providing affordable housing on-site; and
3. The City must waive any local development standard that would preclude construction of the project with the additional density or the incentives or concessions. The amount of the density bonus and the number of incentives or concessions depends on the amount and level of affordability of the on-site affordable units.

What types of projects are qualified to use Density Bonus Law, and what is the allowable density bonus?

Residential projects with five or more units that meet at least one of the following types of development and affordability:

Residential Project Type	Percentage of Affordable (or Other) Units Proposed	Density Bonus Allowance
☐ Residential project with units for low-income households	Minimum 10% of the total base units	*See density bonus percentage table on page 4*
☐ Residential project with units for very low-income households	Minimum 5% of the total base units	*See density bonus percentage table on page 4*
☐ Residential project with units for sale to moderate-income households	Minimum 10% of the total base units	*See density bonus percentage table on page 4*
☐ Senior citizen housing development or age-restricted mobile home park[1]	100% of the units must be age-restricted; no affordability required	20% above the base density
☐ Residential project with housing for transitional foster youth, disabled veterans, or homeless persons	Minimum 10% of the total base units	20% above the base density
☐ Student housing development for low-income students[2]	Minimum 20% of the total base units	*See density bonus percentage table on page 4*

[1] "Senior Citizen Housing Development" means a residential project of at least 35 dwelling units developed, substantially rehabilitated, or substantially renovated for occupancy by senior citizens. (Cal. Civ. Code, § 51.3.) Mobile home parks for older persons may also qualify for a density bonus.

[2] All units in a "Student Housing Development" must be used for undergraduate, graduate, or professional students enrolled full-time at an accredited institution of higher education. "Student housing development" to mean a development that contains bedrooms containing 2 or more bedspaces that have a shared or private bathroom, access to a shared or private living room and laundry facilities, and access to a shared or private kitchen.

CONCESSIONS AND INCENTIVES, WAIVERS, AND PARKING

CONCESSIONS AND INCENTIVES

An applicant for a density bonus may request a "concession" or "incentive" of a development standard in order to facilitate the construction of the residential housing project, including the density bonus or "extra" units. A concession or incentive is a reduction in site development standards or modification of zoning code or objective design requirements that results in identifiable and actual cost reductions to provide for the on-site affordable housing, approval of mixed-use zoning in conjunction with the housing project if commercial, office, industrial, or other land uses will reduce the cost of the housing development and are compatible with the housing project and proposed development in the area, and/or other regulatory incentives or concessions that result in identifiable and actual cost reductions to provide for affordable housing costs.

A density bonus applicant of a qualified housing development is eligible to receive the following number of incentives or concessions, based on the overall percentage of provided affordable units and the provided affordable units' levels of affordability.

Number of Concessions or Incentives	Minimum % of Affordable Units Required		
	Very Low-Income	Lower-Income	Moderate-Income
1*	5%	10%	10%***
2**	10%	17%	20%***
3	15%	24%	30%***
4	16%	N/A	45%***
5	N/A	100%****	N/A

*Student housing developments with at least 20% of the total units for lower income students are eligible for one concession or incentive.
** Student housing developments with at least 23% of the total units for lower income students are eligible for two concessions or incentives.
***Applicable to for-sale developments only.
****Except up to 20% of units may be for moderate-income households.

WAIVERS

Applicants may also request waivers or reductions of development standards that will physically preclude the construction of a qualifying development at the densities or with the concessions or incentives permitted under the State Density Bonus Law. Unlike concessions and incentives, which are aimed at reducing the cost of constructing affordable housing, there is no limit to the number of waivers that can be requested and awarded to remove physical constraints that would physically preclude the construction of an approved project.

DENIAL OF AN INCENTIVE, CONCESSION OR WAIVER

The City can deny the requested incentive, concession, or waiver if it finds, based upon substantial evidence, that the request would either:

- Not result in an identifiable and actual cost reduction to providing affordable units (incentive/concession only);

- Have a specific, adverse, and unavoidable impact on public health and safety;
- Have an adverse impact on a property that is listed in the California Register of Historical Resources; or
- Be contrary to state or federal law.

PARKING REQUIREMENTS

Another way the State Density Bonus Law incentivizes the construction of affordable and senior citizen housing units by allowing the reduction of the minimum number of parking spaces required for Density Bonus projects.

Unit Type	Parking Requirement
Studio	1 space
1 bedroom	1 space
2 bedroom	1.5 spaces
3 bedroom	1.5 spaces
4 bedroom	2.5 spaces
Bedspace in Student Housing	0 spaces

Reductions in parking space requirements differ depending on whether a project is within ½ mile of a "Major Transit Stop" (as defined below) and has unobstructed access to such a Major Transit Stop.

Development Type	Parking Requirement
Rental/for sale projects with at least 11% very low income or 20% lower income units, within 1/2 mile of accessible major transit stop	0.5 spaces per unit
Rental projects 100% affordable to lower income, within 1/2 mile of accessible major transit stop	0 spaces per unit
Rental senior projects 100% affordable to lower income, either with paratransit service or within 1/2-half mile of accessible bus route (operating at least eight times per day)	0 spaces per unit
Rental special needs projects 100% affordable to lower income households, either with paratransit service or within 1/2-half mile of accessible bus route (operating at least eight times per day)	0 spaces per unit
Rental supportive housing developments 100% affordable to lower income households	0 spaces per unit

Under California law (Public Resources Code § 21155), a major transit stop is generally:

- An existing rail transit station.
- A ferry terminal served by bus or rail.
- The intersection of two or more major bus routes with service every 20 minutes or less during peak commute hours.

These can be existing, under construction, or in regional transportation plans.

LAND DONATION

Density Bonus Law offers a sliding scale bonus for land donations, enabling market-rate housing developers to outsource the development of affordable units to local agencies or experienced developers. Applications that propose a donation of land to the City may also be entitled to an increase in density, subject to certain requirements identified Govt. Code Section 65915. The land must satisfy all of the following requirements:

- Has the appropriate general plan designation and zoning to permit construction the number of units affordable to very low-income households in an amount not less than 10% of the units in the residential development;
- At least one acre in size or of sufficient size to permit development of at least 40 units; and
- Served by adequate public facilities and infrastructure.

If the proposed land donation meets the above requirements, applicants are eligible for an increase in density in addition to any density bonuses related to the inclusion of affordable units above, up to a combined maximum density of 35%. Additional density increases are dependent on the number of units reserved for very low-income households over the 10% minimum threshold, as shown in the table below:

Percent Very Low-Income	Density Bonus Percentage
10	15
11	16
12	17
13	18
14	19
15	20
16	21
17	22
18	23
19	20
20	25

Percent Very Low-Income	Density Bonus Percentage
21	26
22	27
23	28
24	29
25	30
26	31
27	32
28	33
29	34
30	35

DENSITY BONUS ALLOWANCES

The following chart shows the eligible amount of the density bonus based upon the percentage of affordable units at each income level for a project.[3]

[3] Developments may also be eligible for additional density bonuses above the amounts shown in the table under specified circumstances if they include childcare facilities or additional very low or moderate-income units.

Density Bonus Percentages[1]							
Percentage of Affordable Units[2]	Very Low-Income	Low-Income	Moderate-Income[3]	Land Donation	Senior[4]	Foster Youth/disabled vets/homeless	Low-Income College Students
5%	20%	-	-	-	20%	-	-
6%	22.5%	-	-	-	20%	-	-
7%	25%	-	-	-	20%	-	-
8%	27.5%	-	-	-	20%	-	-
9%	30%	-	-	-	20%	-	-
10%	32.5%	20%	5%	15%	20%	20%	-
11%	35%	21.5%	6%	16%	20%	20%	-
12%	38.75%	23%	7%	17%	20%	20%	-
13%	42.5%	24.5%	8%	18%	20%	20%	-
14%	46.25%	26%	9%	19%	20%	20%	-
15%	50%	27.5%	10%	20%	20%	20%	-
16%	50%	29%	11%	21%	20%	20%	-
17%	50%	30.5%	12%	22%	20%	20%	-
18%	50%	32%	13%	23%	20%	20%	-
19%	50%	33.5%	14%	24%	20%	20%	-
20%	50%	35%	15%	25%	20%	20%	35%
21%	50%	38.75%	16%	26%	20%	20%	38.75%
22%	50%	42.5%	17%	27%	20%	20%	42.5%
23%	50%	46.25%	18%	28%	20%	20%	46.25%
24%	50%	50%	19%	29%	20%	20%	50%
25%	50%	50%	20%	30%	20%	20%	50%
26%	50%	50%	21%	31%	20%	20%	50%
27%	50%	50%	22%	32%	20%	20%	50%
28%	50%	50%	23%	33%	20%	20%	50%
29%	50%	50%	24%	34%	20%	20%	50%
30%	50%	50%	25%	35%	20%	20%	50%
31%	50%	50%	26%	35%	20%	20%	50%
32%	50%	50%	27%	35%	20%	20%	50%
33%	50%	50%	28%	35%	20%	20%	50%
34%	50%	50%	29%	35%	20%	20%	50%
35%	50%	50%	30%	35%	20%	20%	50%
36%	50%	50%	31%	35%	20%	20%	50%
37%	50%	50%	32%	35%	20%	20%	50%
38%	50%	50%	33%	35%	20%	20%	50%
39%	50%	50%	34%	35%	20%	20%	50%

40%	50%	50%	35%	35%	20%	20%	50%
41%	50%	50%	38.75%	35%	20%	20%	50%
42%	50%	50%	42.5%	35%	20%	20%	50%
43%	50%	50%	46.25%	35%	20%	20%	50%
44%	50%	50%	50%	35%	20%	20%	50%

[1] All density bonus calculations resulting in fractions are rounded up to the next whole number.
[2] Affordable unit percentage is calculated excluding units added by a density bonus.
[3] Moderate income density bonus applies to for sale units, not to rental units.
[4] No affordable units are required for senior units.

CITY OF LAGUNA HILLS

CLASS 32 CATEGORICAL EXEMPTION
INFILL DEVELOPMENT PROJECT

CASE NO.: Site Development No. USE-0211-2025, Vesting Tentative Tract Map No. 19346

PROJECT APPLICANT:	Toll Brothers Aylene Chu, P.E. 350 Commerce, Suite 200 Irvine, CA 92602
PROJECT ADDRESS:	23161 Mill Creek Drive Laguna Hills, CA 92653
APN(s):	588-142-07
GENERAL PLAN DESIGNATION:	Mixed Use
ZONING:	MXU – Mixed Use

INTRODUCTION:

Article 19 of the California Environmental Quality Act (CEQA Guidelines Section 15300 to Section 15333) includes a list of classes of projects that have been determined to not have a significant effect on the environment and as a result, are exempt from review under CEQA. These are referred to as "categorical exemptions." The categorical exemptions include an urban infill exemption designed to streamline development in already-developed urban areas. This report is intended to determine if the Proposed Project is categorically exempt from the provisions of CEQA per State CEQA Guidelines 15332 (Class 32 – In-fill Development Projects).

This evaluation was prepared to determine whether the Proposed Project qualifies for the class 32 in-fill development exemption. This evaluation is supported by the attached technical appendices.

SURROUNDING LAND USES AND SETTING:

The Proposed Project will be constructed on the 2.43-acre parcel at 23161 Mill Creek Drive (APN 588-142-07) in the City of Laguna Hills, Orange County, California (Project Site). The Project Site is located on the west side of Mill Creek Drive, approximately 0.27-mile south of the Lake Forest Drive, Mill Creek Drive, and Scientific intersection (see **Figure 1** – Regional Vicinity). The Project Site is currently developed with an approximately 13,308 square feet (sq. ft.) three-story office building, surface parking lot, AT&T battery structure, and associated landscaping and pavement. The existing office building includes a concrete wall and landscaping surrounding the northern, eastern, and western wall elevations as well as overhangs along the southern building elevation. There is also a trash enclosure located east of the office building. The current Project Site includes 180 standard parking spaces and six accessible parking spaces. The Project Site currently contains one access driveway via Mill Creek Drive on the southeastern portion of the Project Site. The Project Site is surrounded by office buildings and associated surface parking lots to the north and south, Mill Creek Drive to the east, and landscaping and multi-family residential to the west (see **Figure 2** – Site Location – Aerial View). The Project Site has a General Plan land use designation of Mixed Use and a zoning district of Mixed Use (MXU) (see **Figure 3** – General Plan Land Use Designation and **Figure 4** – Zoning District). Surrounding properties to the north and south have a General Plan land use designation of Mixed Use and a zoning district of MXU. Properties to the east have a General Plan land use designation of Open Space and a zoning district of Open Space 2 – Drainage Facilities (OS-2). Properties to the west have General Plan land use designations of Medium-Low Density Residential or Open Space (Park) and zoning districts of Medium-Low Density Residential or Open Space 1 – Parks.

The Project Site is located within the United States Geological Survey (USGS) 2022 *Lake Forest, California* 7.5-minute, 24000 topographic quadrangle. The Project Site generally slopes downward towards the northeast at an approximate elevation of 334 feet above mean sea level. The Project Site is located within FEMA Flood Plain Panel 06059C0313J and is designated within Zone X, which is described as an area of minimal flood hazard (see **Figure 5** – FEMA Flood Map). The Project Site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) for both the Local Responsibility Areas (LRAs) and State Responsibility Areas (SRAs). However, the

western portion of the Project Site is located with a Moderate Fire Hazard Zone (see **Figure 6** – CAL FIRE Fire Hazard Severity Zones Map).

PROJECT DESCRIPTION:

The Proposed Project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family-attached condominium residential units, parking, on-site roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac) (see **Figure 7** – Site Plan). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income. The Proposed Project would be constructed on the 2.43-acre parcel located at 23161 Mill Creek Drive.

Architecture

The 36 residential units will feature two plan types – Plan 1 and Plan 2. Each plan type will feature four bedrooms and four bathrooms. 18 units will consist of Plan 1, which has a total unit area of 1,991 square feet, while the remaining 18 units will consist of Plan 2, which will have a total unit area of 2,033 square feet (see **Figure 8** – Duet Floor Plans). The Proposed Project has a density of 14.8 du/ac, 64 percent maximum lot coverage, 300 feet minimum lot width, and 360 feet minimum lot depth. The Proposed Project will also build to a minimum setback of 20 feet to the front, five feet to the side (interior), 20 feet to the side street, and 7.5 feet to the rear. The Proposed Project also includes 14,500 sq. ft. of private open space in the form of balconies and private yards.

Landscaping

The Proposed Project includes a landscape coverage of 20 percent and a minimum building separation of 6.5 feet. Landscaping will be distributed throughout the Project Site in the form of large accent trees, medium accent trees, perimeter screening trees, small accent trees, shrub and groundcover, and vines and espaliers (see **Figure 9** – Conceptual Landscape Plan).

Walls/Fences

The Proposed Project is designed to include a concrete masonry block wall with cap or a mechanically stabilized earth wall surrounding the Project Site, a 3-feet and 6-inch high steel cable guard rail along the western and southern Project Site boundaries, a 6-feet high split face block wall with precision cap in between each unit, and a 6-feet high tubular steel view fence along the northern and eastern Project Site boundaries. The entrance will include a 7-feet high cultured stone veneer entry wall with cap (see **Figure 10** – Conceptual Wall and Fence Plan and

Figure 11 - Elevations).

Utilities

The Proposed Project includes a series of area drains and catch basins to collect street flow. The southern half of the Project Site drains out to Mill Creek Drive through a proposed parkway culvert near the proposed driveway. The north half of the Project Site drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the Project Site (see **Figure 12** – Conceptual Grading and Drainage Plan).

The El Toro Water District (ETWD) provided a will-serve letter for the Proposed Project stating that ETWD is willing to provide domestic water and sanitary sewer services to the Project Site. The Proposed Project includes installation of four new fire hydrants distributed throughout the Project Site. The fire hydrants would be accompanied by painted red curb with "Fire Lane – No Parking" stenciling and fire lane signs for emergency access and use.

The Proposed Project also received letters from AT&T and Charter Communications stating that there are no utility conflicts with the Project Site and that the Project Site is within the companies' service area. Additionally, Cox Communications provided a letter stating that Cox Communications has facilities to provide broadband cable and other telecommunication services to the Project Site. SoCal Edison (SCE) provided a letter stating that the Project Site is within SCE service territory and that SCE will serve the Proposed Project's electricity. The Proposed Project would be served by 100 percent electricity and would not utilize natural gas. CR&R provided a will-serve letter for solid waste and recycling services to the Proposed Project (**Appendix A** – Will Serve Letters).

Parking/Site Access

The Proposed Project is designed to provide 90 parking spaces in the forms of attached garages and uncovered parking stalls. Access to the Project Site is proposed via one full-access gated driveway along Mill Creek Drive. The existing driveway at the Project Site will be modified to include a gate entry with call box, a monument signage wall, separate entrance and exit points, and fire lane entrance signs. The driveway will be a minimum of 40 feet wide and features a gated entry and exit (see **Figure 13** – Parking and Access Plan).

Requested Entitlements

The Proposed Project is subject to the approval of the following entitlements:

- Approval of Tentative Tract Map 19346
- Approval of Site Development Permit No. USE-0211-2025

Construction Activities

Construction activities would include the following:

Demolition: Demolition will require the use of one concrete/industrial saw, three excavators, and two rubber tired dozers. The total days for demolition are estimated to be 40 construction days, working 8 hours a day.

Site Preparation: Site preparation will require the use of one grader and one scraper working eight hours a day and two tractors/loaders/backhoes working seven hours a day. The total time estimated for site preparation is 10 days.

Grading: Grading the project site will require the use of one excavator, one grader, one rubber tired dozer, and four tractors, loaders, or backhoes. Total estimated time for grading the site is 110 construction days, working 8 hours a day.

Building Construction: Building construction will require the use of two forklifts, one generator set, three tractors, loaders, or backhoes, and one welder. The crane and tractors, loaders, and backhoes will be operated for 7 hours a day, while the forklifts, generator set, and welder will be operated for 8 hours a day. Building construction of the 36 units is the longest part of the construction process, estimated at a time frame of 380 construction days.

Paving: The paving process will require the use of two cement and mortar mixers, one paver, two paving equipment, two vibratory rollers, and one tractor, loader, or backhoe. Cement and mortar mixers, paving equipment, and rollers will be used for 6 hours a day. The paver and tractor, loader, or backhoe will be used for 8 hours a day. The total days for paving are estimated to be 40 construction days.

Architectural Coating: The architectural coating will require one air compressor for 6 hours a day for 43 construction days.

Standard Regulatory Requirements
The Applicant is also required to follow all existing regulations during construction. These include but are not limited to the following:

South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust Control). Rule 403 requires the implementation of best available dust control measures during active operations capable of generating fugitive dust. The Project will follow the SCAQMD rules and requirements for fugitive dust control, which include, but are not limited to the following:

- Pre-water active grading or trenching areas.
- Water all active construction areas as frequently as needed (at least twice daily) to prevent visible dust plumes from extending more than 100 feet.
- Maintain a stabilized surface or apply dust suppressants to inactive areas, disturbed surfaces, staging areas, haul routes, and unpaved roads.
- Limit on-site vehicle speeds to 15 miles per hour (mph) on unpaved areas.
- Maintain all haul trucks with covered loads and > 6 inches of freeboard (CVC §23114).
- Stabilize stockpiles with water or covers and restrict height if near occupied structures.
- Use a gravel pad at egress points (minimum 30' x 50', 1" washed gravel, 6" depth), alternatively a wheel shaker or wheel washing station.
- Remove track-out extending ≥ 25 feet onto public roadways immediately and clean daily.
- Suspend dust-generating activities and implement contingency measures during high wind events (gusts > 25 mph).
- Re-vegetate or stabilize disturbed areas within 21 days of inactivity.
- Limit construction vehicle traffic to designated haul routes only.

SCAQMD Rule 1113 and 1143. Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of project must comply with Rule 1113. Rule 1143 governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule. The Project will utilize low-VOC or zero-VOC paints, coatings, and solvents consistent with the requirements of SCAQMD Rules 1113 and 1143.

California Air Resources Board, California Code of Regulations (CCR) Title 13 Section 2480 and 2485. 13 CCR 2480 & 2485 limit diesel engine idling for commercial vehicles, especially near schools, to reduce toxic diesel exhaust, setting a five-minute maximum idling limit in most locations, with specific rules for school buses (2480) and broader commercial vehicles (2485). All construction vehicles will be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

California Energy Code, CCR Title 24, Part 6 and California Green Building Code (CALGreen) CCR Title 24, Part 11. The California Green Building Standards Code—Part 11, Title 24, California Code of Regulations—known as CALGreen, is the first-in-the-nation mandatory green building standards code. In 2007, CBSC developed green building standards in an effort to meet the goals of California's landmark initiative Assembly Bill (AB) 32, which established a comprehensive program of cost-effective reductions of greenhouse gases (GHG) to 1990 levels. The Proposed Project would comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:

- Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
- Provide the necessary infrastructure to support electric vehicle charging.
- Provide solar installations/solar readiness zones per the prescribed Energy Design Ratings.

California Building Code, CCR Title 24, Part 2, Volume 1, Section 1206. CCR Title 24 establishes acoustic regulations for both exterior-to-interior sound insultation and sound impact isolation. Title 24 regulations state that interior noise levels shall not exceed 45 dBA CNEL, with windows closed, in any habitable room for general residential uses. The Proposed Project would incorporate building construction techniques and insulation that is consistent with Title 24 Building Standards to achieve the minimum interior noise standard of 45 dBA CNEL for all residential units. Incorporated building construction techniques from Title 24 that are required to meet the 45 dBA CNEL include the windows closed condition for all residential units facing adjacent roadways and all exterior windows, doors, and sliding glass doors will have a positive seal and leaks/cracks must be kept to a minimum. Attic vents and openings are required to be oriented away from the adjacent roadway.

California Department of Resources Recycling and Recovery (CalRecycle) Senate Bill (SB) 1383. SB 1383 is a landfill waste reduction mandate that aims to reduce

organics waste landfill disposal by 75 percent by 2025. All residences and businesses are required to separate and recycle organic materials by participating in local waste management recycling and composting programs.

California Department of Industrial Relations and California Division of Occupational Safety and Health (Cal/OSHA), CCR Title 8. Construction employers must comply with Cal/OSHA regulations found in CCR Title 8, which requires construction equipment to be maintained in proper tune.

2020 US Code Title 16, Sections 703-712 (Migratory Bird Treaty Act (MBTA) Compliance). The MBTA of 1918 (16 U.S.C. 703-712) protects individuals as well as any part, nest, or eggs of any bird listed as migratory. In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions which require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., busy roads, intervening topography, etc.) and is based on the professional judgement of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

State of California Fish and Wildlife Code Section 3500. Section 3503.5 of the California Fish and Wildlife Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Wildlife Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Wildlife Code, Section 3515 states that it is unlawful to take any non-game migratory bird protected under the MBTA.

California Migratory Bird Protection Act (MBPA). The MBPA was enacted in September 2019 to reinforce the MBTA at the state level. The MBTA states that "it is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.), or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act."

City of Laguna Hills Municipal Code Chapter 5-24 Noise Control. The Proposed Project shall comply with the City of Laguna Hills Municipal Code requirements. No construction will occur between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 8:00 a.m. on Saturday, or at any time on Sunday or a federal holiday. Furthermore, all outdoor HVAC/condenser equipment shall be shielded from the line of sight of the adjacent sensitive receptors behind noise barrier walls or enclosures.

City of Laguna Hills Tree Preservation Ordinance (Policy No. 315). The City of Laguna Hills has established the "Laguna Hills Municipal Code Tree Preservation Policy," which was last revised in May 2014. Under this ordinance, no person, other than the City, is authorized to trim, damage, or remove public (City-owned) trees without an appropriate permit. Upon request, and for the criteria described below, public trees will be inspected and authorized for removal:

- The tree is deemed hazardous, diseased, and/or declining.
- The tree is damaging the sidewalk, curb, or gutter, and is not receptive to preventative root pruning.
- The tree and/or its roots are a threat to private property.
- Trees in conflict with overhead utility lines.

A resident requesting removal of a street tree, that has been justified for removal by the City, will be requested to donate and plant another tree in its place. The size, species type, and location will be specified by the Director of Public Services or their designee. If the resident will not replace the tree, the City will do so provided the tree is determined by the Director of Public Services to enhance the tree preservation goals. A list of replacement tree species is detailed in the ordinance. Any person identified as having removed or trimmed a tree, so as to cause damage to the tree, will be responsible for the full cost of replacement of the tree.

California Administrative Code, Title 14, Section 4308 (14 CCR § 4308) (Accommodation for Unanticipated Cultural/Paleontological Resources). In compliance with the California Code of Regulations, during ground disturbance or any other construction activity, no person shall remove, injure, deface, or destroy any object of archaeological, or historical interest or value.

California Health and Safety Code, and Public Resources Code (Human Remains). In the event that human remains are discovered, there shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. These code provisions require notification

of the County Coroner and the Native American Heritage Commission, who in turn must notify those persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains. Excavation or disturbance may continue in other areas of the Project site that are not reasonably suspected to overlie adjacent remains or archaeological resources.

National Pollution Discharge Elimination System (NPDES). Because the site is greater than one acre, the applicant is required by the Santa Ana Regional Water Quality Control Board to prepare a Stormwater Pollution Prevention Plan (SWPPP) to address water quality and runoff during construction to comply with the State of California General Construction Permit. The SWPPP will outline the source control and/or treatment control Best Management Practices (BMPs) to avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable." All recommendations in the Plan shall be implemented during area grading and construction. The Project shall comply with each of the recommendations detailed in the Plan, and other such measure(s) as the City deems necessary to mitigate potential stormwater runoff impacts.

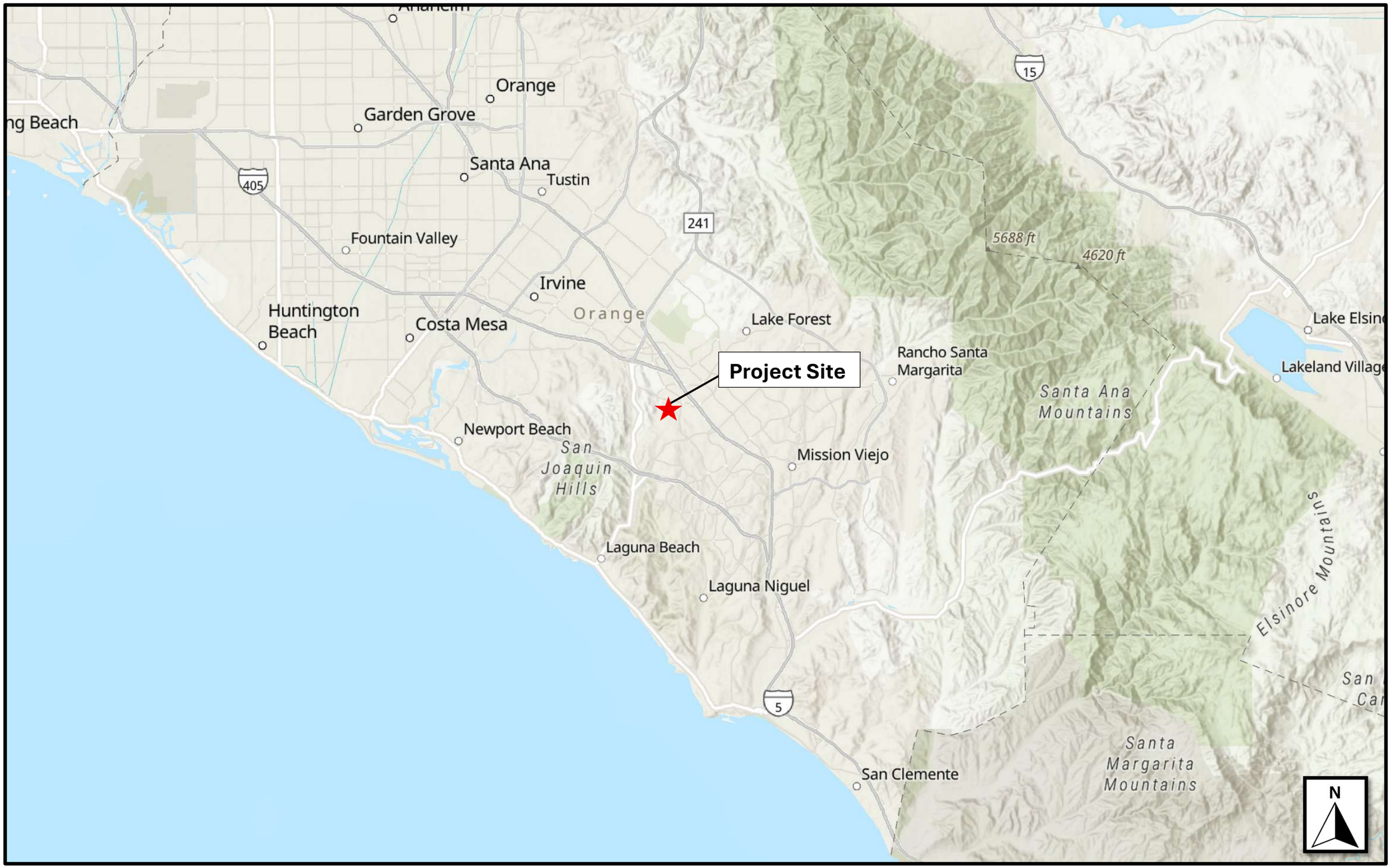


Figure 1: Regional Vicinity

Source: Orange County Public Works – Land Records GIS Map

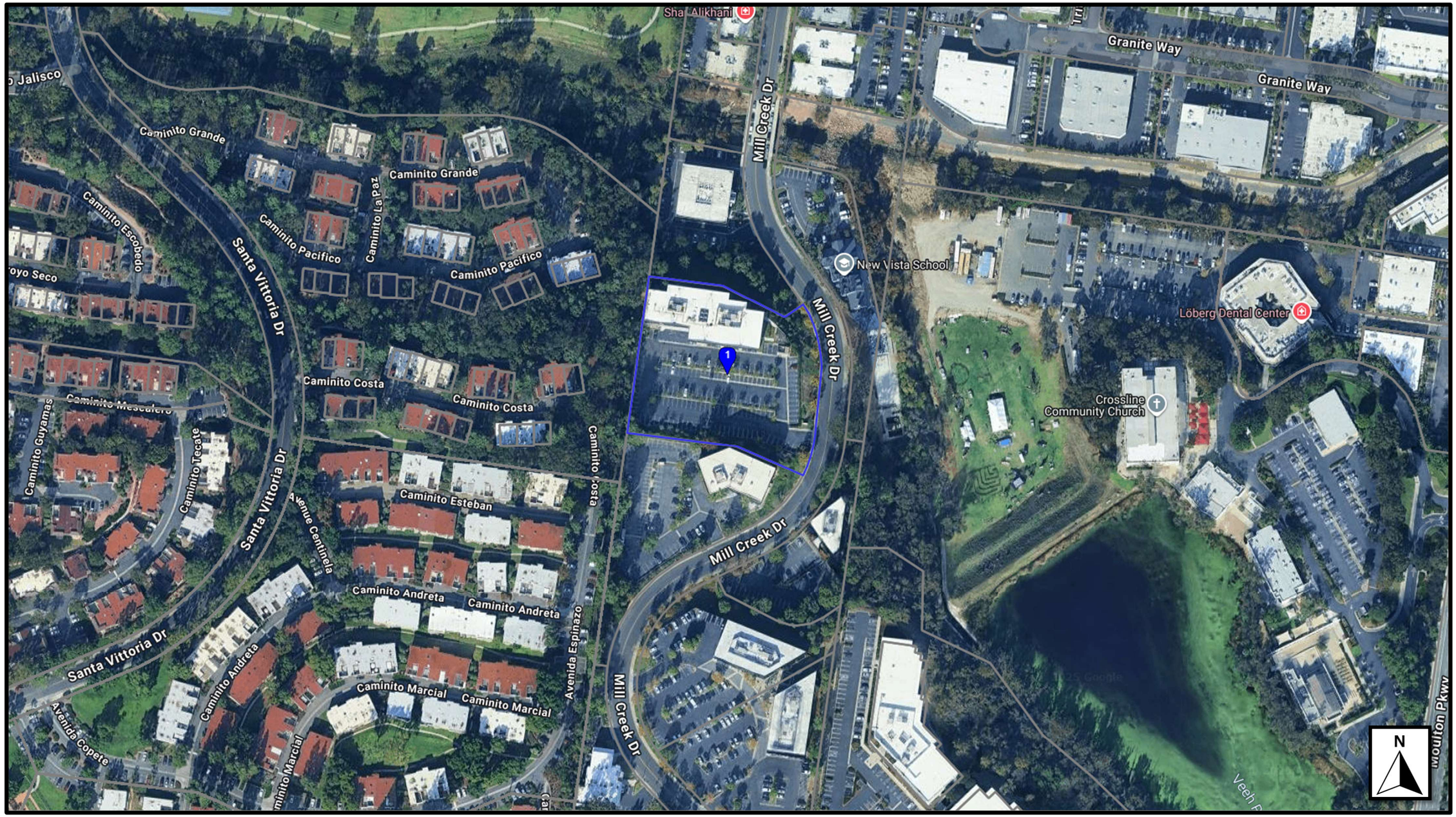


Figure 2: Site Location – Aerial View
Source: Orange County Public Works – Land Records GIS Map

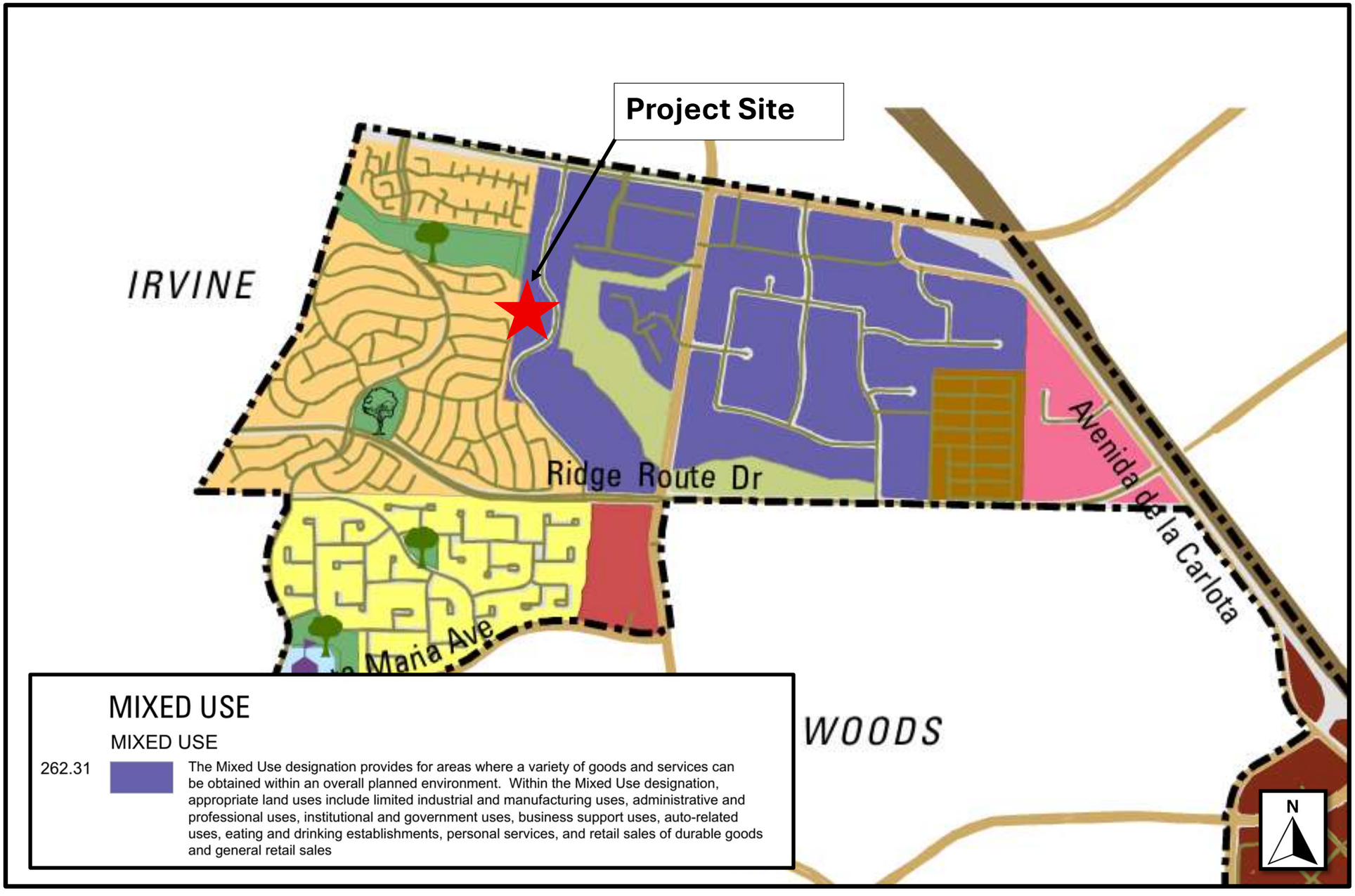


Figure 3: General Plan Land Use Designation
Source: City of Laguna Hills General Plan Land Use Map

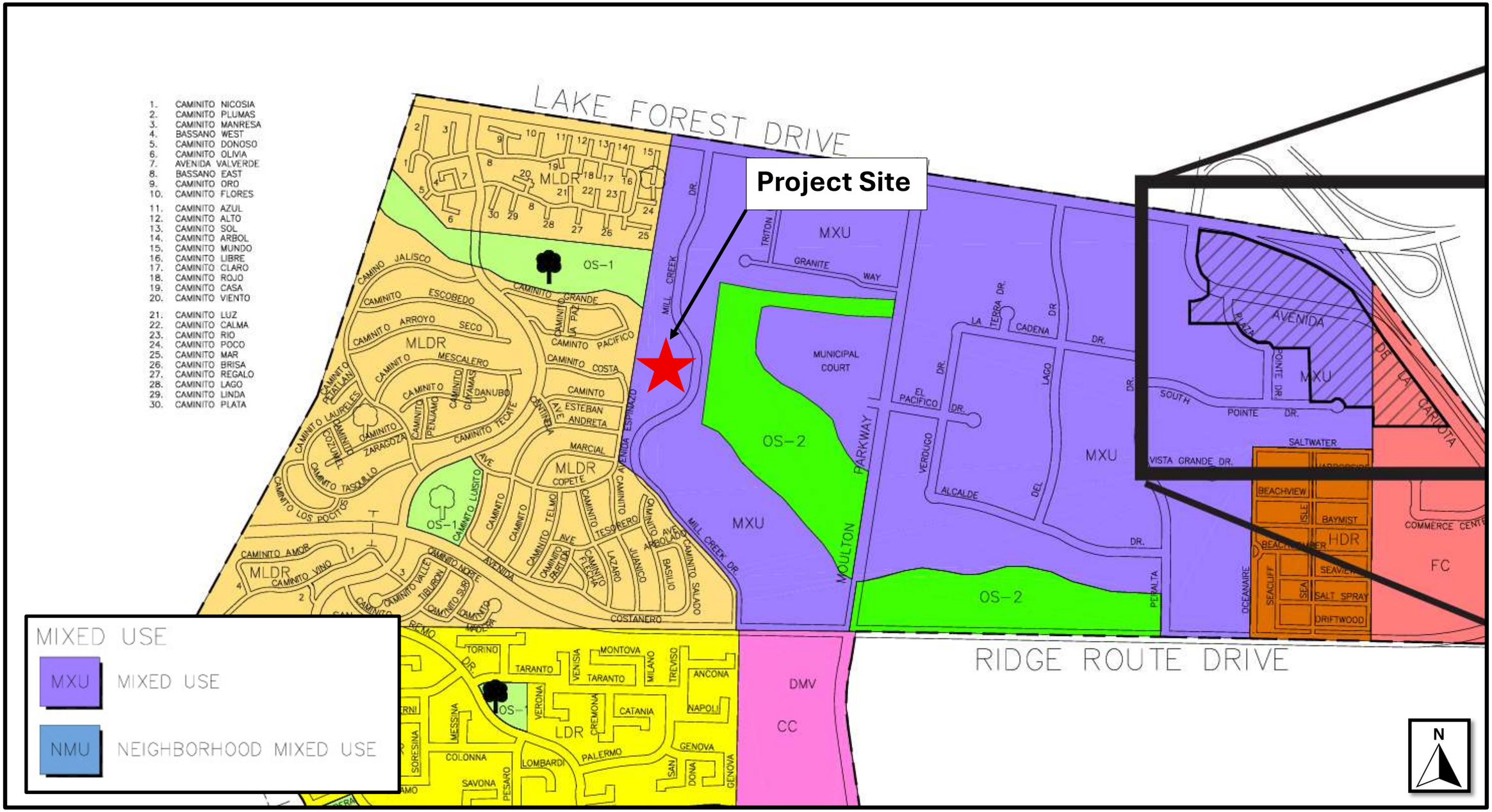


Figure 4: Zoning District
Source: City of Laguna Hills Zoning Districts Map

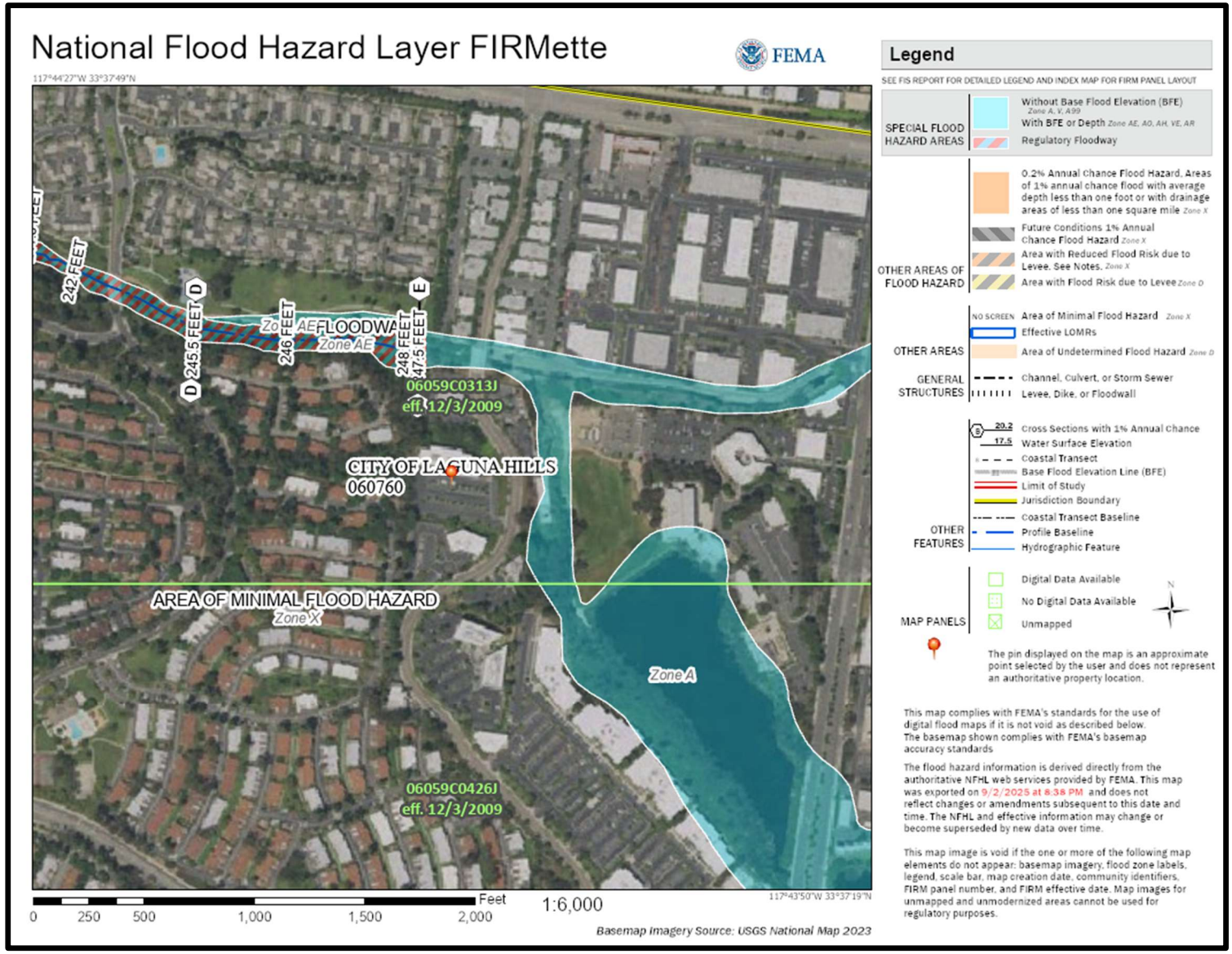


Figure 5: FEMA Flood Plan Map

Source: FEMA Flood Map Service Center

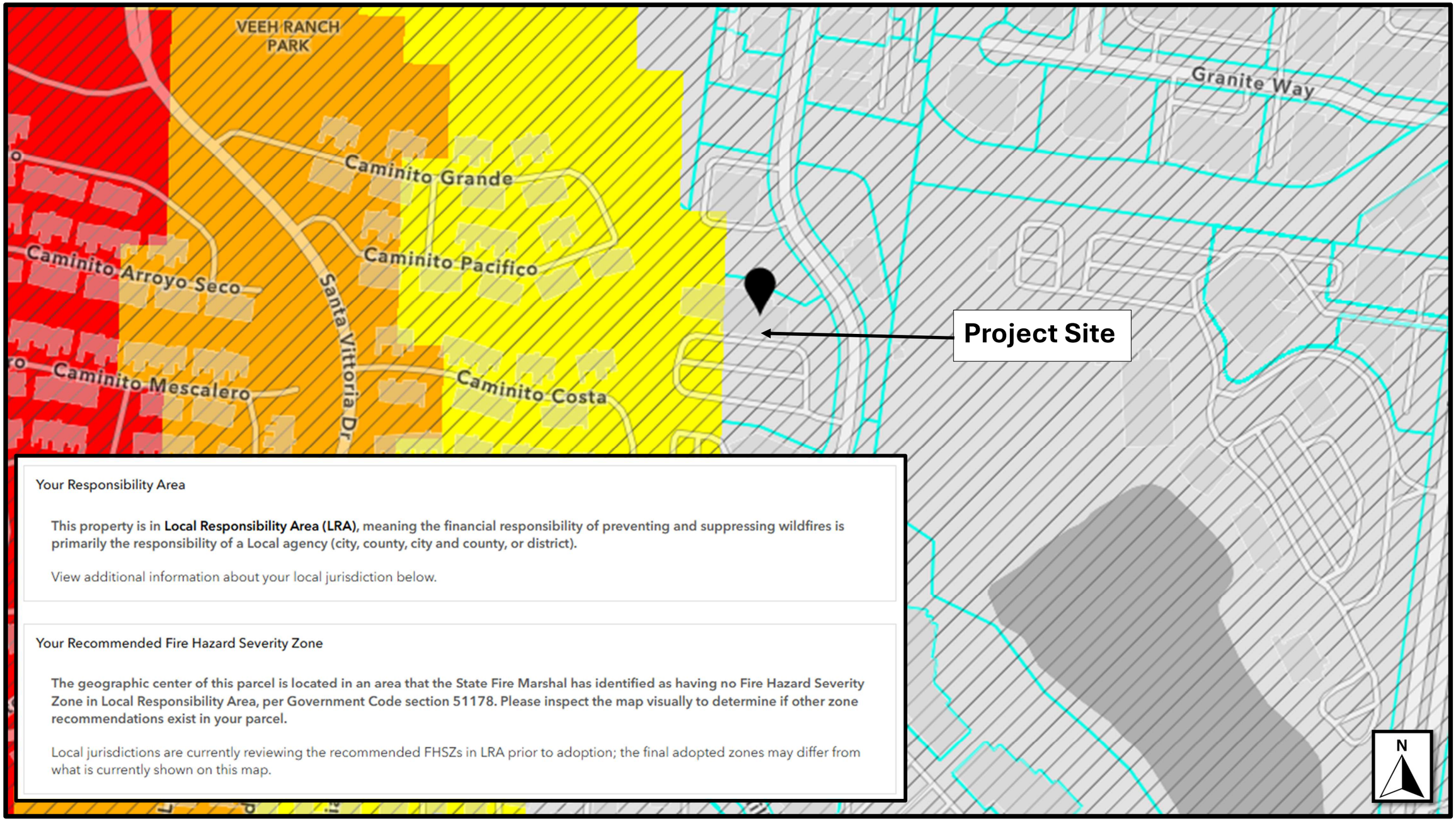


Figure 6: CAL FIRE Fire Hazard Severity Zones Map
Source: CAL FIRE LRA and SRA Map Viewer

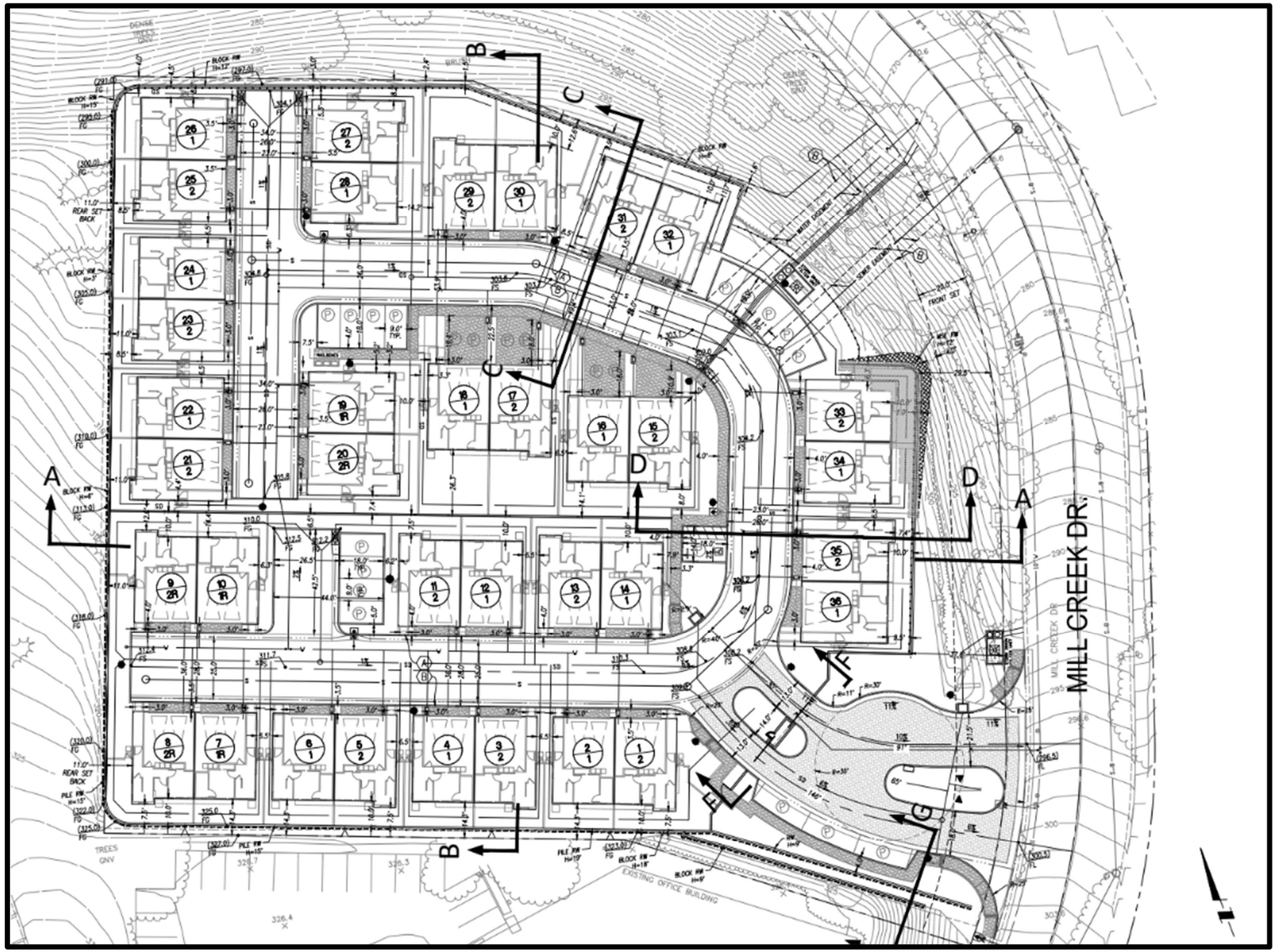
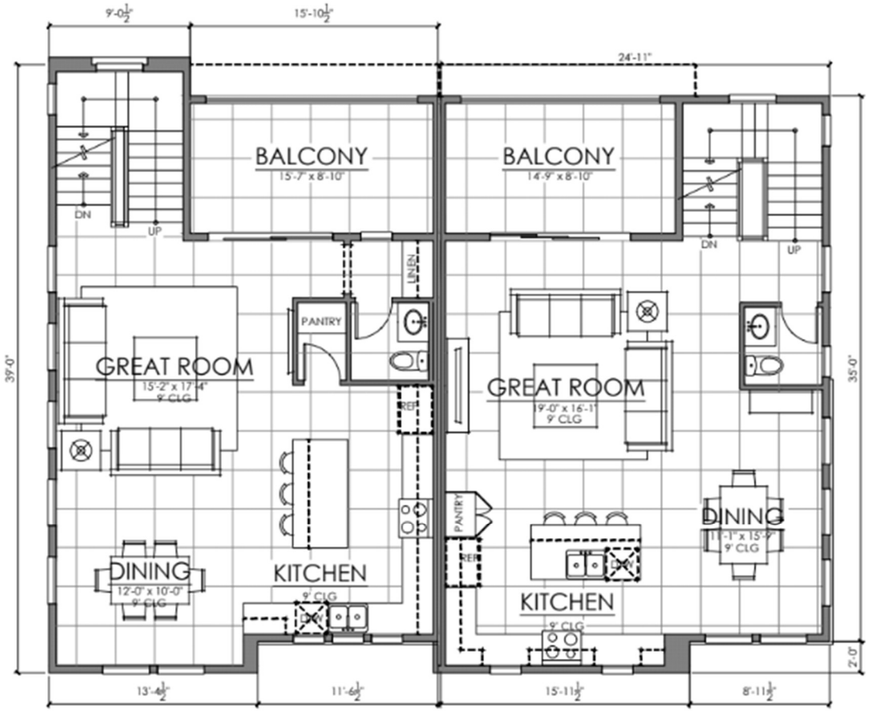
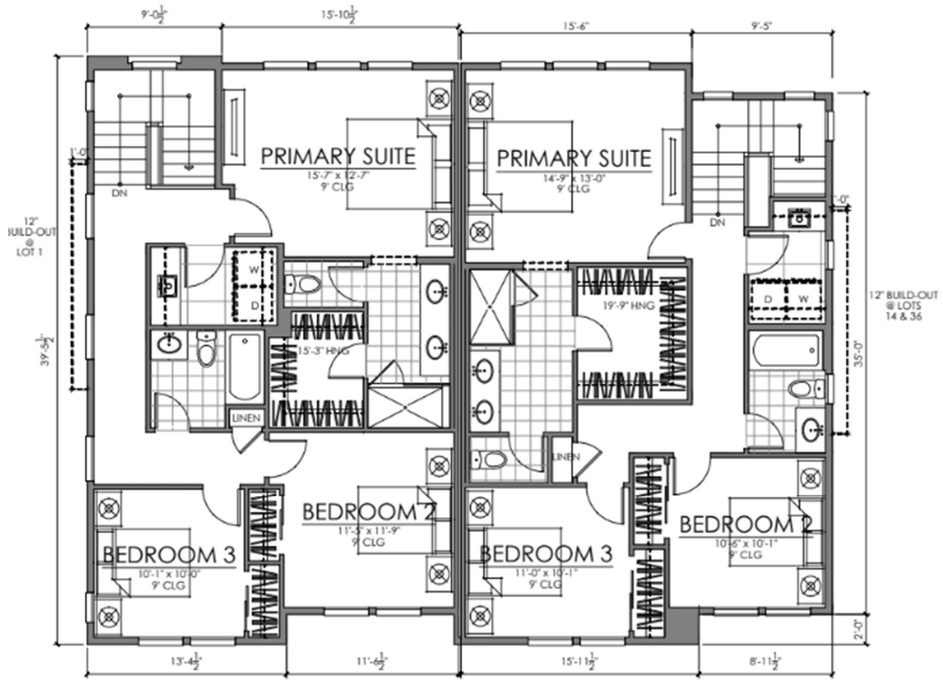


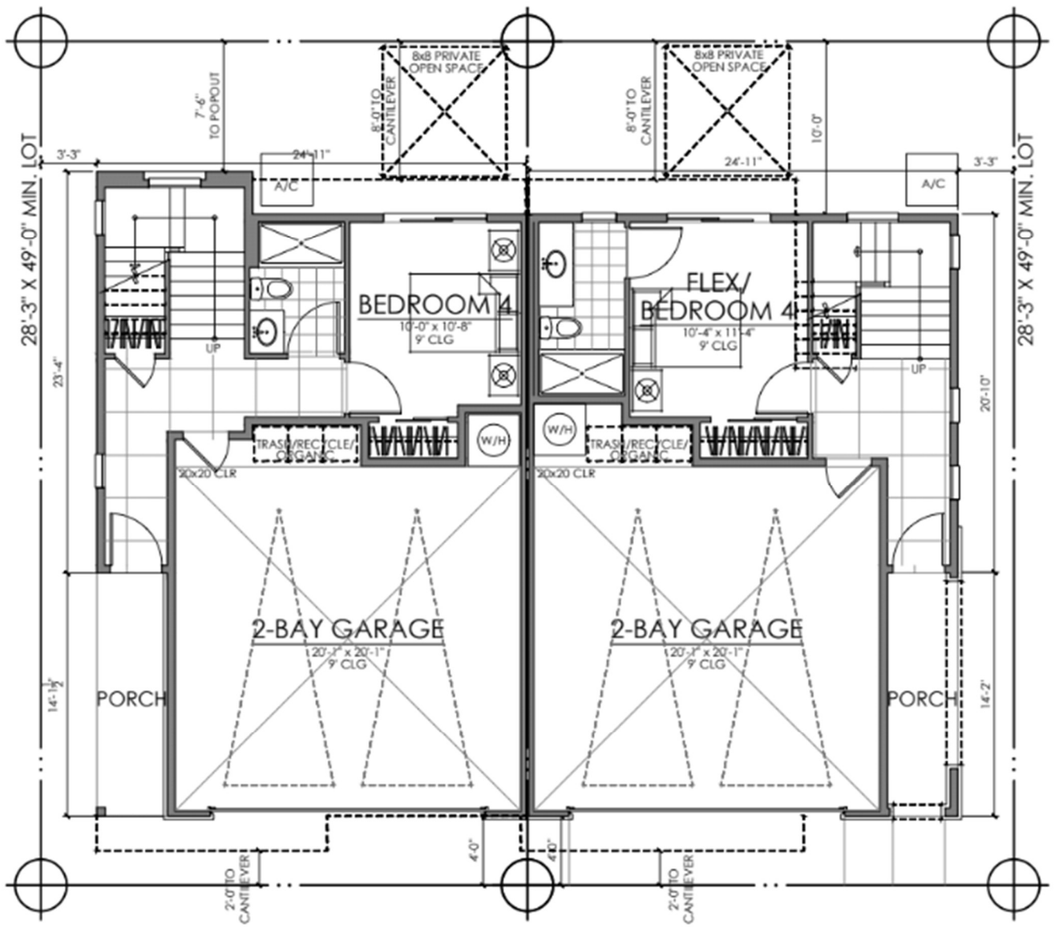
Figure 7: Site Plan
Source: Wilson Mikami Corporation



PLAN TWO PLAN ONE



PLAN TWO PLAN ONE



PLAN TWO PLAN ONE

PLAN TWO	
LOWER LEVEL	378 SQ. FT.
MAIN LEVEL	776 SQ. FT.
UPPER LEVEL	879 SQ. FT.
TOTAL LIVING	**2033 SQ. FT.**
GARAGE	450 SQ.FT.

PLAN ONE	
LOWER LEVEL	363 SQ. FT.
MAIN LEVEL	770 SQ. FT.
UPPER LEVEL	858 SQ. FT.
TOTAL LIVING	**1991 SQ. FT.**
GARAGE	446 SQ.FT.

DUETS

Figure 8: Duet Floor Plans
Source: Wilson Mikami Corporation

TREES:

LARGE CANOPY TREES (48" BOX MIN.) QTY: 7

SYMBOL	SCIENTIFIC NAME	COMMON NAME
	Cercidium 'Desert Museum'	Desert Museum Palo Verde
	Pistacia chinensis	Chinese Pistache
	Platanus racemosa	Western Sycamore
	Podocarpus gracilior	African Fern Pine
	Quercus virginiana	Southern Live Oak
	Ulmus parvifolia	True Green Chinese Elm

MEDIUM ACCENT TREE (36" BOX MIN.) QTY: 19

SYMBOL	SCIENTIFIC NAME	COMMON NAME
	Cercis canadensis	Eastern Redbud
	Lagerstroemia ssp.	Crape Myrtle
	Olea europaea 'Swan Hill'	Olive
	Platanus acerfolia	London Plane Tree
	Searsia lancea	African Sumac

PERIMETER SCREENING TREE (24" BOX MIN.) QTY 5

SYMBOL	SCIENTIFIC NAME	COMMON NAME
	Arbutus 'Marina'	Marina Strawberry Tree
	Laurus nobilis	Sweet Bay
	Tristania confereta	Brisbane Box

SMALL ACCENT TREE (24" BOX MIN.) QTY 14

SYMBOL	SCIENTIFIC NAME	COMMON NAME
	Cercis occidentalis	Western Redbud
	Feijoa sellowiana	Pineapple Guava
	Podocarpus elongatus 'Monmal'	Icee Blue Podocarpus
	Podocarpus macrophyllus	Fern Podocarpus
	Prunus caroliniana 'Bright and Tight'	Carolina Cherry Laurel

SHRUBS/VINES:

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE
	Agave spp.	Agave	5 gal.
	Aloe spp.	Aloe	5 gal.
	Buxus japonica 'Green Beauty'	Japanese Boxwood	5 gal.
	Callistemon spp.	Bottle Brush	5 gal.
	Cistus 'Sunset'	Magenta Rockrose	5 gal.
	Dasyliron spp.	Desert Spoon	5 gal.
	Dianella ssp.	Flax Lily	5 gal.
	Dietes bicolor	Fortnight Lily	5 gal.
	Festuca mairei	Atlas Fescue	5 gal.
	Hesperaloe spp.	Yucca	5 gal.
	Heteromeles arbutifolia	Toyon	15 gal.
	Juncus patens	California Gray Rush	5 gal.
	Lavandula ssp.	Lavender	5 gal.
	Leymus condensatus 'Canyon Prince'	Canyon Prince Wild Rye	5 gal.
	Ligustrum japonicum 'Texanum'	Waxleaf Privet	5 gal.
	Lomandra spp.	Dwarf Mat Rush	5 gal.
	Olea europaea 'Montra'	Little Ollie Dwarf Olive	5 gal.
	Pittosporum tobira variegata	Vairegated Mock Orange	5 gal.
	Rhaphiolepis spp.	Indian Hawthorn	5 gal.
	Salvia 'Bees Bliss'	Bee's Bliss Sage	5 gal.
	Westringia spp.	Coast Rosemary	5 gal.
	Bougainvillea spp. [V/E]	Bougainvillea	15 gal.
	Calliandra haematocephala [V/E]	Pink Powderpuff	15 gal.
	Trachelospermum jasmnoides [V/E]	Star Jasmine	15 gal.
	Rosa banksiae [V/E]	Lady Banks Rose	15 gal.

QUANTITIES:
1 gal: 2680sf
[670 plants]

5 gal: 5375 sf
[610 plants]

15 gal: 900 sf
[80 plants]

GROUNDCOVERS:

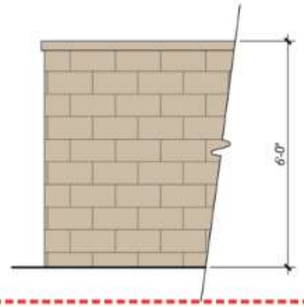
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE
	Acacia redolens	Prostrate Acacia	1 gal.
	Carissa 'Boxwood Beauty'	Natal Plum	1gal.
	Carex tumulicola	Foothill Sedge	1 gal.
	Lonicera japonica	Japanese Honeysuckle	1 gal.
	Myoporum p. 'Putah Creek'	Creeping Myoporum	1 gal.
	Rhaphiolepis spp.	Indian Hawthorn	5 gal.
	Rosmarinus officinalis	Rosemary	5 gal.
	Trachelospermum asiaticum	Asian Star Jasmine	1 gal.
	Westringia 'Low Horizon'	Coast Rosemary	5 gal.

QUANTITIES:
5545 sf
[1675 plants]

HOMEOWNER YARD: PLANTED AND MAINTAINED BY HOMEOWNER

Figure 9: Conceptual Landscape Plans
Source: Wilson Mikami Corporation

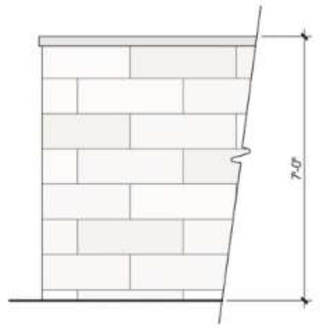
LEGEND



SIDEYARD WALL

-Split Face Block w/ Precision Cap

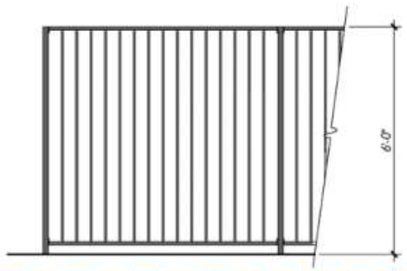
-6'-0" ht.



ENTRY WALL

-Cultured Stone Veneer with Cap

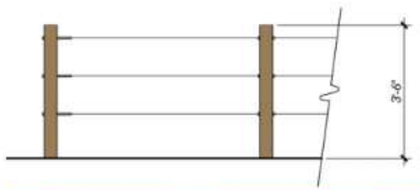
-7'-0" ht.



VIEW FENCE

-Tubular Steel

-6'-0" ht.



GUARDRAIL

-Steel Cable with Wood Posts

-3'-6" ht.

RETAINING WALL

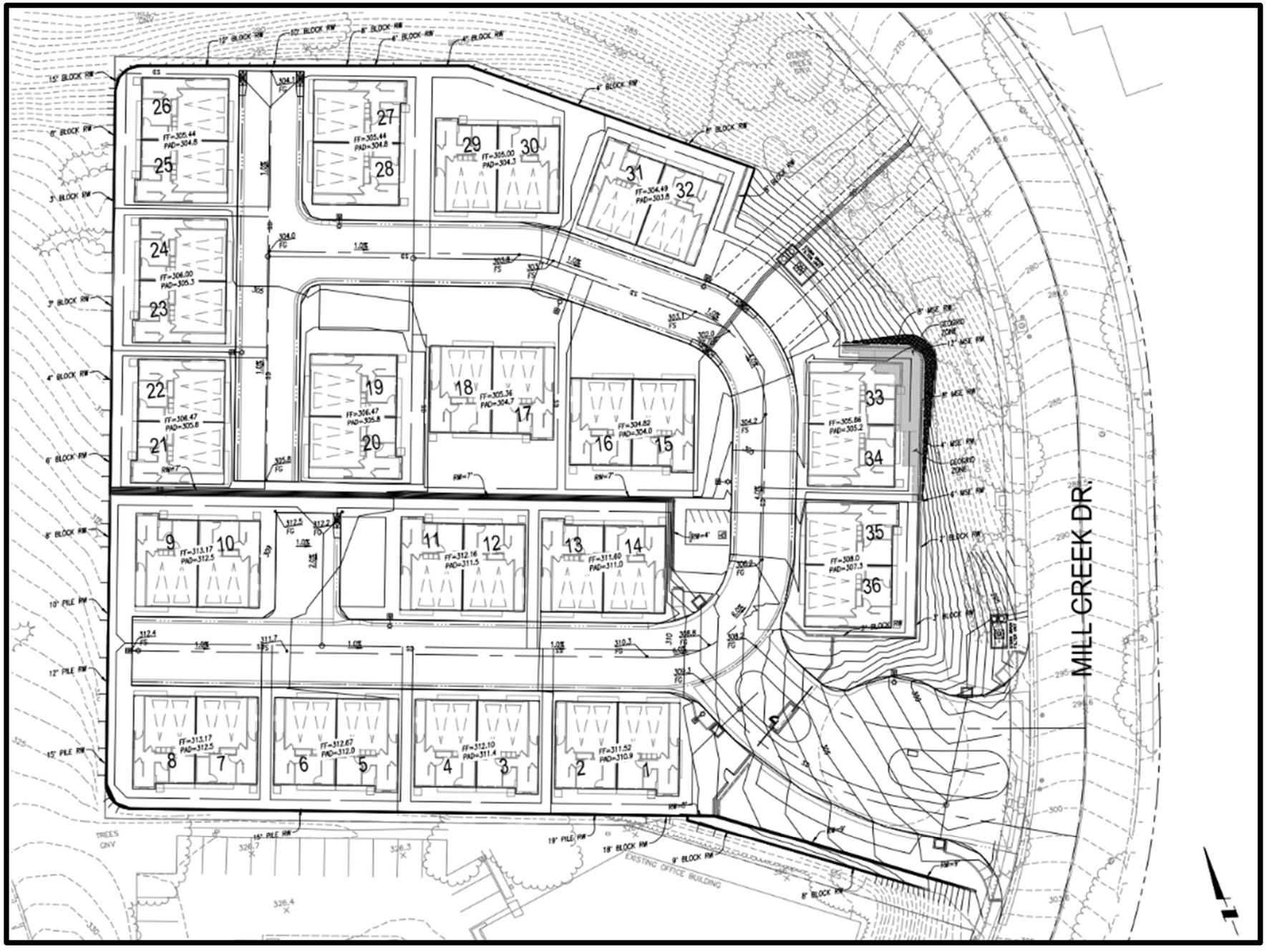
-CMU Block with Cap or MSE Wall

-Height varies per Civil Engineer

Figure 10: Conceptual Wall and Fence Plan

Source: C2 Collaborative

Figure 11: Elevations
Source: Woodley Architectural Group, Inc.



LEGEND

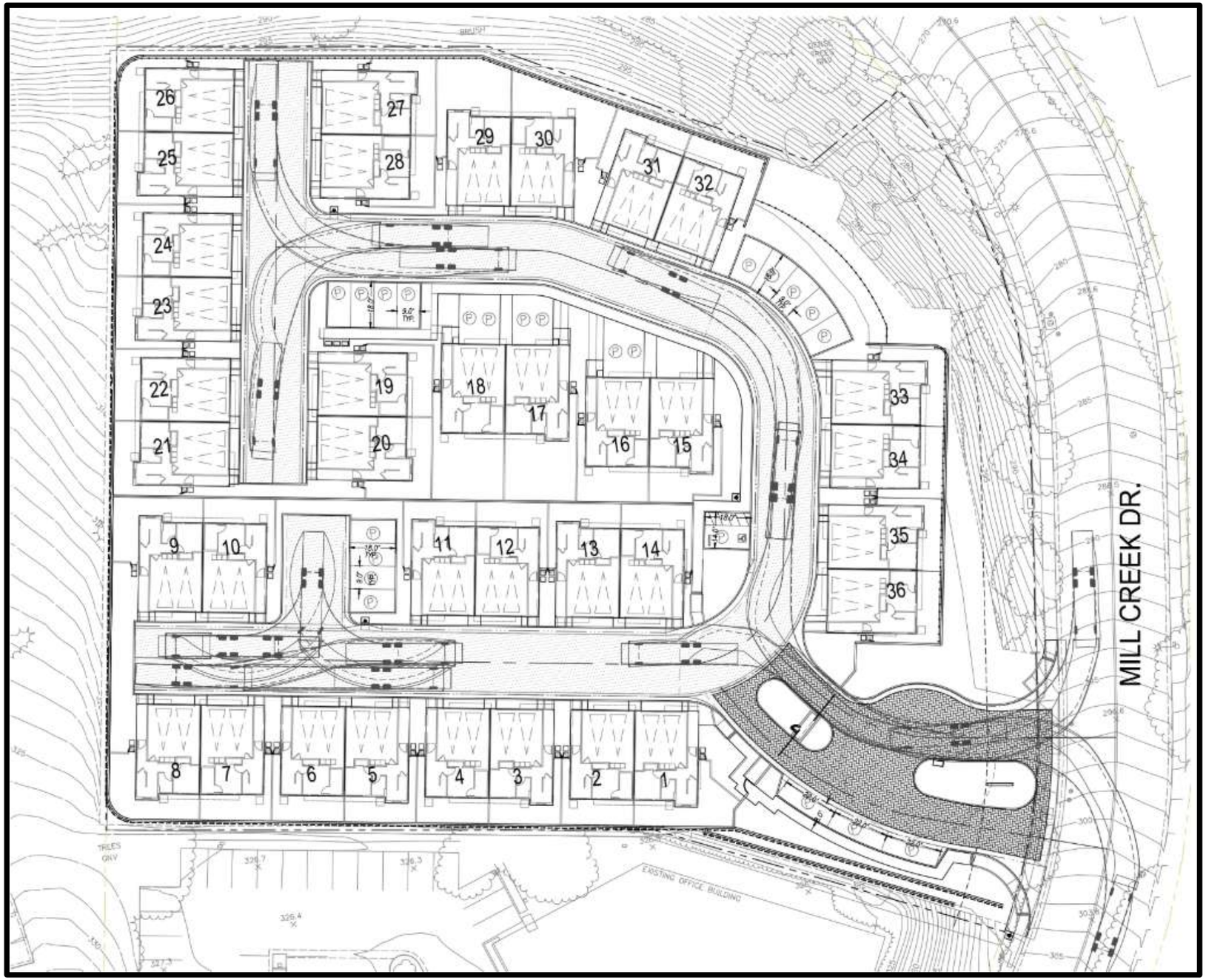
STREET CENTER LINE	
RIGHT OF WAY	
TRACT BOUNDARY	
LOT LINE	
EASEMENT	
EXISTING CONTOUR	205
PROPOSED CONTOUR	205
STREET LIGHT	
FIRE HYDRANT	
STORM DRAIN CATCH BASIN	
STORM DRAIN GRATE INLET	
VERDURA 4:1 BLOCK WALL	
VERDURA BLOCK WALL GEOGRID LIMITS	

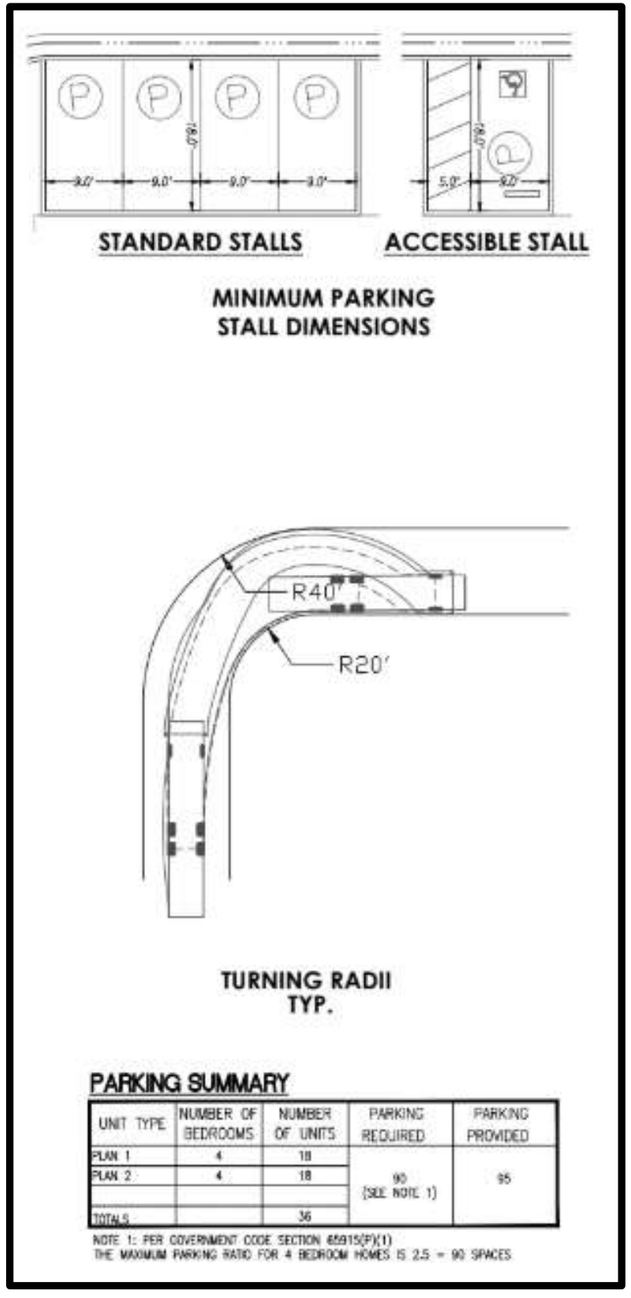
PRELIMINARY EARTH WORK VOLUMES:

CUT VOLUME	3,109 CU. YD.
FILL VOLUME	7,889 CU. YD.
NET VOLUME	4,780 CU. YD.<FILL>

Figure 12: Conceptual Grading and Drainage Plan

Source: Wilson Mikami Corporation





UNIT TYPE	NUMBER OF BEDROOMS	NUMBER OF UNITS	PARKING REQUIRED	PARKING PROVIDED
PLAN 1	4	18	90 (SEE NOTE 1)	95
PLAN 2	4	18		
TOTALS		36		

NOTE 1: PER GOVERNMENT CODE SECTION 65915(P)(1)
THE MAXIMUM PARKING RATIO FOR 4 BEDROOM HOMES IS 2.5 = 90 SPACES

Figure 13: Parking and Access Plan
Source: Wilson Mikami Corporation

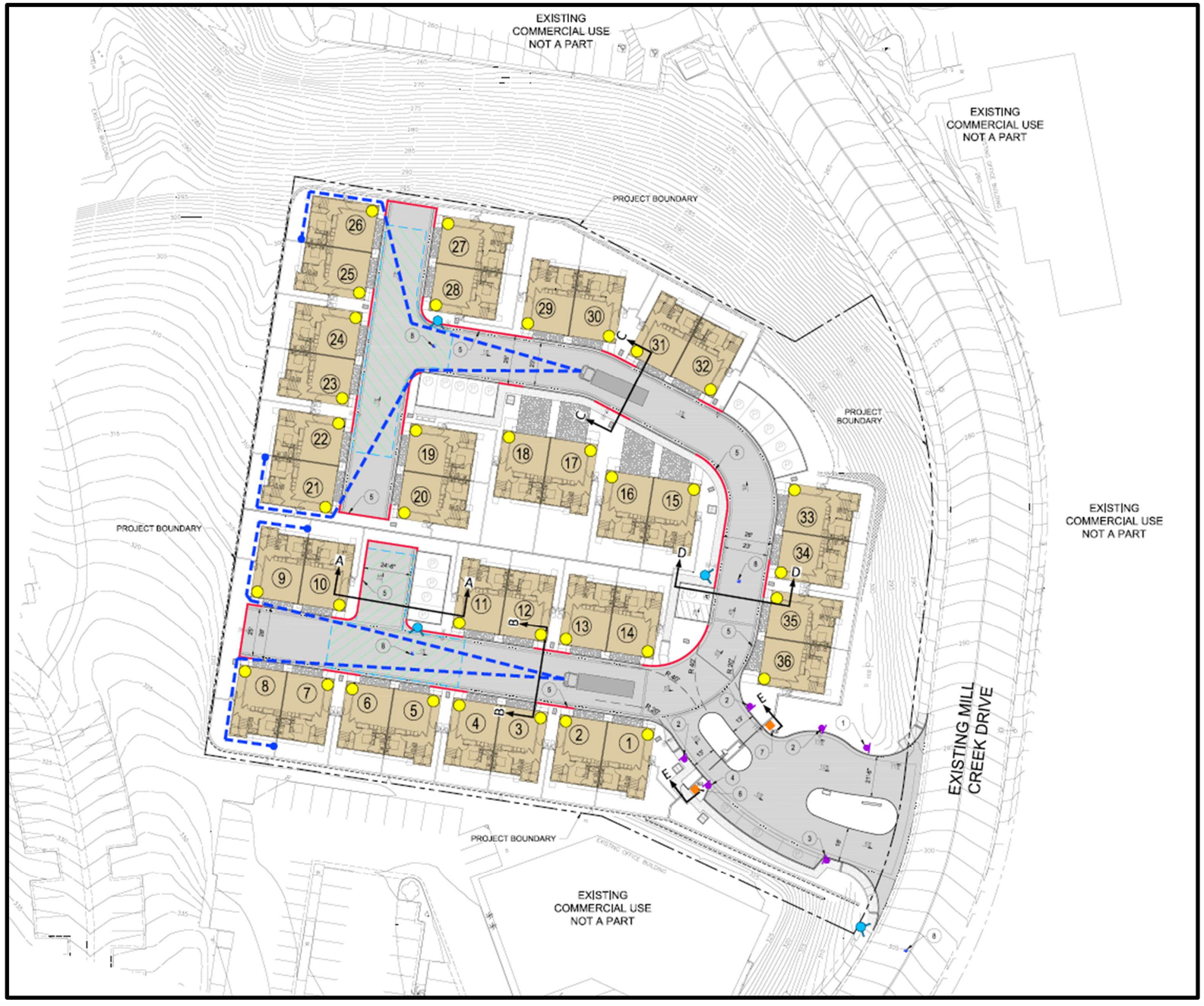


Figure 14: Fire Access Exhibit
Source: Planning Safe Fire Inc.

REQUIREMENTS TO QUALIFY FOR THE CLASS 32 EXEMPTION (14 CCR 15332):

Section 15332 of CEQA Guidelines states that "Class 32 consists of projects characterized as in-fill development meeting the conditions" described below:

a. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
b. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
c. The project site has no value as habitat for endangered, rare, or threatened species.
d. Approval of the project would not result in significant effects relating to traffic, noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

The following analysis discusses the Proposed Project in relation to each condition as listed in CEQA Guidelines Section 15332:

1. **Is the project consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations?**

General Plan:

The Project Site has a LHGP land use designation of Mixed Use, which "provides for areas where a variety of goods and services can be obtained within an overall planned environment" (LHGP, pg. LU-12). The Mixed Use designation allows for attached single-family dwellings with a Site Development Permit and a maximum residential density of 20 dwelling units per acre (du/ac). The Project proposes a total of 36 units at a density of 14.8 du/ac. **Table 1** below demonstrates the Proposed Project's consistency with the applicable General Plan policies. The Proposed Project is consistent with the existing Mixed Use LHGP land use designation and zoning district.

Table 1 – Project Consistency with Laguna Hills General Plan

Applicable General Plan Goal/Policy	Project Consistency
Goal LU-2: Ensure development is compatible and interdependent with neighboring uses.	
Policy LU-2.2: Improve connections with surrounding uses by enhancing landscaping, providing pedestrian connections, incorporating green areas, and planting street trees.	The Proposed Project includes enhanced landscaping with green space, accent trees, perimeter screening trees, shrub and groundcover, and vines and espaliers. The Proposed Project also includes enhanced concrete pavement to connect to the existing sidewalk connections on Mill Creek Drive.
Goal LU-3: Encourage infill development that involves revitalization of property in an economically and environmentally sustainable manner.	
Policy LU-3.2: Encourage new development that uses land efficiently and offers flexibility to changing resident and shopping needs, contributing to the long-term vitality of the community.	The Proposed Project adds housing to accommodate resident and housing needs within the City. The Proposed Project would provide additional housing opportunities, including affordable housing, to the City. The Proposed Project proposes to transform the existing site to build 36 residential units to replace the existing commercial office building and surface parking lot. The existing office building's footprint comprises approximately 13 percent of the total site acreage, while the Proposed Project has a maximum lot coverage of 64 percent. The addition of 36 units, including two affordable units, would provide additional housing to the City's housing stock to address housing needs and the City's Regional Housing Needs Allocation obligation.
Policy LU-3.13: Use landscaping and urban design techniques to break up large parking areas and long monotonous walls in new development and redevelopment projects.	The Proposed Project utilizes a variety of landscaping and walls/fences to encourage attractive elevations of the Proposed Project from all directions as shown in Figures 9 through 11.
Goal LU-4: Place a high priority on design, architecture, and landscaping that reflect the community's identity and gracious lifestyle.	
Policy LU-4.5: Continue to plant and maintain attractive drought-tolerant and native landscaping that enhances the character of Laguna Hills.	The Proposed Project will utilize drought- tolerant and native landscaping throughout the Proposed Project site in the forms of trees, shrub and groundcover, and vines and espaliers.
Goal COS-3: Make meaningful choices to improve local and regional air quality and address climate change.	

Policy COS-3.1: Continue to preserve important native trees and plant new low water use landscaping and trees.	The Proposed Project will install native trees and low water use landscaping. There are no protected public trees on the Project Site.
Goal S-1: Reduce the risk of injury and the loss of life and property from seismic activity and geologic conditions.	
Policy S-1.2: Apply current and proper land use planning, development engineering, building construction, and retrofitting requirements.	The Proposed Project will adhere to the latest building codes, as amended in Chapter 10.28 of the LMHC, adopted by the City. Under Density Bonus Law, the Proposed Project seeks to obtain waivers of development standards that physically preclude the development of the Proposed Project. As described below and in the Density Bonus Request Letter included in the Project's application, the site can accommodate the Project with these waivers without any adverse impacts to health or safety.
Goal S-6: Reduce injuries and danger to life, property, damage, and public health hazards associated with flooding.	
Policy S-6.2: Require that new development and redevelopment minimize stormwater and urban runoff into drainage facilities by incorporating on-site design features, such as detention basins, water features, or other suitable strategies. Where feasible, support the use of common detention facilities serving more than one development.	The Proposed Project would also adhere to the County's Drainage Area Management Plan (DAMP). The Proposed Project includes stormwater facilities, including catch basins and storm drain lines. The drainage from the Proposed Project would be collected by a series of area drains and catch basins to collect street flow. The southern half of the site would drain out to Mill Creek through a proposed parkway culvert near the proposed driveway. The northern half of the site would drain out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site. The flow would continue down Mill Creek to an existing storm drain system tributary to the San Diego Creek Channel, which would ultimately drain to Upper Newport Bay. Stormwater would be collected by a series of PVC pipes discharging to a proposed bio-treatment BMP and then through a parkway culvert onto Mill Creek. The Proposed Project would use LID Treatment BMPs to reduce the post development impacts, including infiltration, harvest and use, evapotranspiration, or biotreat/biofilter, the 85th percentile of a 24 hour storm event.

Policy S-6.4: Continue to implement National Pollutant Discharge Elimination System (NPDES) stormwater permits issued by the state and regional water quality control boards.	The Proposed Project will adhere to applicable NPDES and state/regional water quality control board regulations as well as LHMC Chapter 5.36 – Water Quality Control.
Goal H-2: Facilitate the development of a range of housing types, densities, and affordability levels to meet the diverse needs of the community for all economic levels and age groups and special needs groups, such as large families, female-headed households, the disabled, seniors, and the homeless.	
Policy H-2.1: Provide opportunities for higher density residential, mixed use residential/commercial development, and transit-oriented development in appropriate areas of the City.	According to the LHGP, mixed use refers to the mixing of compatible land uses, such as residential, commercial, and office in a vertical and/or horizontal configuration. The Mixed Use designation allows a variety of office, public, light industrial, residential, and commercial establishments. Construction of the Proposed Project would support mixed use residential development and will provide affordable units, and aid the City in meeting its RHNA obligation.
Policy H-2.6: Coordinate with the private sector in the development of affordable and special needs, rental, and ownership housing.	The Proposed Project includes two units deed-restricted as affordable for very low- income households.
Goal H-4: Plan for and monitor the long-term affordability of sound, quality housing.	
Policy H-4.1: Enforce and enhance the housing monitoring system to ensure compliance with funding program	As a condition of approval, the applicant is required to enter an affordable housing regulatory agreement which will require the affordable units to be sold and occupied by qualified income households. Upon resale of the affordable units the seller and future buyers would need to comply with the provisions of California Density Bonus Law. This agreement would assist the City in monitoring affordable housing.

Zoning:

When the Density Bonus Law requires a City to waive development standards (such as height limits, setbacks, or floor area ratios), those waived standards are not "applicable" for purposes of the Class 32 infill exemption. (*Wollmer v. City of Berkeley* (2011) 193 Cal.App.4th 1329, 1349.) The Proposed Project would comply with the MXU standards, as applicable, with the exception of the waivers requested under Density Bonus Law.

The Proposed Project proposes to deed- restrict two units as affordable for very low-income households (5.5% of the total project). Because the Proposed Project is eligible under Density Bonus Law, the Applicant seeks several waivers of development standards that physically preclude development of the Proposed Project, as well as a concession to provide for cost reductions in order to accommodate the affordable units. This allows for flexibility to develop the housing project at the Project Site. The waiver requests include reduction in setbacks and removal of requirements, such as façade composition, massing, and private open space as shown below in **Table 2**.

Table 2 – LHMC Development Standard and Requested Waiver/Concession

23161 Mill Creek Waiver List		
Citation	**Description**	**Waiver Request**
LHMC Section 9-30.040 – Rear Setback	15-foot rear seatback	Reduction in setback to 8.5-foot rear setback
LHMC Section 9-30.040 – Building Separation	Minimum building separation of 10 feet	Reduction of building separation to 6.5 feet
LHMC Section 9-30.040 – Private Open Space	10 percent minimum private open space. A minimum of 100 sq. ft. of private open space shall be provided for each ground floor unit. A minimum of 40 percent of the residential units above the ground floor shall include a minimum of 50 sq. ft. of private open space (balcony, terrace, or rooftop).	Reduce requirement to 9 percent
LHMC Section 9-30.040 – Building Height	35 feet maximum building height	Increase to 38 feet
LHMC Section 9-40.100 – Fences walls and hedges	"Perimeter tract walls which are adjacent to a public street shall have articulated planes by providing, at a minimum for every 100 feet of continuous wall, an 18 inch deep by eight-foot-long landscaped recession. Walls should be constructed with pilasters provided at every change in direction, every five feet difference in elevation, and at a minimum of every 25 feet of continuous wall.	Waive Requirement

	Fences, walls, and hedges within the front yard setback shall not exceed 42 inches in height. The height of retaining walls in the front yard shall be less than 30 inches in height. The total wall height, including the retaining wall, shall not be greater than 42 inches."	
ODS Section 2.2.2 – Pedestrian Connections	Primary entrances in buildings must be connected to a public sideway or pathway at least four feet wide for entrances serving one-to-two units.	Waive Requirement
ODS Section 2.3.1 – Active Frontage	Requires a minimum of 70 percent of the building frontage facing the publicly accessible pathway to be ground floor residential uses. The majority of the building frontages are currently proposed as garages and would not meet this requirement.	Reduce to 16 percent with porches applied as a residential use
ODS Section 2.3.1.2 – Ground Floor to Floor Height	Ground floor shall have a minimum floor-to-floor height of 12 feet.	Reduce to 10 feet
ODS Section 2.7.1.1 – Short Term Bicycle Parking	Short-term bicycle parking shall be provided at a rate of one space per 10 dwelling units	Waive Requirement
ODS Section 2.7.1.2 – Long Term Bicycle Parking	At least one long-term bicycle storage space is required for each unit. 36 required.	Waive Requirement
ODS Section 2.8.1 – Pedestrian Pathways	"All on-site buildings, entries, facilities, and vehicular and bicycle parking areas shall be internally connected with a minimum of four feet wide pedestrian pathway or pathway network. At least two amenities that include trellises and/or benches shall be provided on any pedestrian path longer	Waive Requirement

	than 200"	
ODS Section 3.1 – Massing	Buildings shall employ the specified massing strategies of modulation, roof form, or projections	Waive requirement for three sides.
ODS Section 3.2.1 – Step backs	Buildings above two stories or 35 feet are required to have a minimum of 30 percent of the frontage stepped back at a minimum of 10 feet.	Waive Requirement
ODS Section 3.4.2 – End Units	ODS Section 3.4.2 requires all end units to have at least 10 percent fenestration area. End units that face the street shall also have at least on architectural projection that is a minimum of 18 inches.	Waive requirement, except for Units 1, 14, and 36
ODS Section 3.5.1 – Window Alignment	Windows in opposing units, facing each other and located within 40 feet of each other, shall be offset by a minimum of 20 feet.	Waive Requirement
ODS Section 3.9.1 – Entrance Types	"Primary building entrances for all residential buildings shall face a public sidewalk or publicly accessibly pathway. In a porch entrance type, the porch shall be eight feet minimum and 18 inches above sidewalk.	Reduce width to four feet and waive level above sidewalk
ODS Section 3.9.3 – Parking and Access	The garage door is required to be located a minimum of one foot behind the primary façade.	Waive Requirement
ODS Section 4.3.2 – Roofs, Required Elements	Overhanging eaves (minimum 24 feet on elevation that faces a public street) with exposed rafter tails or beams are a required element and are missing from the architectural style.	Waive Requirement
ODS Section 5.3.1.3 – Walls and Fences, Visual Interests	1. Perimeter walls shall incorporate multiple textures, staggered	Waive Requirement

	setbacks, and variations in height. 2. Perimeter walls shall incorporate columns or pilasters to provide relief. The maximum unbroken length of a perimeter wall shall be 50 feet. The perimeter walls do not meet these requirements.	
OCPW Std 1107 – Guard Gate Setback from ROW	Guard gate: 100 feet minimum stacking distance	Reduce to 91 feet
OCPW Std 1107 – Location of Call box	Guard gate: the call box location should be after the turn-around	Have the turn around before the call box.
OCPW Std 1107 – Street Width	Local street: 40 feet minimum curb to curb with eight feet sidewalk + parkway both sides	Reduce to 26 inches and waive sidewalk requirement
23161 Mill Creek Concession		
Citation	**Description**	**Waiver Request**
ODS Section 4.3.3 Walls and Windows	Casement or double-hung sash with flat or arched lintels and windows shall be recessed two to 12 inches from outer wall are required elements and are missing from the architectural style. Additionally, one of the following optional elements shall be incorporated: pedimented or framed windows, paired decorative wood shutters, stepped windows at internal staircases, or balconettes.	Remove requirement

23161 Mill Creek Clarifications			
Citation	**Description**	**Clarification**	**Proposed Design**
ODS Section 4.3.5 – Decorative Accents and Details	Requires at least six of the following elements to be incorporated into the design: window	City confirmed that the project as depicted on	1. Rafter extensions – Corbels shown on the front elevation to meet this requirement. 2. Balconies

	grilles, recessed doorways, rafter extensions, balconies, wrought iron light fixtures, courtyards, wood finish doors, stucco/stone finished chimneys, awnings, overhangs, wrought iron railing, or arcade at entry.	the plans adhere to 6 elements.	3. Wrought iron light fixtures – Dark finish metal meet this requirement. 4. Wood finish doors – wood looking doors and not actual wood doors are proposed on this project. 5. Recessed doorways 6. Wrought iron railing – dark finish metal meet this requirement

2. Is the proposed development located within the city limits on a project site of no more than five acres substantially surrounded by urban uses?

The Project Site is located within City limits on a 2.43-acre parcel. The Project Site is surrounded by urban uses: office buildings and associated surface parking lots to the north and south, Mill Creek Drive to the east, and landscaping and multi-family residential to the west.

3. Does the project site have value as habitat for endangered, rare, or threatened species?

The Project Site is located within a developed urban setting with an existing commercial office building and associated surface parking, pavement, and driveways onsite. The Project Site is located within the County of Orange Central and Coastal Regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), but the City is not a participating entity of the NCCP/HCP, and is not subject to the policies within those plans. The Biological Resources Report dated January 2026, by South Environmental, (**Appendix B**) finds that the Proposed Project would be constructed entirely on Developed/Ornamental Landscaped cover type, which is not a sensitive natural community. The Project Site is within an area that is already developed and does not support special-status species. Additionally, no special-status plants or animal species were observed on the Project Site. Further, the Proposed Project would adhere to all applicable regulatory requirements. Existing shrubs or trees would be removed in accordance with the Migratory Bird Act and the California Fish and Game Code. Therefore, the Project Site has no value as habitat for endangered, rare, or threatened species.

4. Would approval of the project result in any significant effects relating to traffic, noise, air quality, or water quality?

Traffic:

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The LHGP Mobility Element discusses the City's circulation system, including transit, roadway, bicycle, and pedestrian facilities. The Mobility Element establishes goals and policies that guide the City's mobility system, including streets, transit facilities, and the recreational trails system.

Transit Facilities

According to the Mobility Element, public bus service in the City is provided by the Orange County Transportation Authority (OCTA). OCTA's System Map[1] shows that the closest transit line to the Project Site is Route 90 along Moulton Parkway and Irvine Center Drive. The Proposed Project would continue to be served by the existing transit system. The population growth associated with the Proposed Project could increase the demand for public transit services. The Proposed Project does not propose any features that would obstruct local transit routes. There are no transit routes directly adjacent to the Project Site. The Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the transit system.

Roadway Facilities

Access to the Project Site is proposed via one full-access gated driveway along Mill Creek Drive. According to the LHGP Mobility Element, Mill Creek Drive is classified as a local street. The Project does not propose any modifications to Mill Creek Drive. The existing driveway at the Project Site would be modified to include a gate entry with call box, a monument signage wall, separate entrance and exit points, and fire lane entrance signs. The driveway would be a minimum of 40 feet wide and features a gated entry and exit.

Bicycle Facilities

There are no bicycle facilities adjacent to the Project Site. The Mobility Element does not identify Mill Creek Drive as a bikeway. The nearest bikeway is Lake Forest Drive,

[1] OCTA System Map, System Map - Orange County Transportation Authority, accessed January 4, 2026.

which is classified as a Class 1 Bikeway. The Project does not propose modifications to any bicycle facilities. Residents of the Proposed Project could incrementally increase the use of bicycle facilities within the City. The Proposed Project would not conflict with a program, plan, ordinance, or policy addressing bicycle facilities.

Pedestrian Facilities

Sidewalks are currently provided along Mill Creek Drive, adjacent to the Project Site. The Proposed Project would modify the existing driveway onsite and provide landscaping at the driveway entrance to connect to the existing sidewalk. The Proposed Project would not conflict with a program, plan, ordinance, or policy addressing pedestrian facilities.

Based on the analysis above, the Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3 states that transportation impacts of projects are, in general, best measured by evaluating the Proposed Project's VMT. Automobile delay (LOS) will no longer be considered on an environmental impact under CEQA. The City's VMT Analysis Guidelines establishes the methodology and thresholds of significance for analyzing transportation impacts pursuant to the latest requirements of CEQA regarding VMT.

Per the City's VMT Analysis Guidelines, projects located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. If a project is located in a Traffic Analysis Zone (TAZ) with VMT per capita or VMT per employee that is less than or equal to the citywide average, than the project is considered to be in a low VMT area. According to the Project Trip Generation and VMT Screening Analysis and Gate Queuing Study (Traffic Study), dated January 8, 2026, by RK Engineering Group, Inc. (**Appendix C**), the Project Site is located within Orange County Transportation Analysis Model (OCTAM) TAZ 1504, which has a VMT/service population of 12.9. This is less than the City's VMT Threshold of Significance of 16.1 VMT/Service Population. Because the Project Site's TAZ VMT does not exceed the citywide average VMT/capita, the Proposed Project satisfies the City's VMT Screening Type 4 – Low VMT Area Screening and can be presumed to have a less than significant impact on VMT. Per the City VMT guidelines, projects that generate less than 500 net average daily trips (ADT) would not cause a substantial increase in the total citywide or regional VMT and

are therefore presumed to have a less than significant impact on VMT. Therefore, with 259 average daily trips, the Proposed Project also satisfies VMT Screening Type 5 – Net Daily Trips Less Than 500 ADT. Therefore, the Proposed Project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Proposed Project does not involve any features that would increase traffic hazards due to geometric design or incompatible uses. There are no off-site roadway improvements that could substantially increase hazards due to a geometric design feature. Access to the Project Site is proposed via one full-access gated driveway along Mill Creek Drive. The existing driveway at the Project Site will be modified to include a gate entry with call box, a monument signage wall, separate entrance and exit points, and fire lane entrance signs. The driveway will be a minimum of 40 feet wide and features a gated entry and exit. Modifications to the driveway would match and connect to the adjacent sidewalks.

The Traffic Study included a queuing analysis at the proposed gated access driveway. The purpose of the queuing analysis is to determine whether adequate storage capacity is provided to allow vehicles to enter the Project Site without causing vehicles to spill back onto Mill Creek Drive. The width of the access driveway lanes is approximately 21.5 feet at the start of the median and expands to approximately 30 feet with an area for vehicles to bypass the visitor lane. This is designed in accordance with Orange County Standard Plan 110. Assuming an average car length of 19 feet (i.e. 22 feet of total spacing per vehicle), the access driveway is expected to accommodate approximately four vehicles within the resident lane, and approximately two vehicles within the visitor lane without spilling onto Mill Creek Drive. The 95th percentile vehicular queue for the proposed driveway is forecasted to be approximately two vehicles during peak hour for both the residential and visitor lane. The proposed driveway provides space that can accommodate four vehicles (resident) and two vehicles (visitor). As such, vehicles are not expected to spill back onto Mill Creek Drive. Proposed improvements, including the driveway modifications, would be reviewed and approved by the City.

d. Would the project result in inadequate emergency access?

The Proposed Project is required to comply with the City's development review process including review by OCFA for compliance with all applicable fire code

requirements for construction and access to the Project Site.

During construction, it is not anticipated that any lane closures would be required. Should any land closures be required, they would be coordinated with the City according to the City's traffic control plan guidelines. The driveways within the Project Site would accommodate emergency ingress and egress by fire trucks, police units, and ambulance/paramedic vehicles. As shown in **Figure 14** – Fire Access Exhibit, the Proposed Project includes several fire lane entry and fire lane "no parking" signs located at the driveway entrance to ensure space for adequate access in the event of an emergency. Fire hydrants would be located throughout the Project Site with fire lane painted red curbs. On-site hydrants will be public, not private, and all units will be protected by an NFPA 13-D sprinkler system. Each hydrant location allows for a 300 feet maximum hose pull distance to the furthest point of a unit. By complying with OCFA's review process and applicable fire code requirements, the Proposed Project would not result in inadequate emergency access.

Noise:

A Noise Impact Study dated January 8, 2026, by RK Engineering Group, Inc. (**Appendix D**) was prepared for the Proposed Project to analyze the Proposed Project's potential noise impacts. As discussed below, approval of the Proposed Project would not result in any significant effects relating to noise. For the purposes of this analysis, the existing baseline conditions that are compared to the proposed conditions (with the Project) are the City's existing thresholds set for the Project Site. It is assumed that the existing office use does not consistently exceed the City's set noise thresholds.

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise – As shown in **Tables 3** and **4** below, the worst-case construction noise level for residential receptors would be 78 dBA Leq, which does not exceed the Federal Transit Administration (FTA) Daytime General Assessment Construction Noise Criteria of 80 dBA Leq for residential receptors. The worst-case construction noise level for commercial receptors would be 82 dBA Leq, which does not exceed the FTA Daytime General Assessment Construction Noise Criteria of 85 dBA Leq for commercial receptors. As a result, construction noise impacts would be less than significant. The Proposed Project's construction noise analysis does not take into

consideration the existing operations of the office building as the Proposed Project's construction assumes demolition of the existing office building and its associated improvements. In comparison to baseline conditions of no construction at the existing site to a proposed temporary condition of construction activities, the Proposed Project would increase temporary noise. However, construction noise impacts fall below significance thresholds. The Proposed Project would not result in generation of a substantial temporary or permanent increase in ambient noise levels during construction.

Table 3 – Project Construction Noise Levels – Residential Receptors

Phase	Equipment	Quantity	Equipment Noise Level at 215 feet (dBA Leq)	Combined Noise Level (dBA Leq)
Demolition	Concrete/Industrial Saws	1	76.9	78.0
	Tractors/Loaders/Backhoes	1	71.3	
Site Preparation	Graders	1	72.3	74.9
	Tractors/Loaders/Backhoes	1	71.3	
Grading	Graders	1	72.3	74.9
	Tractors/Loaders/Backhoes	1	71.3	
Building Construction	Cranes	1	67.9	73.0
	Tractors/Loaders/Backhoes	1	71.3	
Paving	Rollers	1	67.3	72.8
	Tractors/Loaders/Backhoes	1	71.3	
Architectural Coating	Air Compressors	1	65.0	65.0
Worst Case Construction Phase Noise Level (dBA Leq)				**78.0**
FTA Daytime General Assessment Construction Noise Criteria (dBA Leq)[1]				80.0
Noise Level Exceeds Criteria?				**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.

1. Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual, Section 7: Noise and Vibration During Construction.*

Table 4 – Project Construction Noise Levels – Commercial Receptors

Phase	Equipment	Quantity	Equipment Noise Level at 135 feet (dBA Leq)	Combined Noise Level (dBA Leq)
Demolition	Concrete/Industrial Saws	1	81.0	82.0
	Tractors/Loaders/Backhoes	1	75.4	
Site Preparation	Graders	1	76.4	78.9
	Tractors/Loaders/Backhoes	1	75.4	
Grading	Graders	1	76.4	78.9
	Tractors/Loaders/Backhoes	1	75.4	
Building Construction	Cranes	1	72.0	77.0
	Tractors/Loaders/Backhoes	1	75.4	
Paving	Rollers	1	71.4	76.8
	Tractors/Loaders/Backhoes	1	75.4	
Architectural Coating	Air Compressors	1	69.1	69.1
Worst Case Construction Phase Noise Level (dBA Leq)				**82.0**
FTA Daytime General Assessment Construction Noise Criteria (dBA Leq)[1]				85.0
Noise Level Exceeds Criteria?				**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.

1. Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual, Section 7: Noise and Vibration During Construction.*

Additionally, per the LHMC, noise sources associated with construction, repair, remodeling, or grading of any real property shall be exempted from the provisions of Chapter 5-24, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 8:00 a.m. on Saturday, or at any time on Sunday or a federal holiday. Therefore, potential noise and vibration impacts associated with construction would be less than significant.

Operational Noise

Stationary Noise – The main source of potential on-site noise would be HVAC equipment. These types of on-site stationary noises would not typically be categorized as loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitivity. **Tables 5** and **6** demonstrate the Proposed Project's stationary noise impacts at residential and commercial receptors. The Proposed Project's expected stationary noise levels do not exceed the thresholds set by the LHGP and LHMC noise standards. Therefore, the Proposed Project will not generate stationary noise levels in excess of the noise standards established by the City, and the impact

would be less than significant.

Table 5 – Stationary Noise Impacts at Residential Receptors

Noise Source	Receptor Distance from Noise Source (feet)	Noise Level at Receptor	
		dBA Leq	dBA Lmax
HVAC[1]	100	39.1	39.1
Noise Level Threshold (Day/Night)		55.0/50.0	75.0/70.0
Noise Level Exceeds Thresholds?		**No**	**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
1. Noise level is indicative of eight units and includes the attenuation effects of the proposed noise barriers/enclosures. For the purposes of this analysis, noise associated with the simultaneous operation of all units with direct line of sight to adjacent receptors was modeled. Noise from units blocked from line of sight is assumed to be adequately attenuated by intervening onsite structures.

Table 6 – Stationary Noise Impacts at Commercial Receptors

Noise Source	Receptor Distance from Noise Source (feet)	Noise Level at Receptor	
		dBA Leq	dBA Lmax
HVAC[1]	10	49.6	49.6
Noise Level Threshold (Day and Night)		65.0	65.0
Noise Level Exceeds Thresholds?		**No**	**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
1. Noise level is indicative of eight units and includes the attenuation effects of the proposed noise barriers/enclosures. For the purposes of this analysis, noise associated with the simultaneous operation of all units with direct line of sight to adjacent receptors was modeled. Noise from units blocked from line of sight is assumed to be adequately attenuated by intervening onsite structures.

In addition to onsite HVAC noise, the Proposed Project would generate noise associated with maintenance activities, including landscaping and trash removal. These types of on-site stationary noises would not typically be categorized as loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitivity. Per LHMC Section 5-24.070(I), property maintenance activities such as landscaping are exempt from noise standards when conducted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays, or between 9:00 a.m. and 8:00 p.m. on Sundays and federal holidays. In compliance with the LHMC, no project-related maintenance activity, including landscaping, shall occur outside of the approved hours.

The Proposed Project will comply with these restrictions. The Project Site is currently occupied by an existing commercial building, which includes trash removal and landscaping operations. As a result, these activities would not be new sources of noise generated by the Proposed Project, and the Proposed Project would not

result in a substantial change in noise levels in the vicinity of the Project Site from these activities.

Mobile Source Noise – The main source of roadway noise in the vicinity of the Project Site is activity along Mill Creek Drive. As described in the LHGP Mobility Element, Mill Creek Drive is classified as a Collector (Commuter) Arterial, which can accommodate up to 10,000 vehicles per day. The Proposed Project is expected to generate approximately 259 daily trips. Per Streetlight segment volume data analyzed in the Project's noise study, the segment of Mill Creek Drive adjacent to the Project Site has an average daily traffic (ADT) of approximately 1,877. Based on the existing daily traffic on Mill Creek Drive, the 259 daily trips generated by the Proposed Project will not double the amount of traffic along adjacent streets, and the potential increase in noise from project-related roadway activity would be less than 3 dBA. Therefore, the increase in roadway noise levels as a result of the Proposed Project would be less than significant.

Noise/Land Use Compatibility

The Project's noise study included a noise/land use compatibility assessment to determine whether exterior and interior noise levels affecting the Project Site exceed the City's noise/land use compatibility threshold for residential land uses. Exterior ambient noise levels are assessed at the first-row residential building facades of each dwelling unit facing Mill Creek Drive. The first-row residential lots would be set back by a minimum of approximately 55 feet from the centerline of Mill Creek Drive.

Future exterior noise levels are estimated based on existing ambient noise level measurements collected at the existing office building site. To account for future increases in roadway volumes, a three-decibel increase has been applied to the measured noise levels. This is a conservative estimate, as a doubling of traffic volume along a roadway would be required to increase ambient noise levels by 3 dBA or more[2]. Future exterior ambient noise levels are expected to be approximately 70.4 dBA CNEL and fall within the Normally Unacceptable noise/land use compatibility category.

Per the LHGP, if new construction of Normally Unacceptable land uses proceeds, a detailed analysis of the noise reduction requirements must be made and the required noise insulation must be included in the design. The Proposed Project must

[2] Technical Noise Supplement to the Traffic Noise Analysis Protocol, California Department of Transportation (Caltrans), September 2013.

show that interior noise levels at the Project Site would not exceed the City and state's noise/land use compatibility threshold for residential land uses. The noise study conducted a preliminary interior noise analysis for the first row of habitable dwellings facing the adjacent roadways using a typical "windows open" and "windows closed" condition. A "windows open" condition assumes 12 dBA of noise attenuation from the exterior noise level. A "windows closed" condition assumes 20 dBA of noise attenuation from the exterior noise level. **Table 7** below indicates the future interior noise levels along adjacent roadways.

Table 7 – Future Interior Noise Levels (dBA CNEL)

Exterior Façade Study Location	Projected Exterior Noise Level[1]	Interior Noise Standard	Required Building Shell Noise Reduction	Interior Noise Level with Standard Windows (STC ~25)		Required STC Rating
				"Windows Open"[2]	"Windows Closed"[3]	
First-row dwelling units along Mill Creek Drive	70.4	45.0	25.4	58.4	50.4	28

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
1. Worst-case future exterior noise levels are based on existing ambient noise level measurements collected by RK.
2. A minimum of 12 dBA noise reduction is assumed with the "windows open" condition.
3. A minimum of 20 dBA noise reduction is assumed with the "windows closed" condition.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The nearest structures to the Project Site are the existing residential homes located to the west of the Project Site and the existing commercial structure located to the south. The structures are located approximately 100 feet and 10 feet, respectively, from the nearest expected areas of onsite construction activity. The construction of the Proposed Project is not expected to require the use of substantial vibration - inducing equipment or activities, such as pile drivers or blasting. The main source of vibration impacts during the construction of the project would be the operation of equipment such as bulldozer activity during site preparation and loading trucks and vibratory rollers during grading and excavation. As shown in **Tables 8** and **9**, project-related construction activity is not expected to cause any potential damage to the nearest structures. Therefore, construction-related vibration will be less than significant.

Table 8 – Construction Vibration Impact Analysis – Residential Structures

Construction Activity	Distance to Nearest Structure (Feet)	Duration	Calculated Vibration Level (PPV) (in/sec)
Large Bulldozer	100	Continuous/Frequent	0.019
Loaded Trucks		Continuous/Frequent	0.017
Vibratory Rollers		Continuous/Frequent	0.046
Worst-Case Construction Vibration Level			**0.046**
Vibration Damage Potential Threshold[1]			0.200
Vibration Level Exceeds Thresholds?			**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
1. Source: FTA Transit Noise and Vibration Impact Assessment Manual (September 2018) vibration damage potential threshold for "non-engineered timber and masonry buildings".

Table 9 – Construction Vibration Impact Analysis – Commercial Structures

Construction Activity	Distance to Nearest Structure (Feet)	Duration	Calculated Vibration Level (PPV) (in/sec)
Large Bulldozer	15	Continuous/Frequent	0.156
Loaded Trucks		Continuous/Frequent	0.133
Vibratory Rollers		Continuous/Frequent	0.368
Worst-Case Construction Vibration Level			**0.368**
Vibration Damage Potential Threshold[1]			0.500
Vibration Level Exceeds Thresholds?			**No**

Source: Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
1. Source: FTA Transit Noise and Vibration Impact Assessment Manual (September 2018) vibration damage potential threshold for "non-engineered timber and masonry buildings".

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Airport Noise - The John Wayne Airport, located in Santa Ana, California, is the nearest airport to the Project Site at a distance of approximately 8 miles. The Project Site is not located within the John Wayne Airport, or any other airport's, airport land use plan area. Furthermore, the Proposed Project is not expected to expose people residing or working in the Proposed Project area to excessive noise levels. Therefore, the Proposed Project would have no impact on exposing people residing or working in the area to excessive airplane noise.

Air Quality:

An Air Quality, Greenhouse Gas, and Energy Study (AQGHGE) dated January 8, 2026 by RK Engineering Group, Inc. (**Appendix E**), was conducted for the Proposed Project. The AQGHGE Study analyzes potential impacts to air quality from the Proposed Project. The analysis discussed below found that approval of the Proposed Project would not result in any significant impacts related to air quality.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The Project Site is located within the South Coast Air Basin (SCAB) which is characterized by relatively poor air quality and is a Federal- and State- designated nonattainment area for O3, PM10 and PM2.5 (US EPA 2012). The South Coast Air Quality Management District (SCAQMD) has established significance thresholds for both construction and operational activities relative to these criteria pollutants. The Project Site is located within the Coastal general forecasting area and Central Orange County Coastal air monitoring area (SRA-20). The SCAQMD has not published air quality monitoring data for SRA-20. Therefore, pollutant data for the most recent three-year period is derived from the nearest adjacent stations available (i.e., Saddleback Valley/SRA-19 and Central Orange County/SRA-17). These pollutant levels were used to comprise a "background" for the project location and existing local air quality. As discussed below under threshold b and threshold c, implementation of the Proposed Project would result in less than significant impacts relative to the daily significance thresholds for criteria air pollutant construction emissions established by SCAQMD.

Another criterion to determine consistency with SCAQMD's Air Quality Management Plan (AQMP) is if a project would not exceed AQMP's assumptions or increments based on growth forecasts. The LHGP uses Department of Finance (DOF) data to determine population growth projections. According to 2025 DOF data[3], the City's population in 2025 was 30,309 residents. Using the average family size of 3.13 persons[4], the addition of 36 single-family dwelling units would create a population increase of approximately 113 residents (0.37 percent increase[5]). The Proposed Project's forecasted population growth would increase the City's existing population by less than one percent to 30,422 persons. The LHGP

[3] California Department of Finance, State Population Report – May 2025, accessed January 4, 2025. Total population (30,309) in 2025.
[4] US Census Bureau, American Community Survey, 5-year estimates, S1101, City of Laguna Hills, accessed January 28, 2026.
[5] California Department of Finance, State Population Report – May 2025, accessed January 4, 2025. Percent increase of total population (30,309) in 2025.

anticipates a population of 36,523 by the end of the 2021-2029 planning period.

By complying with the thresholds of significance and being consistent with population growth estimates, the Proposed Project would be in compliance with the SCAQMD Air Quality Management Plan (AQMP) and the federal and state air quality standards. The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. Thus, the Proposed Project would be within the population projections anticipated and planned for by the LHGP and would not increase growth beyond the AQMP's projections. The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction Emissions

Table 10 shows that the Proposed Project's daily construction emissions will be below the applicable SCAQMD air quality standards and thresholds of significance. As a result, the Proposed Project would not contribute to an existing or projected air quality violation. Furthermore, because the Proposed Project's emissions are below SCAQMD's thresholds, the Proposed Project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project's region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Therefore, the Proposed Project's short-term construction impact on regional air resources would be less than significant.

Table 10 – Regional Construction Emissions

Activity	Maximum Daily Emissions (lbs/day)[1]					
	VOC	NOx	CO	SO2	PM10	PM2.5
Demolition	0.48	6.95	17.08	0.05	4.02	0.84
Site Preparation	0.28	1.36	15.39	0.03	0.77	0.14
Grading	0.97	63.00	41.32	0.36	16.9	5.77
Building Construction	0.33	3.96	14.19	0.02	0.41	0.13
Paving	0.47	2.23	9.28	0.01	0.23	0.08
Architectural Coating	46.58	0.85	1.35	0.00	0.09	0.03
Maximum[1]	**46.58**	**63.00**	**41.32**	**0.36**	**16.90**	**5.77**
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality, Greenhouse Gas, and Energy Study, January 8, 2026, RK Engineering Group, Inc.
1. Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.
2. Modeling assumed Tier 4 equipment.

Table 11 illustrates the construction-related localized emissions of the Proposed Project in comparison to SCAQMD Localized Significance Threshold (LST) thresholds. The Proposed Project emissions will be below SCAQMD thresholds of significance for localized construction emissions. Therefore, the Proposed Project's short-term construction impacts on localized air resources will be less than significant.

Table 11 – Localized Construction Emissions

Activity	Maximum Daily Emissions (lbs/day)[1]			
	NOx	CO	PM10	PM2.5
Onsite Emissions	3.74	15.05	2.93	1.40
SCAQMD Localized Threshold[2]	110.5	800.7	5.5	4.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality, Greenhouse Gas, and Energy Study, January 8, 2026, RK Engineering Group, Inc.
1. Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.
2. Source: SCAQMD Mass Rate LSTs for 2 acres/day in SRA-20 at 25 meters
3. Modeling assumed Tier 4 equipment.

Operational Emissions

As shown in Tables 12 and **13**, the Proposed Project's emissions will be below the SCAQMD thresholds of significance. The Proposed Project's daily unmitigated operational emissions will be below the applicable SCAQMD regional air quality standards and thresholds of significance, and the Proposed Project would not contribute substantially to an existing or projected air quality violation. Furthermore,

by complying with the SCAQMD standards, the Proposed Project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Therefore, the Proposed Project's long-term regional air quality impacts will be less than significant.

Table 12 – Regional Operational Emissions

Activity	Maximum Daily Emissions (lbs/day)[1]					
	VOC	NOx	CO	SO2	PM10	PM2.5
Mobile Sources	0.97	0.71	8.49	0.02	2.08	0.54
Area Sources	1.86	0.02	2.04	0.00	0.00	0.00
Energy Sources	0.01	0.22	0.09	0.00	0.02	0.02
Total	**2.84**	**0.95**	**10.62**	**0.02**	**2.10**	**0.56**
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality, Greenhouse Gas, and Energy Study, January 8, 2026, RK Engineering Group, Inc.
1. Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.
2. Modeling assumed Tier 4 equipment.

Table 13 – Localized Operational Emissions

Activity	Maximum Daily Emissions (lbs/day)[1]			
	NOx	CO	PM10	PM2.5
Onsite Emissions	1.92	2.56	0.12	0.05
SCAQMD Localized Threshold[2]	131.0	962.0	2.0	2.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality, Greenhouse Gas, and Energy Study, January 8, 2026, RK Engineering Group, Inc.
1. Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.
2. Source: SCAQMD Mass Rate LSTs for 2 acres/day in SRA-20 at 25 meters
3. Modeling assumed Tier 4 equipment.

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

The Proposed Project consists of residential land uses and does not include major sources of toxic air contaminants (TAC) emissions that would result in significant exposure of sensitive receptors to substantial pollutant concentrations. Examples of land uses that are major sources of TACs include distribution centers with heavy truck traffic, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing stations. The Proposed Project does not include those uses, hence the Proposed Project would not expose sensitive receptors to substantial

pollutant concentrations.

The Proposed Project would generate diesel particulate matter (DPM) during construction from off-road diesel equipment and trucks. The California Office of Environmental Health Hazard Assessment (OEHHA) adopted the Guidance Manual for Preparation of Health Risk Assessments (HRA Guidelines) to provide procedures for use in the Air Toxics Hot Spots Program or for the permitting of existing, new, or modified stationary sources. A Health Risk Assessment dated January 12, 2026 by RK Engineering Group, Inc. (**Appendix F**), was conducted for the Proposed Project. Construction-related PM10 exhaust emissions were quantified using the CalEEMod outputs provided in Appendix E and used as a surrogate for modeling DPM emissions. DPM emissions sources associated with project construction include onsite construction activity and offsite hauling trips. The calculations used to calculate cancer risk are based on the methodology published by the SCAQMD and OEHHA. For the purposes of this analysis, potential health risks to the adjacent receptors are expressed in terms of increased cancer and non-cancer health risks as a result of exposure to DPM emissions.

Because construction of the proposed project would occur over a relatively short duration of approximately six years, a full 30-year adult exposure scenario is not applicable. Instead, conservatively, this analysis evaluates third trimester (0.25-year), infant (0-2 years), and child (2-16 years) exposure scenarios, which together represent the most sensitive potential life stages during the construction period. Excluding the adult exposure scenario is appropriate in this case, as no long-term operational source of DPM emissions would remain after construction is complete. **Table 14** shows the Project's construction health risk results at each of the modeled sensitive receptor locations, as shown in Appendix F. The cancer health risks shown in Table 14 represent the total cumulative risk, which is calculated by summing across all age-specific exposure periods. The hazard indices are reported as the highest hazard index from any single exposure period at each receptor.

Table 14 – Construction Health Risk Levels

Sensitive Receptor	AERMOD Receptor ID	Cancer Risk (per one million)	Hazard Index
1	1	0.3498	0.0006
	2	0.3308	0.0012
	3	0.8651	0.0039
	4	2.3000	0.0027
	5	2.6625	0.0032
	6	1.3925	0.0017
	7	0.7525	0.0009
	8	0.5747	0.0034
	9	0.3306	0.0021
	10	0.1506	0.0008
	11	0.0972	0.0002
Maximum Risk		**2.6625**	**0.039**
SCAQMD Threshold		10	1
Exceeds Threshold?		**No**	**No**

Source: Health Risk Assessment, January 12, 2026, RK Engineering Group, Inc.

In addition to the above assessment of maximum incremental cancer and non-cancer risk at the adjacent receptors, SCAQMD requires an assessment of cancer burden. Cancer burden is defined as the estimated number of excess cancer cases in the exposed population over a 70-year lifetime. It is calculated by multiplying the maximum incremental cancer risk (expressed per one million) by the estimated exposed population and then dividing by one million, to convert the rate to the expected number of cases. **Table 15** below summarizes the cancer burden calculations for the construction of the Project. As shown below, the estimated total cancer burden is well below the SCAQMD significance threshold of 0.5 excess cancer cases under CEQA.

Table 15 – Estimated Cancer Burden

Maximum Incremental Cancer Risk (per one million)	Estimated Exposed Population	Estimated Cancer Burden
2.6625	508[1]	0.0014
SCAQMD Cancer Burden Threshold		0.5
Exceeds Threshold?		**No**

Source: Health Risk Assessment, January 12, 2026, RK Engineering Group, Inc.

1. Based on aerial imagery and parcel counts, there are a maximum of approximately 175 households located within the HRA study area. The estimated exposed population is approximately 508 residents.

As shown above, the construction of the Proposed Project is not expected to result in a cancer health risk, non-cancer hazard index, or cancer burden that would exceed the applicable SCAQMD thresholds. As a result, the Proposed Project impact from construction-related DPM emissions would be less than significant. The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants. The Proposed Project consists of residential uses and does not contain land uses that would typically be associated with significant odor emissions.

Furthermore, the Proposed Project is required to comply with standard building code requirements related to exhaust ventilation as well as SCAQMD Rule 402. Rule 402 requires that a person may not discharge from any source whatsoever such quantifies of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, response, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The Proposed Project related odors would not create a nuisance. Therefore, the Proposed Project's operation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Water Quality:

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction Impacts

Construction-related runoff pollutants are typically generated from waste and hazardous materials handling or storage areas, outdoor work areas, material storage areas, and general maintenance areas (e.g., vehicle or equipment fueling and maintenance, including washing). Construction projects that disturb one acre or more of soil, including the Proposed Project, are regulated under the Construction General Permit (CGP, Order No. 2022-0057-DWQ) issued by the State

Water Resources Control Board (SWRCB). Projects obtain coverage under the CGP by developing and implementing a stormwater prevention pollution plan (SWPPP), estimating sediment risk from construction activities to receiving waters, and specifying best management practices that would be implemented as a part of the Proposed Project's construction phase to minimize pollution of stormwater prior to and during grading and construction.

The Property Owner/Developer and its construction contractor would be required to prepare and implement a SWPPP and associated BMPs in compliance with the CGP during grading and construction. The SWPPP would specify BMPs that would be implemented for the Proposed Project to protect the water quality of receiving waters. Other construction BMPs that may be incorporated into the Proposed Project's SWPPP and implemented during the construction phase include but are not limited to:

- Installation of perimeter silt fences and perimeter sandbags and/or gravel bags
- Stabilized construction exits with rumble strip(s)/plate(s)
- Installation of storm drain inlet protection on affected roadways
- Installation of silt fences around stockpile and covering of stockpiles
- Stabilization of disturbed areas where construction ceases for a determined period of time (e.g., one week) with erosion controls
- Installation of temporary sanitary facilities and dumpsters

Adherence to the BMPs in the SWPPP would reduce, prevent, minimize, and/or treat pollutants and prevent degradation of downstream receiving waters; reduce or avoid contamination of urban runoff with sediment; and reduce or avoid contamination with other pollutants such as trash and debris, oil, grease, fuels, and other toxic chemicals.

Therefore, with implementation of the BMPs in the required SWPPP, water quality or waste-discharge impacts from Project-related grading and construction activities would be less than significant, and no mitigation would be required.

Operational Impacts

The Preliminary Water Quality Management Plan (PWQMP) (**Appendix G**) identifies stormwater management for post construction building operations. The Project would incorporate low-impact development (LID) BMPs to reduce the quantity of rainfall runoff and improve the quality of water that leaves the Project Site.

The Proposed Project would use LID Treatment BMPs to reduce the post development impacts including infiltration, harvest and use, evapotranspire, or

biotreat/biofilter, the 8th percentile of a 24-hour storm event. The Proposed Project includes LID Treatment BMP of impervious area dispersion through the use of a proprietary media biofiltration unit.

The proposed operational conditions would be comprised of two Drainage Management Areas (DMAs). DMA A includes the surface drainage, proposed inlets, and an underground piping system in the southern half of the Project Site. The piping discharges to a proposed BMP biofiltration basin with an underdrain. The underdrain connects to a parkway culvert discharging onto Mill Creek near the driveway entrance. DMA B includes the surface drainage, proposed inlets, and an underground piping system in the northern half of the Project Site. The piping discharges to a proposed BMP biofiltration basin with an underdrain. The underdrain connects to a proposed parkway culvert further down Mill Creek Drive.

Additionally, non-structural source control BMPs for the Proposed Project include:

- Education for Property Owners, Tenants and Occupants
- Activity Restrictions – activity and use restrictions will be developed and enforced by the HOA through Covenants, Conditions, and Restrictions (CC&Rs)
- Common Area Landscape Management
- BMP maintenance
- Common Area Litter Control
- Common Area Catch Basin inspection
- Street Sweeping Private Streets and Parking Lots

Structural Source Control BMPs for the Proposed Project include:

- Provide storm drain system stenciling and signage
- Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control
- Protect slopes and channels and provide energy dissipation
- Hillside landscaping

Because Newport Bay has an approved Watershed Infiltration & Hydromodification Plan, the Proposed Project would use the above-described LID Treatment BMPs to reduce post development impacts. Therefore, implementation of the BMPs in the WQMP and compliance with NPDES MS4 permit requirements, potential impacts associated with water quality and waste-discharge impacts would be less than significant.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

According to the PWQMP, groundwater at the Project Site under existing conditions is likely greater than 50 feet below the ground surface. Groundwater is relatively shallow (generally less than 20 feet below the ground surface) in the large alluvial valley north and northeast of the Project Site.

The Proposed Project would not deplete or substantially interfere with the groundwater supplies because no groundwater wells are proposed and because the Proposed Project would not substantially interfere with groundwater recharge. Post-development runoff from the property would be directed into proprietary underground biofiltration BMP structures that will treat the runoff and then discharge it into the on-site storm drain system that is connected to the parkway drains on Mill Creek Drive.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in a substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

The existing Project Site is developed for an office building and its associated surface parking lot and landscaping. The existing drainage pattern consists of a series of v-gutters down the driveway entrance onto Mill Creek Drive. There are currently no underground storm drainpipes. According to the Final Hydrology Report (**Appendix H**), the storm volume and peak flow rates in the existing condition does not exceed the expected storm volume or peak flow rates in the proposed condition (with Project) and no on-site detention is required.

- *Result in substantial erosion or siltation onsite or offsite?*

Grading and construction associated with site work on the Project Site would result in temporary disturbance of surface soils, which could potentially result in erosion or sedimentation onsite, and potential water quality impacts attributable to construction activities. Any stockpiles of excavated areas would be susceptible to

erosion from wind and rain and, if not managed properly, could result in increased sedimentation in local drainage ways. However, all construction and grading activities are required to comply with the LHMC and NPDES best practices using BMPs, such as the use of fiber rolls, street sweeping, sandbag barriers, straw bale barriers, and storm drain inlet protection. The Proposed Project would construct 36 residential units and associated runoff infrastructure, including on-site treatment structures, which would prevent substantial erosion from occurring. Similar to existing conditions with the office building, runoff would ultimately drain out to the existing system in Mill Creek Drive. Therefore, the Proposed Project would not alter the existing drainage pattern of the site and would not result in substantial erosion or siltation.

- *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- *Impede or redirect flood flows?*

According to the PWQMP, the post development volume for the two year storm event does not exceed that of the predevelopment condition by more than five percent. The time of concentration of post-development runoff is less than the pre-development conditions. As discussed above, drainage from the Proposed Project would be collected by a series of area drains and catch basins to collect street flow. The BMPs described above would retain runoff generated on-site to ultimately connect to the existing system on Mill Creek Drive. The LID Treatment BMPs would include infiltration, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile of a 24-hour storm event. The infiltration system ensures that the capacity of the City's storm drain system is not exceeded by the development of the Proposed Project. At its pre-development condition, the site has an impervious surface percentage of 78.91 percent. The Proposed Project would decrease the impervious surface percentage to 66.99 percent post-development. Therefore, the Proposed Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site, nor would the Proposed Project impede or redirect flood flows.

- *Create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

The Project Site is located with an urbanized area with existing infrastructure to support the Project Site's stormwater drainage needs. The existing site surface drains through a series of v-gutters down the drive entrance onto Mill Creek Drive. There are currently no underground storm drain system improvements at the site.

Under the proposed conditions, drainage from the Proposed Project would be collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site. The flow continues down Mill Creek to an existing storm drain system tributary to San Diego Creek Channel. San Diego Creek channel drains to Upper Newport Bay. The LID Treatment BMPs would include infiltration, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile of a 24-hour storm event. Biotreatment would be utilized for the remaining volume. Non-structural BMPs such as activity restrictions, street sweeping, and common area landscape maintenance and litter control would also contribute towards runoff control and water quality protection. In addition, the Property Owner/Developer would be required to comply with the NPDES permit requirements to reduce any potential water quality impacts. Therefore, the Proposed Project would not create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems and would not provide substantial additional sources of polluted runoff.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The Project Site is located within FEMA Flood Plain Panel 06059C0313J and is designated within Zone X, which is described as an area of minimal flood hazard. The Project Site is located outside of the 100-year flood plain, and would not impede or redirect flood flows. According to the Preliminary Geotechnical Investigation (**Appendix I**), due to the elevation of the site relative to existing drainages in the area, flooding at the site is not considered to be reasonably foreseeable at the Project Site. Therefore, the Proposed Project would not risk release of pollutants due to project inundation. Furthermore, as described above, runoff would be captured and treated on-site and ultimately drained to the system in Mill Creek Drive.

Seiches are surface waves created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to development near large water bodies and water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. According to the geotechnical study, due to the elevation of the Proposed Project at the site with respect to sea level and its distance from large open bodies of water, the potential of seiches and/or tsunami is considered to be none. Because the Project Site is not

located in a high flood risk, tsunami, or seiche zone, the Proposed Project would not risk release of pollutants due to project inundation.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The City participates in the South Orange County Watershed Management Area (SOWMA) and its Integrated Regional Water Management Plan (IRWMP) to comply with National Pollutant Discharge Elimination System (NPDES) permits, requiring project-specific Water Quality Management Plans for development. According to the California Department of Water Resources Groundwater Sustainability Plan (GSP) Status Map, there are no applicable GSPs for the Project Site. The Proposed Project involves the construction of 36 single-family-attached condominium residential units, parking, roadways, and associated infrastructure. The Proposed Project does not feature any groundwater wells. The Property Owner/Developer is required to implement storm water and urban runoff pollution prevention controls, and Best Management Practices (BMPs) on construction sites in accordance with Chapter 5-36, Water Quality Control of the LHMC. The Project Site is more than one acre; therefore, the Property Owner/Developer would be required to comply with the requirements of the NPDES MS4 Permit and General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009- DWQ) and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would generally contain a site map showing the construction perimeter, existing and proposed buildings, storm water collection and discharge points, general pre- and post-construction topography, drainage patterns across the site, and adjacent roadways.

Therefore, with compliance with Chapter 5-36 of the LHMC, compliance with the MS4 and Construction General Permit, and implementation of a SWPPP, the Proposed Project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5. Can the project site be adequately served by all required utilities and public services?

The existing site contains an office building with an associated surface parking lot and landscaping. The existing site currently receives utilities and public services to accommodate the existing office building. The Proposed Project would connect to existing utilities and public services in the project area. The Proposed Project would add 36 residential units to the City's housing stock. Using the average family

size of 3.13 persons[6], the addition of 36 single-family dwelling units would create a population increase of approximately 113 residents (0.37 percent increase[7]).

a. Fire Protection:

The Proposed Project does not introduce any features that would require additional fire services beyond what is already serviced to the City. Fire services are provided to the City by the Orange County Fire Authority (OCFA). This includes the existing Project Site. The two closest fire stations to the Project Site are OCFA Stations #51 and #22. OCFA Station #22 is located approximately 2.3-miles from the Project Site and OCFA Station 55 is located approximately 9.2-miles from the Project Site. OCFA has a regional Prevention Field Service office that allows greater focus of prevention efforts to individual communities, which includes the City. OCFA's average response time[8] for emergency calls averages between 5-7 minutes for engines to arrive on scene after a 9-1-1 call has been placed. According to OCFA's 2025-2026 Fiscal Year Adopted Budget[9], OCFA's ratio of firefighters per 10,000 residents has remained steady over the last seven fiscal years ranging from 5.80 to 6.22 firefighters. During the past decade, OCFA's emergency call load has increased 42 percent, due in part to the City of Garden Grove joining in August 2019. According to CAL FIRE's Fire Hazard Severity Zone Viewer[10], the Project Site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) for both the Local Responsibility Areas (LRAs) and State Responsibility Areas (SRAs). Fire Hazard Severity Zones classify zones as Moderate, High, or Very High fire hazard based on hazard factors, such as fuel loading, slope, fire weather, and other relevant factors present. The western portion of the Project Site is designated as part of a Moderate Fire Hazard Severity Zone (FHSZ), while the remaining majority of the Project Site is not located within a FHSZ.

While the Project Site is located within a Moderate FHSZ, the Proposed Project would adhere to Chapter 5-16 Fire Code of the LHMC. Chapter 5-16 requires new development to adhere to the latest California Fire Code, which is enforced by OCFA. The Proposed Project includes a fire access plan (see **Figure 14**), which demonstrates compliant fire access throughout the Project Site in the event of an emergency. Additionally, due to the minimal increase in population, the Proposed Project would not result in the need for new or physically altered fire protection

[6] US Census Bureau, American Community Survey, 5-year estimates, S1101, City of Laguna Hills, accessed January 28, 2026.
[7] California Department of Finance, State Population Report – May 2025, accessed January 4, 2025. Percent increase of total population (30,309) in 2025.
[8] FAQs | OCFA, OCFA, accessed August 8, 2025.
[9] OCFA 2025/2026 Fiscal Year Adopted Budget, accessed August 8, 2025.
[10] Fire Hazard Severity Zones Map, CAL FIRE, March 2025, accessed August 8, 2025.

facilities. As of October 10, 2025, OCFA has reviewed the Proposed Project, and approved the Project's Fire Master Plan. The review included conditions of approval (**Appendix J**). Additionally, OCFA would receive an 11.83 percent of the increased basic one percent property tax levy, yielding an estimated $64,200 per year (**Appendix K**). Therefore, impacts to fire protection are less than significant.

b. Police Protection:

Police Protection for the Project Site would be provided by the Orange County Sheriff's Department. The closest police station to the Project Site is the Laguna Hills Police Services station, which is located approximately 1.52-mile from the Project Site. According to the LHGP Safety Element, adopted in June 2022, emergency calls with Laguna Hills Police Services had an average reconciled response time of 4 minutes and 57 seconds for emergency response calls and an average response time of 15 minutes and 6 seconds for priority 2 (serious crime) calls from when the call was received to deputies arriving at the location. These response times are within the average and reflect an appropriate staffing level for police services (LHGP Safety Element, pg S-17). The Proposed Project would minimally increase the City's population by 113 persons, or 0.37 percent. Development of the Project Site would not result in the need for new or physically altered police protection facilities. As discussed in Appendix K, the Proposed Project is estimated to generate an annual fiscal revenue of approximately $58,500. At full buildout, the Proposed Project is estimated to generate an estimated $17,600 in property taxes to the City compared to $4,900 in property taxes generated by the existing office property. The Proposed Project would contribute more to property taxes compared to the existing office property. The property taxes would contribute to the City's General Fund, which funds public safety services, such as police and fire services. Therefore, impacts to police services would be less than significant.

c. Schools:

The school district that serves the City is Saddleback Valley Unified School District. In the 2023-2024 school year, the school district saw a decrease of 3,111 students since the 2019-2020 school year[11]. As discussed above, the Proposed Project would minimally increase the City's population by 113 persons, or 0.37 percent. Construction of the Proposed Project could increase enrollment.

The Saddleback Valley Unified School District contains a total of 34 schools,

[11] Education Data Partnership, Fiscal, Demographic, and Performance Data, Saddleback Valley United School District, accessed March 1, 2025.

ranging from preschools to high schools. According to the US Census Bureau, the average family size is 3.13 persons and 19.6 percent of the City's population consists of persons under 18-years old[12]. Therefore, extrapolation of this would result in approximately 23 persons of the potential 113 additional persons from the Proposed Project would be under 18 years old (school-aged).

Furthermore, according to a Fee Justification Study[13] conducted for SVUSD, the student generation factor, including elementary school, intermediate school, and high school, is 0.3969 for single-family detached units and 0.3911 for multi-family attached units. Therefore, by multiplying the anticipated population increase by the Proposed Project (113 persons) by the student generation factor for single-family units (0.3969), the Proposed Project would generate approximately 45 students. Due to the nominal number of potential students and anticipated decrease in student enrollment[14], no impacts are anticipated to the schools. Furthermore, SB 50, established in 1998, capped developer fees for new construction to fund school facilities at a base fee of $1.93 per square foot for residential projects. School districts were allowed to charge higher, "Level Two" fees if the school district conducted a needs analysis and were eligible for state funds. Based on the Net Fiscal Impact Study (**Appendix K**) prepared for the Proposed Project, the School District is estimated to receive one-time developer school impact fees of approximately $9,660 per unit, or a total of $347,800. SB 50 addresses all potential impacts related to school services.

d. Parks:

Chapter 8-06 Park Dedication and In-Lieu Fee Requirements of the LHMC establishes procedures for requiring the dedication of land or the payment of in-lieu fees to serve new residential subdivisions that are approved by the City Council. Chapter 8-07 Citywide Park and Recreation Fees establishes a program for requiring payment of fees for parks, recreation, and open space facilities to accommodate new residential development projects. The Proposed Project includes 20 percent landscape coverage in the forms of large accent trees, medium accent trees, perimeter screening trees, small accent trees, shrub and

[12] City of Laguna Hills, American Community Survey 5-year estimates, S1101, US Census Bureau, accessed March 1, 2025.
[13] Residential and Commercial/Industrial Development School Fee Justification Study, Saddleback Valley Unified School District, March 2022, accessed August 5, 2025.
[14] The school district that serves the City is Saddleback Valley Unified School District. In the 2023-2024 school year, the school district saw a decrease of 3,111 students since the 2019-2020 school year. Education Data Partnership, Fiscal, Demographic, and Performance Data, Saddleback Valley United School District, accessed March 1, 2025.

groundcover, and vines and espaliers. Section 2.5.1 of the Objective Design Standards (ODS) requires all projects on sites of two or more acres in size to provide public open space of at least a quarter of the minimum open space required for the project under the LHMC. As part of the Project's Density Bonus Law Request, the Proposed Project requests a waiver to eliminate private and public open space as required by LHMC for developments in the MXU zone. The Project Site is constrained by steep slopes along its northern and southern boundaries, as well as along Mill Creek Drive, limiting the buildable area on the property. Compliance with this standard would require dedicating land for open space where either housing, infrastructure, or parking is planned. Therefore, compliance with this standard would reduce the overall density of the Project and therefore would physically preclude development of the Project.

Additionally, according to the LHGP Community Services and Facilities Element, all new development and redevelopment in the City are required to meet a Park Facilities Service Standard of five acres of active or passive park land per 1,000 residents. According to 2025 Department of Finance data, the City's total population was 30,309 persons. Therefore, per the Park Facilities Service Standard, the City has a minimum requirement of approximately 155 acres of park land[15] to accommodate the City's population. The LHGP Conservation and Open Space Element states that approximately 590 acres are dedicated and used for a variety of open space and/or recreational purposes, including 14 public parks and 15 private parks within the City. Existing facilities within the City exceed the Park Facilities Service Standard's minimum requirements.

The Proposed Project would create a population increase of approximately 113 persons. Because the City has a surplus of approximately 435 acres of open space and/or recreational facilities, the Proposed Project would be adequately served by existing park facilities.

e. Other Public Facilities:

The Proposed Project could add approximately 113 new residents to the City, increasing the population by 0.37-percent. The nominal increased demand would be met with existing public facilities. According to the Net Fiscal Impact Analysis conducted by Kosmont for the Proposed Project (**Appendix K**), the Proposed Project is estimated to generate an annual fiscal revenue of approximately $58,500 at full buildout in 2024 dollars, yielding a positive annual net fiscal impact of $9,800. The existing office properties yield a current negative annual fiscal

[15] City of Laguna Hills General Plan – Community Services and Facilities – Table CSF-1.

impact of $5,900. When compared to the existing use on the Project Site, the Proposed Project would provide greater indirect and direct benefits to the City's General Fund and local agencies, including the school district. During existing conditions, there are no new residents to utilize library facilities. However, construction of the Proposed Project could increase the population by 113 new residents. However, the Proposed Project would be required to pay all applicable fees set forth by the City's Municipal Code. Any potential impacts to libraries would be adequately funded through the Proposed Project's revenues to the General Fund. The Proposed Project's revenues exceed the cost of expenditures to community services. Therefore, no impacts to public facilities would be anticipated.

f. Wastewater/Sewer:

According to the LHGP Final Program Environmental Impact Report (EIR), properties within the City are served by a public sewage collection system maintained by the South Orange County Wastewater Authority (SOCWA) and carried by the Moulton Niguel Water District (MNWD) and El Toro Water District (ETWD). The existing office building and Project Site are served by ETWD for sanitary sewer and domestic water services. ETWD also provides potable water to the Project Site. Therefore, the Proposed Project would be served by ETWD for domestic water and sanitary sewer water services.

Existing sewer/wastewater infrastructure at the Project Site consists of an 8-inch sewer line and 10-inch water line at Mill Creek Drive. ETWD's wastewater collection system includes approximately 158 miles of sewer pipelines ranging from 4-inches to 24-inches in diameter and 11 sewer lift stations[16]. ETWD's existing wastewater treatment plant has a capacity of 6 mgd. The existing water tertiary treatment plant has a capacity of 3.7 mgd. The Proposed Project would construct new sewer and water lines throughout the Project Site's internal driveways to ultimately connect to the existing sewer and water lines on Mill Creek Drive. The Applicant received a letter from ETWD that states that the Project would flow to the existing eight-inch sewer main in Mill Creek Drive. Based on the project assumptions, ETWD concluded that there is no impact to the collection system or the receiving lift station under both average dry weather and 10-year design storm conditions (**Appendix A**).

ETWD has provided a will-serve letter for the Proposed Project that indicates that ETWD is willing to provide domestic water and sanitary sewer services to the Project

[16] 2020 Urban Water Management Plan, El Toro Water District, accessed August 23, 2025.

Site (**Appendix A**). Therefore, impacts to wastewater/sewer would be less than significant.

g. Storm Water Drainage:

The Proposed Project involves the construction of 36 single-family residential dwelling units. Per Chapter 5-36 Water Quality Control of the LHMC, the Proposed Project would be required to include specific design Best Management Practices (BMPs) to ensure that no storm water runoff generated on the Project Site would leave without pre-treatment for urban pollutants. The Applicant has prepared a Preliminary Water Quality Management Plan (PWQMP) (**Appendix G**), which includes specific design features during construction and operations as part of the Proposed Project's BMPs. The existing Project Site surface drains through a series of v-gutters down the drive entrance onto Mill Creek Drive. There are currently no underground storm drain pipes at the existing site. Under existing conditions, the site has a total storm volume of 1.054 acre-feet. Under proposed conditions, the drainage from the project is collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site. The total storm volume under proposed conditions would be 1.048 acre-feet. The Applicant would be required to comply with Chapter 5-36 of the LHMC and implement all recommendations contained within the PWQMP, including usage of the Project's BMPs as detailed in question 4.

The Project Site is more than one acre; therefore, the Property Owner/Developer would be required to comply with the requirements of the NPDES MS4 Permit Construction General Permit Order 2009-0009- DWQ and prepare a SWPPP. The SWPPP would generally contain a site map showing the construction perimeter, existing and proposed buildings, storm water collection and discharge points, general pre- and post-construction topography, drainage patterns across the site, and adjacent roadways. Therefore, with compliance with Chapter 5-36 of the LHMC, potential impacts associated with storm water drainage would be less than significant.

h. Water Supplies:

ETWD is responsible for providing a clean, safe, and potable water supply to the City.

Based on ETWD's 2020 Urban Water Management Plan (UWMP), water demands

for portable and non-potable water for single-family homes was 1,943 acre-foot (AF). Commercial uses demanded 782 AF. ETWD projects total water demand to increase 8.5 percent between 2020 and 2045 and determined that ETWD has sufficient supply through 2045.Furthermore, on July 31, 2024, the Proposed Project received a will-serve letter from ETWD which states that ETWD is "willing to provide Domestic Water and Sanitary Sewer Water services to the subject project" (Proposed Project). Therefore, ETWD has capacity in its water supplies to serve the Proposed Project. The provisions of ETWD's service are contingent upon the Applicant completing the necessary requirements in accordance with ETWD Rules and Regulations. With adherence to ETWD Rules and Regulations, the Proposed Project would not result in a significant impact to ETWD's water supplies.

i. Solid Waste Disposal:

The Proposed Project is required to comply with the provisions of Chapter 5-32 Solid Waste and Recycling of the LHMC, which regulates solid waste in the City. According to Chapter 5.32 of the LHMC, single-family generators are required to subscribe to the City's organic waste collection services for all organic waste generated. Single-family waste generators are required to place designated materials in designated containers and shall not contaminate collection containers. Food scraps and yard trimmings would go in the green container, recyclable materials in the blue container, and municipal solid waste in the gray container that is provided by the terms of the City's franchise agreement. Each household would be provided with one trash cart, one recycling cart, and one green waste/food waste cart. CR&R provides solid waste services to the City. The Proposed Project's contribution of solid waste would be minimal and would not significantly impact solid waste collection or landfill operations. According to CalReycle, commercial sites, such as the existing office use at the Project Site, would generate approximately 10.53 pounds per employee per day[17]. While the employee numbers are not known at the existing office building, CalRecycle also states that a professional office could generate 0.084 pounds per square foot per day. Thus, the existing 13,308 sq. ft. office building would generate approximately 1,159.88 pounds of waste per day. Residential uses have a waste generation rate of 12.23 pounds per household per day. With the construction of 36 units, the Proposed Project would generate approximately 440 pounds of waste per day, which is less than the existing office use. Furthermore, as with all residences in the City, the individual units are subject to curbside recycling and green waste separation requirements. Therefore, no impacts are anticipated to solid waste disposal.

[17] Estimated Solid Waste Generation Rates, CalRecycle, accessed August 14, 2025.

j. Electricity: k. Natural Gas: l. Telephone Service: m. Television Service:

The Project Site is in a built-out, urban setting. The Project Site and the surrounding properties are fully served by various utility service providers, including:

- Electric: Southern California Edison (SCE)
- Natural Gas: Southern California Gas (SoCalGas)
- Telecommunications: Charter, AT&T, and Cox

There are no anticipated significant service or system upgrades needed to serve the proposed single-family residential development. Additionally, the Proposed Project received letters from AT&T, Charter, and Cox stating that AT&T, Charter, and Cox have capacity to serve the Proposed Project and Project Site area (**Appendix A**). Natural gas service will not be required as part of the Proposed Project; therefore, a will-serve letter from SoCalGas was not requested. Therefore, no impacts are anticipated.

EXCEPTIONS:

CEQA Guidelines Section 15300.2 outlines exceptions, to the categorical exemptions that would disqualify a project from a Categorical Exemption.

The following analysis discusses the Proposed Project in relation to CEQA Guidelines Section 15300.2 – Exceptions.

a. Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

The Proposed Project is not seeking Class 3, 4, 5, 6, or 11 categorical exemptions. Therefore, exception A of Section 15300.2 is not applicable to the Proposed Project.

b. Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

The Proposed Project is consistent with the LHGP goals and policies and helps fulfill the Housing Element RHNA goal and addresses housing need in the City. The Proposed Project provides housing to an existing commercial office site. Impacts during construction would be temporary and confined to the vicinity of the Project Site. Furthermore, as discussed above under threshold questions three through five, the Proposed Project does not exceed any regulatory thresholds and qualifies for a Class 32 categorical exemption. The Proposed Project is subject to conditions of approval and local, regional, and state regulations. No prior or successive projects in the Project Site vicinity are known or expected to occur over time that would result in cumulatively considerable impacts. The Proposed Project would not have a cumulative impact due to prior or successive projects of the same type in the same place, over time.

c. Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The project calls for the construction of residential units in an urban, developed city. The project does not include any unusual circumstances. As discussed above under threshold questions three through five, the Proposed Project would not have any significant effect related to traffic, noise, air quality, water quality, and biological and cultural resources. The Proposed Project falls below regulatory thresholds and would adhere to all applicable regulations, such as the City's Municipal Code.

d. Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

The Department of Transportation (Caltrans) manages the State Scenic Highway Program and provides a State Scenic Highway Map tool on the Caltrans website. According to the Caltrans State Scenic Highway Map tool, there are no scenic highways on or adjacent to the Project Site. The closest scenic highway is State Route (SR) 1, which is located approximately 6.7 miles southwest of the Project Site. Additionally, according to the LHGP Conservation and Open Space Element, the Project Site is not designated as a scenic vista. The closest designated scenic vista is the Veeh Reservoir, which is located approximately 0.13-mile southeast of the Project Site. The Proposed Project does not propose any features that would interfere with scenic resources. Therefore, exception D is not applicable to the

Proposed Project.

e. Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

According to the California Environmental Protection Agency (CalEPA) and the Department of Toxic Control Substances (DTSC)'s Cortese List (Section 65962.5 of the Government Code) the Project Site is not located on the Cortese List or on any database of hazardous substance release sites, such as the EnviroStor database. Therefore, exception E is not applicable to the Proposed Project.

f. Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

As discussed in the Phase I Cultural Report (**Appendix L**), no archaeological resources were identified within the Project Site as a result of the CHRIS records search, NAHC Sacred Lands File search, informational letters and coordination to local tribes, or pedestrian survey by a qualified archaeologist. The Phase I Cultural Report's research within the above-stated databases did not find the existing office building to be a historical resource based on California PRC Section 5020.1(j)'s definition of a historical resource. Further, significant portions of the Project Site have been disturbed by grading and the development of the existing office building and parking lot. Therefore, the Project Site is unlikely to contain intact buried archaeological deposits. Additionally, the Proposed Project is required by law to adhere to Section 7050.5 of the California Health and Safety Code, Title 14 Section 4308 of the California Administrative Code, and Section 5097.98 of the Public Resources Code. Therefore, exception F is not applicable to the Proposed Project.

CONCLUSION:

Therefore, based on the analysis above, the Proposed Project is classified as a Class 32 pursuant to CEQA Guidelines Section 15300 and is categorically exempt from CEQA.

APPENDICES:

Appendix A	Will-Serve Letters and ETWD Sewer Study
Appendix B	Biological Resources Report, January 2026, South Environmental
Appendix C	Project Trip Generation and Vehicle Miles Traveled (VMT) Screening Analysis and Gate Queuing Study (Traffic Study), January 8, 2026, RK Engineering Group, Inc.
Appendix D	Noise Impact Study, January 22, 2026, RK Engineering Group, Inc.
Appendix E	Air Quality, Greenhouse Gas, and Energy Study, January 8, 2026, RK Engineering Group, Inc.
Appendix F	Health Risk Assessment, January 12, 2026, RK Engineering Group, Inc.
Appendix G	Preliminary Water Quality Management Plan, January 15, 2025, Wilson Mikami
Appendix H	Final Hydrology Report, October 2025, Wilson Mikami
Appendix I	Preliminary Geotechnical Investigation, August 15, 2024, LGC Valley Inc.
Appendix J	OCFA Conditions of Approval
Appendix K	Net Fiscal Impact Analysis, January 2025, Kosmont
Appendix L	Phase I Cultural Resources Report, September 2025, South
Appendix M	Phase I Environmental Site Assessment, May 10, 2024, Thornburgh Consulting, Inc.

DETERMINATION:

The analysis adequately supports each criteria of the Class 32 – Infill Development Projects exemption.

–

Board of Directors

Mike Gaskins
President

Kathryn Freshley
Vice President

Mark L. Monin
Director

Kay Havens
Director

Wyatt McClean
Director

General Manager
Dennis P. Cafferty

El Toro Water District

"A District of Distinction"

Serving the Public – Respecting the Environment

October 6, 2025

Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

Attn: Aylene Chu

Re: 23161, 23272, and 23282 Mill Creek Dr in Laguna Hills Sewer Study

Ms Chu,

ETWD evaluated the impact of the proposed development at 23161, 23272, and 23282 Mill Creek Dr in Laguna Hills on its wastewater system. The development would add 82 dwelling units and divert flow to the existing 8-inch sewer main in Mill Creek Dr. Based on these assumptions, there is no impact to the collection system or the receiving lift station under both average dry weather and 10-year design storm conditions, and ETWD concurs that the developer has met its requirements for the entitlement phase of the project.

By signing below, the developer agrees to notify ETWD immediately if the number of dwelling units increases and/or if the tie-in location to the collection system changes substantially. In such cases, ETWD reserves the right to re-evaluate the revised impact on the sewer system at the developer's expense.

Sincerely,

_____

Hannah T. Ford, P.E.
Director of Engineering / District Engineer

The above is acknowledged by:

_____

Aylene Chu, P.E.
Director of Land Entitlements

March 21, 2025

Aylene Chu, P.E
Director of Land Management.
C/O Toll Brothers
Re: Will Serve Letter: 23161 Mill Creek Rd Project - Laguna Hills

Dear Ms. Chu

In accordance with our agreement with the City of Laguna Hills, CR&R will provide solid waste and recycling services for the provided project. For additional information about our company, please visit www.crrwasteservices.com.

It is recommended for address numbers for each unit to be labeled on each container for easier identification.

Customer Service can assist with any coordination of service. Customer Service may be contacted at 714-372-8272.

Best,

Michael Leidelmeyer

Michael Leidelmeyer
Vice President,
So. Orange County
CR&R Incorporated
c: 951-453-0776
mleidelmeyer@crrmail.com

El Toro Water District

"A District of Distinction"

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President

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Director

Kay Havens
Director

Fred Adjarian
Director

General Manager
Dennis P. Cafferty

7/31/2024

24035 El Toro Road
Laguna Hills, CA 92653

Attn: City of Laguna Hills Planning Department

Re: El Toro Water District Conditional Will Serve Commitment
for address: 23161 Mill Creek, Laguna Hills

El Toro Water District (ETWD) is willing to provide Domestic Water, Sanitary Sewer and Recycled Water services to the subject project. The provisions of service are contingent upon the developer completing the necessary requirements in accordance with ETWD Rules and Regulations.

Further requirements for service may also include, but is not limited to, Sub Area Master Plan update, plan approval, facility construction, inspection, jurisdictional annexation, inspection fees, impact fees, easements, and quit claim documents.

This letter does not constitute a water supply verification, as required by California State Legislature of Senate Bill SB 610, or a water supply assessment, as required by California State Legislature of Senate Bill SB 221. If compliance with one or both of such requirements is necessary for the project, appropriate requests shall be submitted to ETWD. ETWD's ability to serve is subject to limiting conditions, such as regulatory requirements, legal issues, or conditions beyond ETWD's control.

Please contact ETWD Engineering Department for any questions by emailing Engineering@ETWD.com.

Sincerely,

Hannah T. Ford, P.E.
Director of Engineering

1452 Edinger Ave, 3rd Floor
Tustin, CA 92780

July 18, 2024

Morrow Management
1130 Via Callejon
San Clemente, CA 92673
ATTN: Lauren Warner

RE: Will Serve Letter; 23161 Mill Creek Drive, Laguna Hills, CA

Dear Ms. Warner,

This letter acknowledges that the project at 23161 Mill Creek Drive, Laguna Hills, CA is located in an area served by AT&T. Any service arrangements at this location will be subject to later discussions and agreements between the developer and AT&T. While AT&T has the capacity to serve the project, please be advised that this letter is not a commitment by AT&T to provide service to 23161 Mill Creek Drive, Laguna Hills, CA.

Please contact me at the phone number included in this letter with any questions.

Thank you for contacting AT&T.

Sincerely,

Bob Fleisher

Robert Fleisher
Manager (OSP) Planning and Engineering
(949) 229-9640
rf3259@att.com

RF/rb

7/19/2024

Lauren Warner
Morrow Management
1130 Via Callejon
San Clemente, CA 92673

Requester Project:	Utility Request
Project Name	Toll Khoshbin Mill Creek
DOCK/PRISM Project Name:	Mill Creek Drive
Conflict:	NO

Thank you for your recent Utility Request to Charter Communications for: Toll Khoshbin Mill Creek

Please review the attached maps for any possible conflicts with Charter facilities.
There ***ARE NO*** existing Charter aerial/or underground facilities within the project limits.

We have provided maps showing where our services are located but cannot make any comment on how to deal with possible conflicts during construction. This type of information should come from the Construction Manager, Supervisor or Construction Coordinator for the area in question.

If you should require any field meet or any further coordination of the project with Charter please contact the Construction Manager listed below.

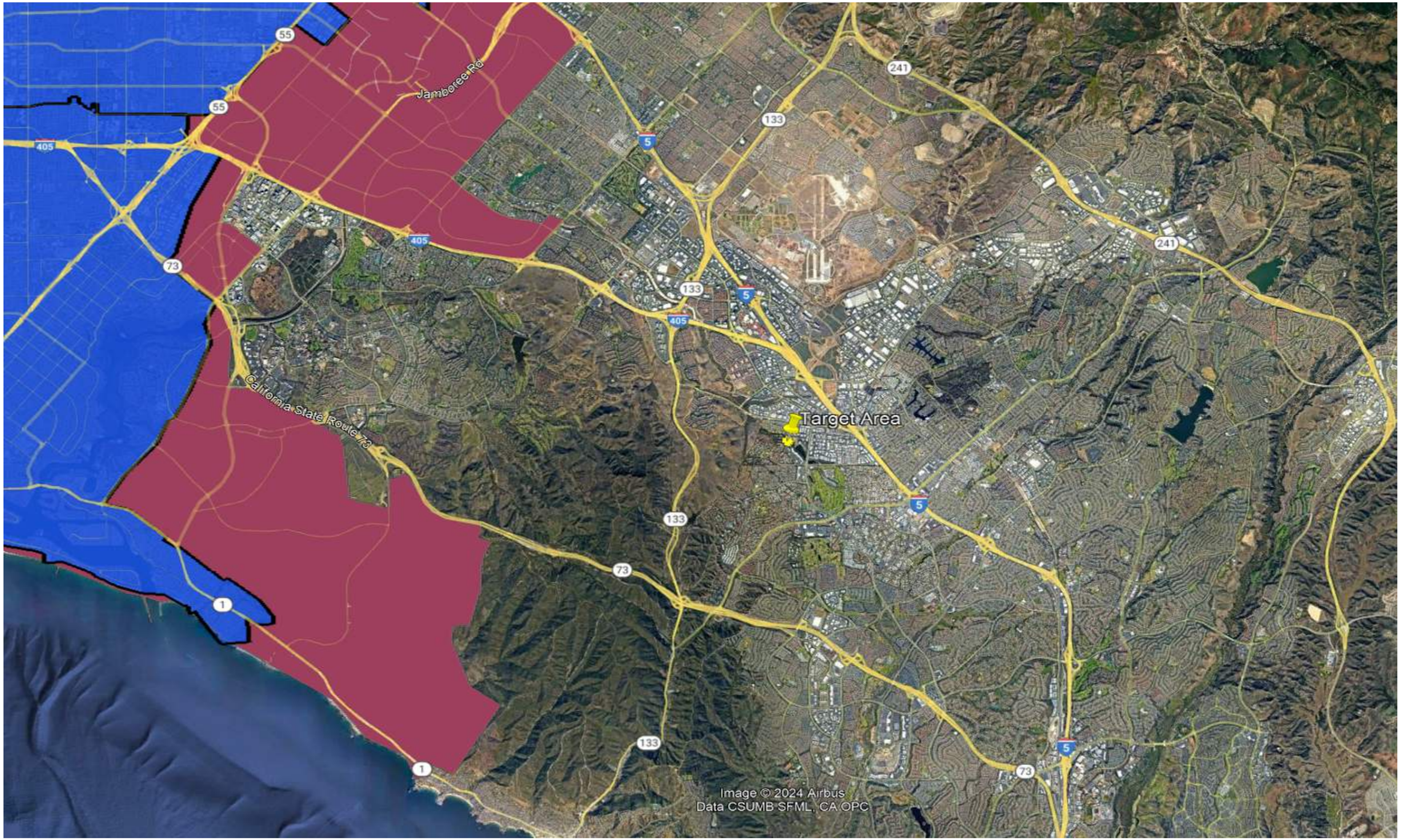
Construction Manager Contact:
Lilly, Larry
Construction Manager - Zone 8
7142 Chapman Ave
Garden Grove, CA 92841
714-591-4883
Larry.Lilly@charter.com

If you have any questions about the maps provided, please contact DL-socal-charter-engineering@charter.com. This communication is for a project being handled by Charter Communications or Spectrum, a Charter Communications brand name, or Legacy Time Warner Cable. Email replies may come from CCI Systems.

Sincerely,

Dave Dolney

Dave Dolney
Sr. Manager, PACWEST Construction
Charter Communications
7337 Central Ave.
Riverside, CA 92504


55
55
405
73
Jamboree Rd
405
133
5
241
241
133
5
405
California State Route 73
Target Area
133
73
5
1
1
133
73
Image © 2024 Airbus
Data CSUMB SFML, CA OPC

Granite Way
Mill Creek Dr
Caminito Grande
Caminito Pacifico
Santa Vittoria Dr
Target Area
Caminito Costa
Caminito Esteban
Mill Creek Dr
Caminito Andrea
Caminito Marcial
Avenida Espinazo

COX | Communities

1550 W Deer Valley Rd
Phoenix, AZ 85027

July 23, 2024

Lauren Warner
Morrow Management
1130 Via Collejon
San Clemente, CA 92673

Re: Toll Brothers Inc. Khoshbin Mill Creek
23161 Mill Creek Drive, Laguna Hills, CA
45 SFU residential units

Per your request, this is to advise you that Cox Communications may have facilities to provide broadband cable and other telecommunication services to the City of Laguna Hills, Orange County as per our franchise agreement.

Since this is a private single-family development, a service agreement may be required and in addition, an installation fee may be required to make services available to the community.

Please contact me at your earliest convenience so that we may discuss this project in more detail. I can be reached at (623) 328-3217. I look forward to working with you and your company on this project.

Sincerely,

Yvonne Hitchcock-Dozer

Yvonne Hitchcock-Dozer
Account Executive
Cox Communications
623-328-3217

SOUTHERN CALIFORNIA EDISON
An *EDISON INTERNATIONAL* Company

DATE: 7/22/24

COMPANY : Toll Brothers, Inc Khoshbin Mills Creek

SUBJECT: 23161 Mill Creek Drive, Laguna Hills

Your project is located in Southern California Edison (SCE) service territory. SCE will serve the above subject project's electrical requirements per the California Public Utilities Commission and Federal Energy Regulatory Commission tariffs.

SCE may need to conduct utility studies, where applicable, to assess whether additions or modifications to the existing electric infrastructure are required to serve this project. Where applicable, SCE has attached Appendix (B) which not only describes the study, and permitting, but includes a Project Information Sheet that will need to be completed by you and submitted to SCE if your project is at a point where SCE has to determine the required electrical utility work. This Will-Serve letter does not imply that either: (i) these studies have been completed, or (ii) that any required California Environmental Quality Act (CEQA) analysis of project-related electric utility impacts has been conducted.

I am the SCE Design Representative currently assigned to this project. SCE or Applicant will design and construct all required electrical infrastructure to serve this project provided you enter into the applicable contractual agreements with SCE identify scope of electrical utility work required, and supply the following information:

- Site plans as required
- Required contracts and agreements (fully executed)
- Applicable fees
- Local permits
- Required easement documents

Your project will be scheduled for construction once SCE has all the necessary information for your project and you have submitted or agreed to the applicable requirements as stated above, and paid any necessary fees.

If your project will not require SCE services, please notify us so that we can update our records.

SCE appreciates your business. If you have any questions, please feel free to call me at 714-403-0970

Sincerely,

KRISTINA NEWCOMB

SCE Design Representative

Enclosure: Appendix B, where applicable

March 21, 2025

Aylene Chu, P.E
Director of Land Management.
C/O Toll Brothers
Re: Will Serve Letter: 23161 Mill Creek Rd Project - Laguna Hills

Dear Ms. Chu

In accordance with our agreement with the City of Laguna Hills, CR&R will provide solid waste and recycling services for the provided project. For additional information about our company, please visit www.crrwasteservices.com.

It is recommended for address numbers for each unit to be labeled on each container for easier identification.

Customer Service can assist with any coordination of service. Customer Service may be contacted at 714-372-8272.

Best,

Michael Leidelmeyer

Michael Leidelmeyer
Vice President,
So. Orange County
CR&R Incorporated
c: 951-453-0776
mleidelmeyer@crrmail.com

Biological Resources Report

23161 Mill Creek Drive, City of Laguna Hills, California

Prepared For:
City of Laguna Hills
24035 El Toro Road
Laguna Hills, CA 92653

Prepared By:

South Environmental LLC
2061 N. Los Robles Ave, #205
Pasadena, California 91104

Authors:
Dana Briggs - Biologist
Matthew South – Principal Biologist

September 2025

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Executive Summary

Introduction: This report includes findings of a biological resources assessment conducted by South Environmental at 23161 Mill Creek Drive in the City of Laguna Hills, California. This report includes biological resources within the project site and surrounding 500 feet (study area). The 500 feet surrounding the property are referred to throughout this report as the "study area." The 500 foot buffer area was chosen so indirect impacts from construction sound and vibration could be studied.

Proposed Development: The applicant proposes to redevelop an existing commercial lot currently developed with an office building and paved parking lot into a 43-townhome residential development at 23161 Mill Creek Drive in the City of Laguna Hills, California, for a total project footprint of 2.43 acres (Figure 3 and Appendix E). The proposed project is designed to include a concrete masonry block wall with cap or a mechanically stabilized earth wall surrounding the project site, a 3-foot 6-inch high steel cable guard rail along the western and southern project site boundaries, a 6-feet high split face block wall with precision cap in between each unit, and a 6-feet high tubular steel view fence along the northern and eastern project site boundaries. The entrance will include a 7-feet high cultured stone veneer entry wall with cap.

Plant Communities/Sensitive Natural Communities/Wildlife Habitat: The project would be constructed entirely on Developed/ Ornamental Landscaped (2.43-acres) cover type, which is not a sensitive natural community. Developments and ornamental landscaping are not habitat for special-status species as these species occur in native habitats. The project proposes development within areas already developed that do not support special-status species. The Hardstem and California Bulrush Marsh and California Sycamore Riparian Woodland plant communities are considered sensitive natural communities, and the marsh occurs 340 feet southeast of the Project Site and the woodland occurs 140 feet to the northeast of the Project Site. The Eucalyptus Grove community is 57 feet from the project footprint and Mill Creek Road buffers the area between the sensitive marsh and riparian woodland communities and the development. The Hardstem and California Bulrush community is 340 feet from the project footprint and Mill Creek road and the Eucalyptus Grove community buffer the area between this community and the development, and no impact is expected to occur. Similarly, there is Mill Creek Drive and existing developments between the riparian woodland and the project site that would create a buffer to any potential indirect impacts to this community. Therefore, no direct or indirect impact to native plant communities would result from the project because the project would be constructed on an existing development and the site is separated from any potential habitat areas by existing developments that would reduce or eliminate any potential indirect effects from construction and/or operation to a level that is insignificant.

Special-Status Plants: No special-status plants were observed on the project site, and it is unlikely that any would occur due to existing development and lack of native habitat. Of the 45 special-status plants known to occur in the region, only six had a low potential of occurring in the Hardstem and

California Bulrush Marsh plant community and are unlikely to be found there. However, this habitat does not occur on the project site itself and has a buffer of the Eucalyptus Grove between the two areas and would be unaffected by the project. Plants offsite would not be affected by any indirect impacts as no new fuel modification or brush clearance is proposed, and the project construction noise and vibration would have no effect on offsite plants. Therefore, the project would have no direct or indirect impact on special-status plants.

Protected Trees: Trees protected under the Laguna Hills Tree Preservation Ordinance were observed in the study area. Based on the proposed development footprint, however, these trees are not within the project footprint or at risk of being damaged/ removed for the proposed development because they are not in the impact areas. Therefore, the project will not impact protected trees.

Special-Status Wildlife: The proposed construction footprint of 2.43-acres will be on an existing developed/ ornamental landscaped area. The staging would occur on the project site also where the existing parking lots occur. These impacts would occur in disturbed areas where special-status species habitat is absent, and no special-status species would occur. The remaining native habitat within the study area is already highly disturbed by the surrounding developments and the resulting fragmentation and invasive species, and the project would have no effect on these areas as they are separated from the project site by Mill Creek Road. Indirect impacts from construction or operation of the project would not occur to the offsite native habitats as there are existing barriers such as Mill Creek and buildings and parking areas that separate the project site from these areas, and the separation acts as a buffer to any potential construction or operational impacts in these offsite area. No new fuel modification is proposed and lighting would not occur so indirect impacts would not occur. Because the project impacts, both construction and operational, will occur on areas unable to support special-status species and are not considered native wildlife habitats as a result of the disturbance, the project would have no impact on habitat for special-status wildlife.

No special-status wildlife species were observed during the field visit, likely due to the presence of developed/ ornamental landscaped areas and disturbance of the remaining native habitat. Of the 64 special-status animals known to occur in the region, four had a medium potential of occurring within the Eucalyptus Grove habitat, the California Sycamore Riparian Woodland habitat, Veeh's Reservoir and/or the Hardstem and California Bulrush Marsh habitat. These species include tricolored blackbird (*Agelaius tricolor*), southwestern pond turtle (*Actinemys pallida*), Cooper's hawk (*Astur cooperii*), and yellow warbler (*Setophaga petechia*). The project would have no impact on these areas or marsh habitat or water features within or near the study area. In addition, no new fuel modification would occur. As described above the project would have not direct or indirect impacts to the potential native habitat for these species in offsite areas.

Cooper's hawk is not yet considered rare, threatened, or endangered and is a watchlist species, which indicates that it is not yet at in a position where the project could have a significant impact per CEQA. Cooper's hawk could perch on trees on the project site but is more likely to nest near the reservoir as

there is no foraging habitat on the project site and it is abundant at the reservoir. The project would avoid impacts to nesting birds (including potential Cooper's hawk nests within the buffer area) as discussed below in Section 3.4.3 and would avoid any impacts to Cooper's hawk if perching or nesting on the site during construction. Required regulatory compliance with the MBTA and nesting bird survey described below would ensure that impacts to Cooper's hawk would be avoided.

Therefore, the project would have no impact on special-status wildlife because no native habitat would be impacted and impacts to special-status species would be avoided or less than significant in the case of the Cooper's hawk.

There is the potential for nesting birds — including migratory Birds of Conservation Concern (BCC) and Cooper's hawk. Compliance with applicable law would avoid impacts to nesting birds.

Wildlife Movement: Due to the surrounding developments, barriers, and human presence, there is low potential for wildlife to be found moving through the project site. The project would occur on Developed/ Ornamental Landscape cover and would not result in a loss of native habitats or areas important for wildlife movement. No new fuel modification is proposed and impacts direct or indirect would not occur to the movement areas east of the project site at Veeh's Reservoir. The project will not impact any of the water features within the study area, which are not directly adjacent to the project site and are separated from the project site by other developments. Additionally, new barriers such as proposed walls and lighting are not in any existing movement area and no wildlife would be deterred by the project. Therefore, there will be no impacts to wildlife movement from project development.

Water Resources: There are water resources within the study area including Veeh Reservoir and nearby riverine/ wetland habitats adjacent to the reservoir, but none on the project site itself. As mentioned, these water features are already heavily disturbed by the surrounding developments and modifications to their banks and inflow/outflow and are highly contained. These wetlands and aquatic resources are outside of the proposed impact areas and would be unaffected by the development. Additionally, there are other developments, such as roads and commercial buildings creating a buffer zone between these water features and the project site that would prevent encroachment or impacts from the proposed development. Therefore, project development will have no impact on water resources.

Cumulative Impact: The project would avoid impacts to protected biological resources. Therefore, the project would not contribute to any cumulative impacts to protected biological resources in the region.

Conclusion: Based on the analysis in this report, the proposed redevelopment of a commercially developed parcel into a residential community with associated structures and ornamental landscaping at 23161 Mill Creek Dr. would not result in any impacts to biological resources in the City of Laguna Hills.

1 Project Overview

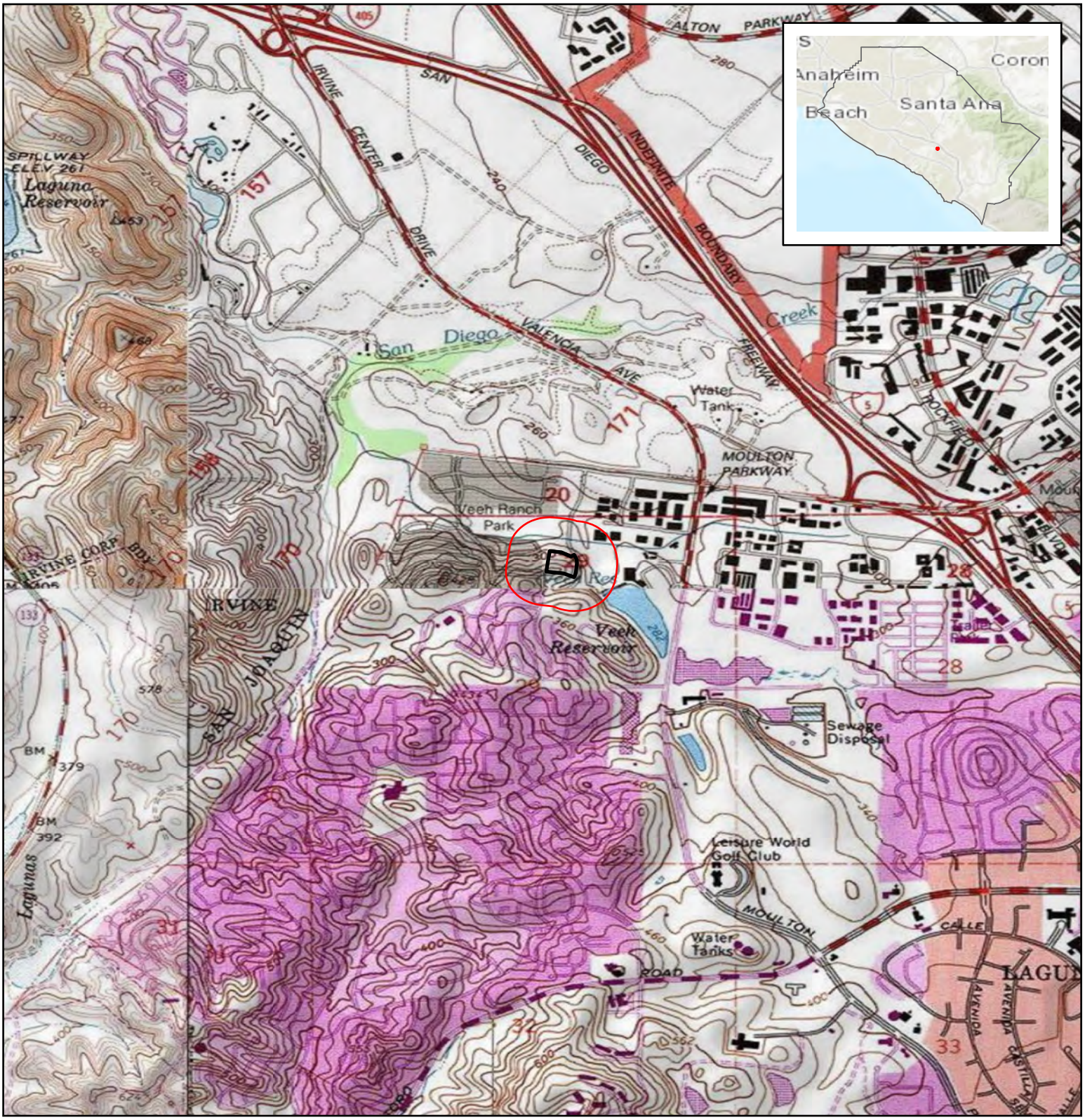
This report includes the findings of a Biological Resources Assessment (BRA) conducted by South Environmental for a proposed redevelopment of an office building location into single-family detached homes at 23161 Mill Creek Drive in the City of Laguna Hills, California. The purpose of this report is to identify and characterize biological resources that occur on the project site and surrounding 500 feet , quantify and assess potential impacts to protected biological resources. The 500 feet surrounding the property are referred to throughout this report as the "study area". The 500 foot buffer area was chosen so indirect impacts from construction sound and vibration could be studied. The scope of this report includes a description of the proposed development, methods used to assess the biological resources, the environmental setting including technical characterizations and maps of vegetation communities, an assessment of the potential for special-status plants and animals to occur on the study area, a description of the regulatory setting and, an analysis of the potential for the project to impact biological resources according to the thresholds of the California Environmental Quality Act (CEQA). Representative photographs of the study area are in Appendix A.

1.1 Project Location

The project site is located at 23161 Mill Creek Dr. and includes one parcel (Assessor Parcel Number [APN] 588-142-07) on the San Juan Capistrano United State Geological Survey (USGS) 7.5-minute quad in Section 29 of Township 6 South and Range 8 West San Bernardino Principal Meridian. The project site includes approximately 2.43 acres located on Mill Creek Drive in the City of Laguna Hills, Orange County, California (Figure 1 and Figure 2). Relative to the project site, Highway 5 is approximately 0.72-miles to the northeast, Highway 73 is approximately 2.65-miles to the south, and Highway 133 is approximately 1.20-miles to the west. Photographs of the study area are shown in Appendix A.

1.2 Site History

The parcel is currently fully developed into a commercial lot with an office building, a paved parking lot, and ornamental landscaping that is adjacent to other office and commercial buildings. The surrounding area is also mostly developed with other commercial buildings, a residential neighborhood to the west, parking lots, and roadways. Accompanying structures in the area include roadways, parking lots, driveways, and ornamentally landscaped areas that are extensions of surrounding developments.



Source: ESRI USA Topo Maps and World Topo Map 2024

23161 Mill Creek Project

Figure 1. Regional Location

Project Site

Study Area (500-Foot Buffer)

Project Location is within Laguna Hills, California, in Orange County on the USGS San Juan Capistrano 7.5-minute quadrangle map in Section 29 of Township 06 South and Range 08 West

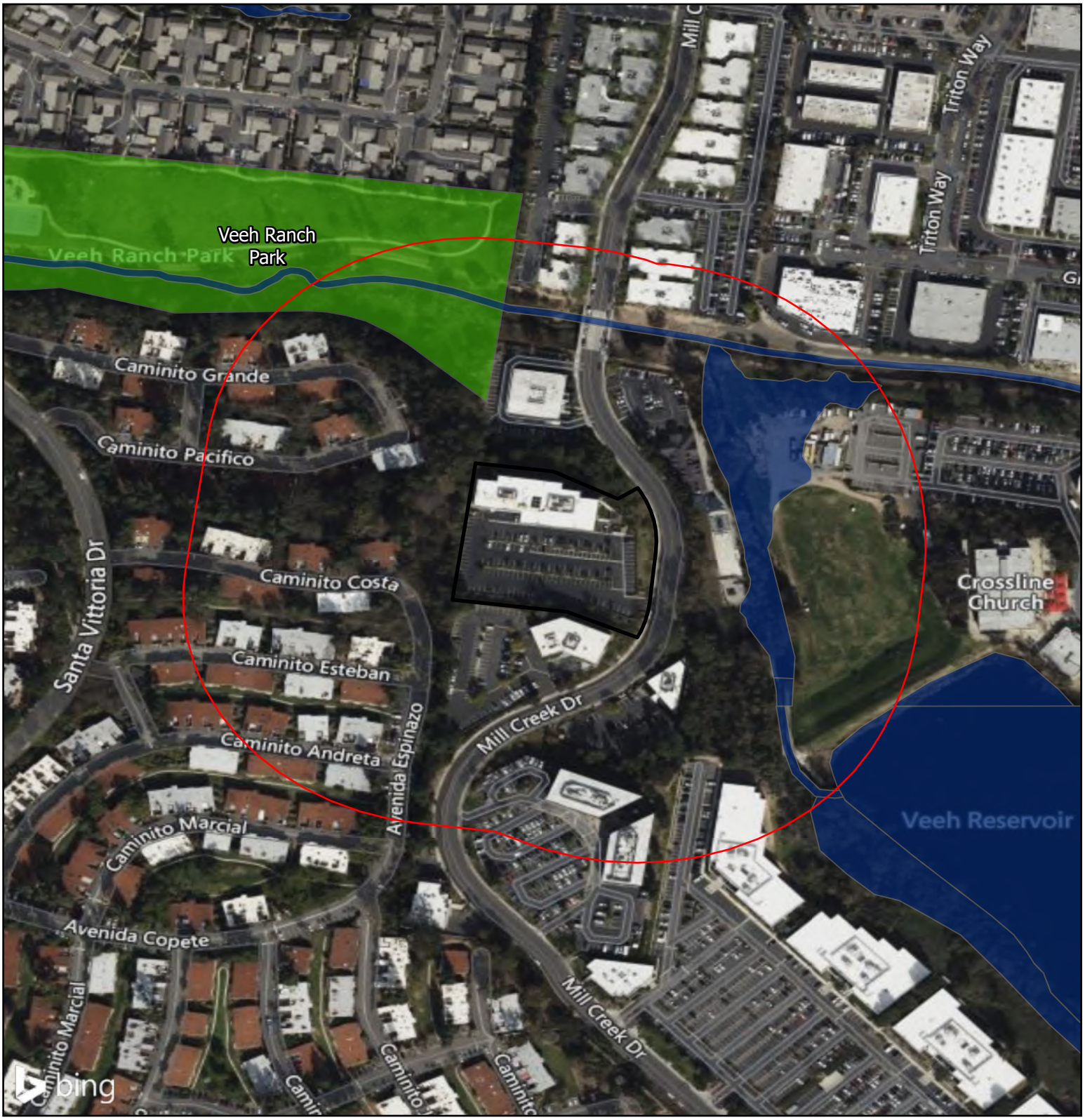
Center Coordinate (Decimal Degrees):
Latitude: 33.6241863N Longitude: -117.7354765W

0 1,000 2,000 Feet

Scale: 1:24,000

N

SOUTH ENVIRONMENTAL



Source: Bing Aerial Imagery 2024

23161 Mill Creek Project

Figure 2. Project Vicinity

0 180 360 Feet

N

Scale: 1:3,600

- Project Site
- Study Area (500-Foot Buffer)
- California Protected Area Database (CPAD)
- USFWS - National Wetlands Inventory (NWI)

SOUTH ENVIRONMENTAL

1.3 Existing Physical & Natural Geographic Site Features

Regionally, the project site is in south Orange County approximately 7.00-miles inland of the Pacific Ocean. The project site is within a developed urban setting with an existing development throughout the entire project site that includes an office building, a parking lot, and ornamental landscaping. The site is also surrounded by dense urban development with similar commercial buildings, parking lots, and urban parks to the south, east, and north; and a residential neighborhood to the west. There are a few water features in the study area including a riverine habitat approximately 350-feet to the north, a freshwater forested/shrub wetland approximately 200-feet to the east that is connected to Veeh Reservoir (which is a developed and maintained reservoir) approximately 460-feet southeast of the project site, and Laguna Coast Wilderness Park approximately 1.10-miles to the west outside of the study area. Because these water features are within highly urbanized areas, they have been modified with concrete containment and developed reservoir infrastructure and are heavily impacted by surrounding developments. Besides the water features mentioned above, the study area surrounding the project site is fully developed with asphalt/ concrete, buildings, and ornamental landscaping.

The project site is on a slight slope with an elevation of approximately 266-feet above mean sea level (amsl) near the northern edge and slopes upward to 316-feet amsl near the south end (USGS 2024b). The climate in the region is Mediterranean, with average summer high temperatures (°F) in the low-80s and average winter lows in the mid-40s. Average yearly rainfall is 14-inches, and the wettest months are December – March, and almost no precipitation between June-August.

The geology of the site is comprised of one formation, the Sespe Formation. This formation is a widespread fossiliferous sedimentary geologic unit a metamorphosed marine sedimentary rock, which was formed during the Miocene era.

Two soil types occur on the project site (USDA/NRCS 2024):

- Alo variant clay, 15 to 30 percent slopes, occurs on 100% of the project site and the western/ southern region of the study area. This soil is often found on hills/ backslopes and is well-drained.
- Alo variant clay, 30 to 50 percent slopes, occurs in the northern and eastern edges of the study area. This soil is often found on hills/ backslopes and is well-drained.

1.4 Proposed Development

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family attached condominium residential units, parking, on-site roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income. The proposed project would be constructed on the 2.43-

acre parcel located at 23161 Mill Creek Drive. The project site has a City of Laguna Hills General Plan land use designation of Mixed Use and is zoned MXU – Mixed Use.

Architecture

The 36 residential units will feature two plan types – Plan 1 and Plan 2. Each plan type will feature four bedrooms and four bathrooms. Eighteen (18) units will consist of Plan 1, which has a total unit area of 1,991 square feet, while the remaining 18 units will consist of Plan 2, which will have a total unit area of 2,033 square feet. The proposed project has a density of 14.8 du/ac, 64 percent maximum lot coverage, 300 feet minimum lot width, and 360 feet minimum lot depth. The proposed project will also build to a minimum setback of 20 feet to the front, five feet to the side (interior), 20 feet to the side street, and 7.5 feet to the rear. The proposed project also includes 14,500 square feet of private open space in the form of balconies and private yards.

Landscaping

The proposed project includes a landscape coverage of 20 percent and a minimum building separation of 6.5 feet. Landscaping will be distributed throughout the project site in the form of large accent trees, medium accent trees, perimeter screening trees, small accent trees, shrub and groundcover, and vines and espaliers.

Walls/Fences

The proposed project is designed to include a concrete masonry block wall with cap or a mechanically stabilized earth wall surrounding the project site, a 3-foot 6-inch high steel cable guard rail along the western and southern project site boundaries, a 6-feet high split face block wall with precision cap in between each unit, and a 6-feet high tubular steel view fence along the northern and eastern project site boundaries. The entrance will include a 7-feet high cultured stone veneer entry wall with cap.

Utilities

The proposed project includes a series of area drains and catch basins to collect street flow. The southern half of the project site drains out to Mill Creek Drive through a proposed parkway culvert near the proposed driveway. The north half of the project site drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the project site.

Parking/Site Access

The proposed project is designed to provide 90 parking spaces based on the combination of spaces in attached garages and uncovered parking stalls. Access to the project site is proposed via one full-access gated driveway along Mill Creek Drive. The existing driveway at the project site will be modified to include a gate entry with call box, a monument signage wall, separate entrance and exit points, and

fire lane entrance signs. The driveway will be a minimum of 40 feet wide and features a gated entry and exit.

The proposed development is shown in Figure 3 and in Appendix E.

1.5 Characteristics of the Surrounding Area

The project is embedded in a developed community with commercial and residential developments in all directions in a somewhat hilly landscape with relatively little open green space in the surrounding area. Although most of the surrounding area is developed, there are some waterways in the study area that have been modified or impacted by surrounding urban development, but none are directly adjacent to the project site itself. The Veeh Reservoir creates a freshwater pond habitat with some riverine and freshwater forested/shrub wetland habitat just outside of the reservoir. The zoning in the area is for residential and commercial developments including single-family dwellings, office buildings, and retail shops. Further out from the study area is San Diego Creek 0.63-mile to the north and Laguna Coast Wilderness Park 1.0-mile to the west within Emerald Canyon. Landmarks in the area include Veeh Ranch Park 0.06-miles to the north, Laguna Woods Village Golf Course located 0.50-mile to the southeast, and the Irvine Spectrum Center 2.21-miles to the north.

Source: Bing Aerial Imagery 2024

Figure 3. Proposed Development

0 46.25 92.5 Feet

N

Scale: 1:900

Project Site

Townhome Residential Development with Landscaping

SOUTH ENVIRONMENTAL

2 Flora Assessment

2.1 Flora Literature Review

The assessment of the flora of the project site began with a review of literature relating to the flora that is known to occur near the study area. The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database online was reviewed to identify special-status plants and natural communities (CDFW 2024a) that have previously been recorded in the United States Geological Survey (USGS) San Juan Capistrano 7.5" quad in which the project site is located, and the seven surrounding USGS 7.5" quads: Laguna Beach, Tustin, El Toro (formerly Lake Forest), Santiago Peak, Canada Gobernadora, San Clemente, and Dana Point. Additional resources that were included in the review:

- A Manual of California Vegetation Online. California Native Plant Society CNPS 2024a)
- Inventory of Rare and Endangered Plants of California online (CNPS 2024b)
- Google Earth online (Google 2024)

2.2 Flora Field Methodology

South Environmental conducted a field reconnaissance on November 25, 2024, to identify biological resources including plant communities and plant species. A 500-ft radius from the project site was drawn in ARCGIS to clearly delineate the project site and surrounding buffer study area. The most important plants were observed and recorded on the study area and identified to species except for species that could not be identified because of condition (dried out), lack of floral parts, or lack of access to an area (e.g., private property). Plant communities were identified according to California Natural Community List (most recent list is June 1, 2023) and mapped in ARCGIS.

When applicable, the field surveys complied with the Survey of California Vegetation (SCV) Classification and Mapping Standards (CDFW 2022) and the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). Species that could not be identified in the field were identified with digital photos and plant specimens using the Jepson Manual Vascular Plants of California (Baldwin et al., 2012) and other botanical sources.

2.3 Flora Data Analysis

The survey for biological resources at 23161 Mill Creek Dr. was conducted on November 25, 2024, during the morning by biologist Dana Briggs. The weather was cloudy with a temperature between 61-62° F, no precipitation, 1 mph wind. A total of 17 plant species were identified on the study area; three are native to this region of California: common duckweed (*Lemna minor*), western sycamore (*Platanus racemosa*), and California bulrush (*Schoenoplectus californicus*) and 14 of the observed plants were non-native due to the ornamental landscaping and disturbed regions throughout the

study area, including five invasive species. All plants observed are listed in Table 1. Species marked with a dagger (†) are native species; species marked with an asterisk (*) are considered as non-native invasive plants by the California Invasive Plant Council (Cal-IPC 2024).

Table 1. Summary of Plants on Study Area

Scientific name	Common Name	CRPR	On parcel?
Acacia melanoxylon	*Blackwood	--	No
Agave americana	Century plant	--	Yes
Agave attenuate	Foxtail agave	--	Yes
Bougainvillea glabra	Bougainvillea	--	Yes
Carya ovata	Shagbark hickory	--	No
Corymbia citriodora	Lemon-scented gum	--	No
Hedera canariensis	*Algerian ivy	--	Yes
Hesperaloe parviflora	Red yucca	--	Yes
Lantana camara	*Lantana	--	Yes
Lemna minor	+Common duckweed	--	No
Ligustrum japonica	Japanese privet	--	Yes
Magnolia grandiflora	Southern magnolia	--	Yes
Oxalis pes-caprae	*Bermuda buttercup	--	Yes
Pinus canariensis	Canary island pine	--	No
Platanus racemosa	+Western sycamore	--	No
Schinus molle	*Peruvian peppertree	--	No
Schoenoplectus californicus	+California bulrush	--	No
* Indicates non-native invasive species + Indicates native species			

2.3.1 Plant Communities

The study area is made up of two cover types and four plant communities as shown in Figure 4 and summarized in Table 2. There are no native plant communities or habitats on the project site as it is fully developed. Global and State rarity rankings for plant communities stated below range from 1 to 5, with rankings 1-3 being considered rare.

Source: Bing Aerial Imagery 2024

23161 Mill Creek Project

Figure 4. Plant Communities and Land Cover

0 150 300 Feet

Scale: 1:3,000

N

- Project Site
- Study Area (500-Foot Buffer)
- Proposed Development Footprint
- California Sycamore Riparian Woodland
- Developed / Ornamentally Landscaped
- Duckweed Blooms
- Eucalyptus Grove
- Hardstem and California Bulrush Marsh
- Veech Reservoir

SOUTH ENVIRONMENTAL

Table 2. Summary of Plant Communities and Cover Types

Plant Community/Cover Type	Acres on Study Area	Acres on Project Site	Acres Impacted by Project	Impacts from New Fuel Modification	Global/State Rank*
Developed/ Ornamental Landscaped	31.96	2.43	2.43	0	N/A
Veeh Reservoir	0.18	0	0	0	N/A
Hardstem and California Bulrush Marsh	0.13	0	0	0	GNR/S3S4
California Sycamore Riparian Woodland	0.40	0	0	0	G3/S3
Duckweed Blooms	0.19	0	0	0	G5/S4?
Eucalyptus Grove	2.66	0	0	0	GNA/SNA
Total	**35.52**	**2.43**	**0**	**0**	**-**

* G3 = Vulnerable — At moderate risk of extinction or collapse due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors
G5 = Secure — At very low risk or extinction or collapse due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
GNA = Not Applicable — A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities. A global conservation status rank may be not applicable for several reasons, related to its relevance as a conservation target. For species, typically the species is a hybrid without conservation value, or of domestic origin. For ecosystems, the type is typically non-native (e.g. many ruderal vegetation types), agricultural (e.g. pasture, orchard) or developed (e.g. lawn, garden, golf course).
GNR = Unranked — Global rank not yet assessed.
N/A = Not Applicable as it is not a naturally occurring plant community.
S3 = Vulnerable— At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 = Apparently Secure— At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S#? = Inexact Numeric Rank—Denotes inexact numeric rank.
S# = Range Rank —A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).
SNA = Not Applicable —A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities

Developed/ Ornamental Landscaped

A Developed/Ornamental cover type occurs on 31.96-acres of the study area including 2.43-acres of the project site where the proposed development would occur. The Developed Area includes the current office building and surrounding parking lot in the project site, as well as other commercial buildings, single-family houses, and roadways within the study area. The Ornamental Landscaped cover type has a diversity of non-native ornamental trees, shrubs, and forbs throughout the landscaped portions of the parcel and surrounding neighborhood including Japanese privet (Ligustrum japonica),

lantana (*Lantana camara*), bougainvillea (*Bougainvillea glabra*), foxtail agave (*Agave attenuate*), red yucca (*Hesperaloe parviflora*), lemon-scented gum (*Corymbia citriodora*), southern magnolia (*Magnolia grandiflora*), Algerian ivy (*Hedera canariensis*), Peruvian peppertree (*Schinus molle*), blackwood (*Acacia melanoxylon*), shagbark hickory (*Carya ovata*), Bermuda buttercup (*Oxalis pes-caprae*), and Canary Island pine (*Pinus canariensis*), as well as a few native species including western sycamore (Platanus racemosa). These areas are highly disturbed due to the presence of human development, frequent landscaping maintenance, and high presence of non- native and invasive plants. Therefore, special-status species are not expected to occur in this cover type.

Veeh Reservoir

Veeh Reservoir occurs on 0.18-acres of the study area southeast of the project site, but not the project site itself. This palustrine freshwater pond has a man-made barrier that keeps this water feature permanently flooded. The banks are dominated by native California bulrush marsh habitat (discussed below), but the habitat borders end abruptly by concrete and other human developments with no other high-quality native habitats adjacent to this water feature. This cover type is highly disturbed due man-made modifications to the water feature, surrounding human developments, and high presence of non-native and invasive plants. Therefore, special-status species have a low potential to occur in this cover type.

Hardstem and California Bulrush Marsh

A Hardstem and California Bulrush Marsh occurs on 0.13-acre of the study area southeast of the Project Site, but not the project site itself. This native community extends along the banks of Veeh Reservoir and the riverine and freshwater forested/shrub habitats connected to this water feature in the northeastern study area. California bulrush is dominant in the shrub layer, and the tree layer is mostly open with lemon-scented gum trees present. This plant community is surrounded by developments and subject to fuel modification as per Orange County Fire Department regulations to reduce fuel load within 170-feet of structures. No other native species were observed within the plant community due to fencing and private properties surrounding the habitat and limiting access, but it is possible that other native species would occur within this community. This community has a global/ state rarity rank ranking of GNR/S3S4, which is not ranked at the global level, but its state rarity rank is a range between S3 (vulnerable) and S4 (apparently secure) because there is uncertainty about the status of this community. Therefore, this community will be considered rare based on its state rarity ranking.

California Sycamore Riparian Woodland

California Sycamore Riparian Woodland occurs on 0.40-acres of the study area northeast of the Project Site, but not the project site itself. This native community extends along the riverine and freshwater forested/shrub water feature in the northeastern study area. California sycamore (*Platanus racemosa*) is dominant in the shrub layer, and the tree layer is mostly open with lemon-scented gum trees present

as well. This plant community is surrounded by developments and subject to fuel modification as per Orange County Fire Department regulations to reduce fuel load within 170-feet of structures. No other native species were observed within the plant community due to fencing and private properties surrounding the habitat and limiting access, but it is possible that other native species would occur within this community. This community has a global/ state rarity rank ranking of G3/S3, which is considered vulnerable at the global/state level. This plant community is highly disturbed due man-made modifications to the water feature, surrounding urban developments, and high presence of non-native and invasive plants. Therefore, special-status species have a low potential to occur in this plant community.

Duckweed Blooms

Duckweed Blooms occurs on 0.19-acres of the study area, but not the project site itself. This native community extends along the riverine water feature in the northern study area and freshwater forested/shrub water feature in the northeastern study area. Duckweed (*Lemna minor*) is dominant in the surface layer of the water, which was very still. Other nearby plants observed included Peruvian peppertrees along the banks of the riverine habitat. This plant community is surrounded by developments and subject to fuel modification as per Orange County Fire Department regulations to reduce fuel load within 170-feet of structures. No other native species were observed within the plant community due to fencing and private properties surrounding the habitat and limiting access, but it is possible that other native species would occur within this community. This community has a global/ state rarity rank ranking of G5/S4?, which is not considered rare at the global or state level. The CNDDB uses a question mark to represent a rank qualifier, denoting an inexact or uncertain numeric rank, and while the number of S4 indicates the species is currently believed not be at risk there is some uncertainty about this finding. This plant community is highly disturbed due man-made modifications to the water feature, surrounding urban developments, and the high presence of non-native and invasive plants. Therefore, special-status species have a low potential to occur in this plant community.

Eucalyptus Grove

A Eucalyptus Grove occurs on 2.66-acres of the study area, but not the project site itself. This semi-native community extends along riverine and freshwater forested/shrub water features connected to Veeh Reservoir in the eastern study area. Lemon-scented gum is the dominant species in the tree layer, but the community is disturbed by the surrounding ornamental landscaping and has St. Augustine grass (*Stenotaphrum secundatum*) in the understory. Because it is not a native community, it is not considered rare or threatened habitat for sensitive species. Additionally, it is not within the Coastal Zone, so it is not expected to host monarch butterfly for overwintering.

2.3.2 Special-Status Plants

According to the literature analysis presented in Appendix B, there are 45 special-status plants known to occur in the region. No special-status plants were observed on the project site during the field visit and none are expected to occur due to the level of development and the lack of native habitats. There is only a low potential for a few special-status plants to occur in the Hardstem and California Bulrush Marsh habitat within the study area, but not the project site itself due to the developments and lack of native habitat. Due to the low potential for occurrence these species are considered unlikely to occur and would be unaffected by the project as they are likely absent and the project would not have any impact on the bulrush marsh, which is separated from the project impact areas by Mill Creek Road. No special-status plant species have been recorded for the site previously and included in the CNDDB or database of the CNPS. The site is not within designated Critical Habitat for any plant species (USFWS 2024b). The following six plants had a low potential to occur within the California Bulrush Marsh in the study area: southern tarplant (*Centromadia parryi* ssp. *Australis*), Los Angeles sunflower (*Helianthus nuttallii* ssp*. parishii)*, California satintail (*Imperata brevifolia),* mud nama (*Nama stenocarpa)*, Gambel's water cress (*Nasturtium gambelii)*, San Bernardino aster (*Symphyotrichum defoliatum)*.

2.3.3 Sensitive Plant Communities

CDFW 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* defines sensitive natural communities as those that are "of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." CDFW considers a natural community sensitive if it has a Global or State rarity rank of 1-3, which includes communities that are vulnerable (G3/S3), imperiled (G2/S2), and critically imperiled (G1/S1). CDFW uses the alliances and groups described in the Manual of California Vegetation Online to characterize California's natural communities and provides the California Natural Communities List online to list the current global and state rarity rank for each natural community characterized in the Manual. The Hardstem and California Bulrush Marsh has a state rarity range ranking of S3S4, which may be vulnerable because there is uncertainty about the status of this community. As mentioned, this community is within the study area, but not the project site itself. The California Sycamore Riparian Woodland has a global/state rank of G3/S3, which is considered vulnerable. This community also lies within the study area, northeast of the project site itself. (CNPS 2024a)

2.3.4 Protected and Significant Trees/Shrubs

The City of Laguna Hills has established "Laguna Hills Municipal Code City Tree Ordinance" (Laguna Hills 2025). Under this ordinance, no person, other than the City, is authorized to trim, damage, or remove public (city-owned) trees without an appropriate permit. There are protected public trees within the study area along the public roads (such as Mill Creek Drive) and at Veeh Ranch Park 200-

feet northwest of the project site , but not on the project site. Protected public trees include those on "any public highway, street, easement, way, place, alley, sidewalk, park, square, plaza, open space, creek, public facility, or any other similar public property owned by the city".

2.4 Project Impacts to Flora

2.4.1 Impacts to Native Plant Communities/Sensitive Natural Communities

The project would be constructed entirely on Developed/ Ornamental Landscaped (2.43-acres) cover type, which is not a sensitive natural community. Developments and ornamental landscaping are not habitat for special-status species as these species occur in native habitats. The project proposes development within areas already developed that do not support special-status species. The Hardstem and California Bulrush Marsh and California Sycamore Riparian Woodland plant communities are considered sensitive natural communities, and the marsh occurs 340 feet southeast of the Project Site and the woodland occurs 140 feet to the northeast of the Project Site. The Eucalyptus Grove community is 57 feet from the project footprint and Mill Creek Road buffers the area between the sensitive marsh and riparian woodland communities and the development. The Hardstem and California Bulrush community is 340 feet from the project footprint and Mill Creek road and the Eucalyptus Grove community buffer the area between this community and the development, and no impact is expected to occur. Similarly, there is Mill Creek Drive and existing developments between the riparian woodland and the project sit that would create a buffer to any potential indirect impacts to this community. Therefore, no direct or indirect impact to native plant communities would result from the project because the project would be constructed on an existing development and the site is separated from any potential habitat areas by existing developments that would reduce or eliminate any potential indirect effects from construction and/or operation to a level that is insignificant.

2.4.2 Impacts to Special-Status Plants

No special-status plants were observed on the project site, and it is unlikely that any would occur due to existing development and lack of native habitat. Of the 45 special-status plants known to occur in the region, only six had a low potential of occurring in the Hardstem and California Bulrush Marsh plant community and are unlikely to be found there. However, this habitat does not occur on the project site itself and has a buffer of the Eucalyptus Grove between the two areas and would be unaffected by the project. Plants offsite would not be affected by any indirect impacts as no new fuel modification or brush clearance is proposed, and the project construction noise and vibration would have no affect on offsite plants. Therefore, the project would have no direct or indirect impact to special-status plants.

2.4.3 Impacts to Protected and Significant Trees and Shrubs

Trees protected under the Laguna Hills Tree Preservation Ordinance were observed in the study area. Based on the proposed development footprint, however, these trees are not within the project footprint or at risk of being damaged/ removed for the proposed development. Therefore, the project will not impact protected and significant trees/ shrubs.

2.4.4 Cumulative Impacts to Flora

The project would not result in any impacts to protected flora. Therefore, the project would not result in cumulative impacts to flora in the region.

3 Wildlife Assessment

3.1 Wildlife Literature Review

The assessment of the wildlife of the study area began with a review of literature relating to the fauna that is known to occur near the study area. The CDFW California Natural Diversity Database online (CDFW 2024a) was reviewed to identify special-status animals that have been previously recorded in the USGS San Juan Capistrano 7.5" quad in which the project site is located, and the seven surrounding USGS 7.5" quads: Laguna Beach, Tustin, El Toro (formerly Lake Forest), Santiago Peak, Canada Gobernadora, San Clemente, and Dana Point (CDFW 2024a). Additional resources that were included in the review:

- United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) (USFWS 2024a)
- CDFW California Wildlife Habitat Relationships (CWHR) life history accounts and range maps online (CDFW 2024b)
- Bird species protected by the Migratory Bird Treaty Act (MBTA)

3.2 Wildlife Field Methodology

South Environmental conducted a field visit of 23161 Mill Creek Drive to identify any biological resources present including endangered and threatened wildlife. A 500-ft radius from the project site was drawn in ARCGIS to clearly delineate the project site and surrounding buffer study area. The 500 foot buffer area was chosen so indirect impacts from construction sound and vibration could be studied. During this field visit, data were collected on animal species present on the project site and the overall study area.

Wildlife including mammals, reptiles, amphibians, and birds was observed and recorded on the study area and identified to species level. Animals were detected and identified via direct sighting, scat, calls, or based on discussion with people living in the area. Direct sightings of animals were with the naked eye or with binoculars when necessary. Binoculars were used to try and view wildlife in private areas where access was prohibited. Since wildlife moves swiftly, observation time of the animal was limited in some cases. In these instances, identification of the wildlife at the taxonomic level of species was not always possible and the wildlife was identified at the level of genus or animal group (e.g., hummingbird). When a special-status animal was detected, habitat conditions were documented including characterization of the animal's associated vegetative community and abiotic factors (e.g., soils).

3.3 Wildlife Data Analysis

3.3.1 Wildlife Field Survey

During the field visit by South Environmental on November 25, 2024, a few common wildlife species were observed in the study area and are summarized in Table 3 below. Due to the high degree of development and urbanization in the study area, there were relatively few wildlife observations on the project site itself.

Table 3. Summary of Wildlife on Study Area

Scientific Name	Common name	Taxonomic Group	Status
*Apis mellifera**	European honeybee	Insect	--
Corthylio calendula	ruby-crowned kinglet	Bird	--
Corvus brachyrhynchos	American crow	Bird	--
Junco hyemalis	dark-eyed junco	Bird	--
Leiothlypis celata	orange-crowned warbler	Bird	--
Melozone crissalis	California towhee	Bird	--
Psaltriparus minimus	bushtit	Bird	--
Sayornis nigricans	black phoebe	Bird	--
Selasphorus sasin	Allen's hummingbird	Bird	--
Setophaga coronata	yellow-rumped warbler	Bird	--
Tyrannus vociferans	Cassin's kingbird	Bird	--
**non-native species*			

3.3.2 Special-Status Wildlife

No special-status animals were observed during the field visit and there was no other evidence of special-status animals, for example, tracks, scat, carcasses, or bones at the site. According to the literature analysis using the CNDDB database as presented in Appendix B, there are 64 special-status animals known to occur in the none quad search area. One special-status wildlife species, tricolored blackbird (*Agelaius tricolor*), has been recorded to the CNDDB in the Veeh Reservoir to the southeast of the project site. However, special-status wildlife is unlikely to occur on the project impact areas as they are either developed or disturbed and isolated from higher quality habitat. Of the 64 special-status animals known to occur in the search area, four had a medium potential of occurring within the Hardstem and California Bulrush Marsh habitat adjacent to riverine, forested wetland, and reservoir water features:

Tricolored Blackbird (*Agelaius tricolor*)

Tricolored blackbird is state-listed as threatened, a CDFW species of special concern, an IUCN endangered species, and USFWS bird of conservation concern. This bird was recorded within the Veeh Reservoir to the CNDDB in 1986-1987 when a colony of 100+ individuals was recorded and had been present for 2-3 years prior. However, this species has not been observed there since and there are no recent CNDDB or eBird records of this species occurring at Veeh Reservoir. It is likely that this species does not have a nesting colony at this location any longer as the CNDDB data describes that the species was not observed during surveys conducted in 2014. Nonetheless, it is possible the species could return because the level of development currently on the Study Area is similar to the development in the 1980s when this species was observed in the area. This species has a **medium/low potential to occur** within the Hardstem and California Bulrush Marsh habitat or California Sycamore Riparian Woodland habitat adjacent to Veeh Reservoir and riverine habitats in the study area. This species would not be found on the project site.

Southwestern Pond Turtle (*Actinemys pallida*)

Southwestern pond turtle is a proposed threatened species at the federal level and CDFW species of special concern. This reptile is often found in freshwater habitats with abundant vegetation and areas for basking, such as Veeh Reservoir in the southeastern study area. However, this habitat is highly disturbed by the surrounding developments and is not adjacent to other high-quality habitats. Southwestern pond turtle has a **medium potential to occur** within Veeh Reservoir, but not on the project site itself.

Cooper**'**s Hawk (*Astur cooperii)*

Cooper's hawk is a CDFW watchlist species that nests in open, interrupted, or marginal type riparian woodland and canyon bottoms. This bird was recorded to eBird at Veeh's Reservoir in 2024. It could nest within the Eucalyptus Grove or California Sycamore Riparian Woodland within the study area because it is adjacent to Veeh Reservoir and riverine habitats in the study area. However, the trees on the project site are less desirable as there is no foraging area and it is more likely that the Cooper's Hawk would nest and forage at the reservoir than on the Project Site. Cooper's hawk has a **medium potential to occur** within the Veeh Reservoir in the study area, but not on the project site.

Yellow Warbler (*Setophaga petechia*)

Yellow warbler is a CDFW species of special concern that is found in riparian plant associations in close proximity to water, often in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders. This bird was recorded to eBird at Veeh's Reservoir in 2022. It has potential to occur within the Hardstem and California Bulrush Marsh habitat and Eucalyptus

Grove near water in the study area because it is adjacent to Veeh Reservoir and riverine habitats in the study area. This species would not be found on the project site due to lack of habitat. Yellow warbler has a **medium potential to occur** within the Hardstem and California Bulrush Marsh habitat and Eucalyptus Grove in the study area.

Nesting Birds

There is the potential for nesting migratory birds to use the survey area for foraging, cover, or even nesting. Common urban birds were observed during the field survey and migratory birds may be passing through and temporarily nest on the site. The U.S. Fish and Wildlife Service (USFWS) assesses migratory birds and ranks those that are considered Birds of Conservation Concern (BCC). Some migratory birds assessed by the USFWS are also year-round residents in southern California. The following birds considered to be migratory and BCC by the USFWS have some potential to utilize the project site and/or study area:

- Allen's hummingbird (*Selasphorous sasin*)
- Black-chinned sparrow (*Spizella atrogularis*)
- Bullock's oriole (*Icterus bullockii*)
- California thrasher (*Toxostoma redivivum*)
- Common yellowthroat (*Gethlypis trichas sinuosa*)
- Western grebe (*Aechmophorus occidentalis*)

3.4 Project Impacts to Wildlife

3.4.1 Impacts to Wildlife Habitat

The proposed construction footprint of 2.43-acres will be on an existing developed/ ornamental landscaped area. The staging would occur on the project site also where the existing parking lots occur. These impacts would occur in disturbed areas where special-status species habitat is absent, and no special-status species would occur. The remaining native habitat within the study area is already highly disturbed by the surrounding developments and the resulting fragmentation and invasive species, and the project would have no effect on these areas as they are separated from the project site by Mill Creek Road. Indirect impacts from construction or operation of the project would not occur to the offsite native habitats as there are existing barriers such as Mill Creek and buildings and parking areas that separate the project site from these areas, and the separation acts as a buffer to any potential construction or operational impacts in these offsite area. No new fuel modification is proposed and lighting would not be required during construction so indirect impacts would not occur. Because the project impacts, both construction and operational, will occur on areas unable to support special-status species and are not considered native wildlife habitats as a result of the disturbance, the project would have no impact on habitat for special-status wildlife.

3.4.2 Impacts to Special-Status Wildlife

No special-status wildlife species were observed during the field visit, likely due to the presence of developed/ ornamental landscaped areas and disturbance of the remaining native habitat. Of the 64 special-status animals known to occur in the region, four had a medium potential of occurring within the Eucalyptus Grove habitat, the California Sycamore Riparian Woodland habitat, Veeh's Reservoir and/or the Hardstem and California Bulrush Marsh habitat. These species include tricolored blackbird, southwestern pond turtle, Cooper's hawk, and yellow warbler. The project would have no impact on these areas or marsh habitat or water features within or near the study area. In addition, no new fuel modification would occur. As described above the project would have not direct or indirect impacts to the potential native habitat for these species in offsite areas.

The Cooper's hawk could perch on trees on the project site but is more likely to nest near the reservoir as there is no foraging habitat on the project site and it is abundant at the reservoir. The project would, however, comply with the requirements of the Migratory Bird Treaty Act(including as to potential Cooper's hawk nests within the buffer area) as discussed below in Section 3.4.3. In addition, Cooper's hawk is not yet considered rare, threatened, or endangered and is a watchlist species, which indicates that it is not yet at in a position where the project could have a significant impact per CEQA. The regulatory compliance with the MBTA described below would ensure that impacts to Cooper's hawk would be avoided. The project has no potential to have a significant impact on Cooper's hawk per CEQA thresholds as it is a watchlist species.

Therefore, the project would have no impact on special-status wildlife because no native habitat would be impacted and impacts to special-status species would be avoided or less than significant in the case of the Cooper's hawk.

3.4.3 Impacts to Nesting Birds

The proposed development may require the removal of shrubs or trees that could provide potential nesting habitat for common urban birds, and migratory BCC birds protected by the MBTA, MBPA, and the Fish and Wildlife Code (including Cooper's hawk). If present at the time of vegetation removal there could be direct impacts on active nests, eggs, or young. These could be destroyed or otherwise disturbed to a point at which the young do not survive, which would be a violation of the MBTA, MBPA, and the Fish and Wildlife Code. In addition, indirect impacts from noise or vibration have the potential to disturb an active bird nest to the point of failure if the nest is within immediate proximity to project activities, and this would also be a violation of the MBTA and Fish and Wildlife Code. The Project would be required to comply with the MBTA as described below.

MBTA Compliance

- If possible, ground disturbing activities and vegetation removal (including tree trimming) should be timed to occur outside the bird nesting season (September 1 – January 31).

- If ground disturbing activities or vegetation removal (including tree trimming) are scheduled during the bird nesting season (February 1 – August 31) a preconstruction survey for nesting birds should be conducted within 72 hours prior to construction activities. The survey should be conducted by a qualified biologist with prior experience conducting nesting bird surveys for construction projects. The study area should include the project site and suitable habitat within a 300-foot buffer, or a buffer size determined by the qualified biologist based on level of proposed disturbance and access. If no active nests are found, no additional measures are required.

- If active nests are found the biologist will map the location and document the species and nesting stage. A no-work buffer will be established around the active nest as determined by the qualified biologist and based on the species sensitivity to disturbance and the type and duration of the disturbance. No construction activities shall occur within the no-work buffer until the biologist has determined the nest is no longer active.

3.4.4 Cumulative Impacts to Wildlife

The project would avoid impacts to protected wildlife and habitat as none would occur on the site. The site is entirely developed and would be redeveloped by the project. Native habitats would be avoided and no impacts would occur to Cooper's hawk and nesting birds with compliance with the MBTA. Therefore, the project would have no cumulative impact on wildlife.

4 Wildlife Movement

4.1 Wildlife Movement Literature Review

The assessment of the potential for wildlife movement to and from the project site consisted of consulting the following resources:

- Google Earth online (Google 2024)
- United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) (USFWS 2024a)
- USFWS Designated and Proposed Critical Habitat GIS data online (USFWS 2024b)
- California Protected Areas Database Map online (CPAD 2024)
- South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion (SC Wildlands 2008).

Google Earth online was used to assess the level of connectivity of habitat to the site. The foremost considerations were whether there was a direct connection of high-quality habitat to the site — without interference from development — and whether the connecting habitat linked to large habitat tracts.

4.2 Wildlife Movement Field Methodology

During the South Environmental field reconnaissance on November 25, 2024, the project site and surrounding 500-ft study area were assessed for their potential use as a wildlife corridor or habitat linkage. The level of disturbance of the site and surrounding areas by way of development including roads, house and commercial structures, fences, and lighting were noted as they pertain to the connectivity of the site to high-quality habitat. The study area was assessed for the presence of a corridor of linkage of habitat that connects the site to adjacent high-quality habitat. Included in this assessment of a corridor were stream areas or those with unique natural features (e.g., rock outcrops) which wildlife are known to frequently use as habitat linkages.

4.3 Wildlife Movement Data Analysis

The project site is within dense urban development that lacks native habitat. The development of commercial and residential buildings and roadways has removed the surrounding native habitat, which only remains in small patches near the Veeh Reservoir and adjacent riverine/wetland features in the study area. There are nearby water features in the study area including the Veeh Reservoir in the southeastern study area, an adjacent freshwater forested/shrub wetland in the eastern study area, and a riverine feature in the northern study area. These connect to other riparian and riverine water features outside of the study area, but these water features pass through densely populated urban spaces, are

heavily disturbed by the surrounding developments, and have been modified in many areas to control flooding and inflow/outflow. Veeh Ranch Park, which lies in the northern study area, is a protected area that contains a section of the riverine water feature in the northern study area (CPAD 2024). However, this park does not contain native habitat that would support special-status species and is highly disturbed by routine landscaping and surrounding urban development. For these reasons, wildlife have a low potential to utilize the study area for movement other than localized movement at the Reservoir. Wildlife, especially special-status, are more likely to utilize the Laguna Coast Wilderness Park located 1.00-miles to the west, which contains approximately 7,000 acres of undeveloped coastal canyon and riparian habitat that connects to other expansive high-quality wildlands in southern California.

4.4 Impacts to Wildlife Movement

Due to the surrounding developments, barriers, and human presence, there is low potential for wildlife to be found moving through the project site. The project would occur on Developed/ Ornamental Landscape cover and would not result in a loss of native habitats or areas important for wildlife movement. No new fuel modification is proposed and impacts direct or indirect would not occur to the movement areas east of the project site at Veeh's Reservoir. The project will not impact any of the water features within the study area, which are not directly adjacent to the project site and are separated from the project site by other developments. Additionally, new barriers such as proposed walls and lighting from construction or operation are not in an existing movement area and no wildlife would be deterred by the project. Therefore, there will be no impacts to wildlife movement from project development.

4.5 Cumulative Impacts to Wildlife Movement

The project site lacks wildlife movement areas and none would be impacted by the development. Therefore, the project would have no cumulative effect on wildlife movement areas.

5 Water Resources

5.1 Water Resources Literature Review

The assessment of the potential for water resources on the project site consisted of consulting the following resources:

- National Wetlands Inventory online (USFWS 2024c)
- National Hydrography Dataset online (USGS 2024)

5.2 Water Resources Field Methodology

During the South Environmental field visit on November 25, 2024, the study area was inspected for the presence of potential jurisdictional features such as wetlands, streams, lakes, or other water features. No formal delineation of jurisdictional waters was performed, only a preliminary investigation was conducted. The survey was conducted by observing the landscape across the study area and looking for the presence of water and topographic depressions that are associated with dense vegetation.

5.3 Water Resources Data Analysis

The literature search yielded several water features within the study area, but not on the project site itself (USFWS 2024c, USGS 2024). Approximately 400 feet north of the project site is a 1.57-acre freshwater stream that is within a man-made, contained drainage area. Approximately 200 feet to the east of the project site is a 1.88-acre south-flowing stream that connects downstream to Veeh Reservoir, a 13 acres freshwater pond and wetland area within the Hardstem and California Bulrush habitat. The riverine habitat in the northern study area and the forested/shrub wetland habitat in the eastern study area are heavily impacted by the surrounding development, modifications to the bank, and non-native flora plant species throughout. However, none of these resources are directly adjacent to the project site; most areas between the project site and the water resources are already developed and would not be encroached during construction of the proposed development. Therefore, there is no potential for runoff from the project site or construction to reach the reservoir these developed areas between the two that acts as a barrier.

5.4 Impacts to Water Resources

There are water resources within the study area including Veeh Reservoir and nearby riverine/ wetland habitats adjacent to the reservoir, but none on the project site itself. As mentioned, these water features are already heavily disturbed by the surrounding developments and modifications to their banks and inflow/outflow and are highly contained. These wetlands and aquatic resources are outside of the proposed impact areas and would be unaffected by the development. Additionally, there are other developments such as roads and commercial buildings creating a buffer zone between these

water features and the project site that would act as barriers to prevent encroachment, runoff, or other impacts from the proposed development. Therefore, project development will have no impact on water resources.

5.5 Cumulative Impacts to Water Resources

The project would have no impact to water resources and would not contribute to any cumulative impacts to water resources in the region.

6 Applicable Regulations and Permits

6.1 Regulations

6.1.1 Federal Regulations

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects individuals as well as any part, nest, or eggs of any bird listed as migratory. In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions that require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.), and is based on the professional judgment of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

6.1.2 California Regulations

State of California Fish and Wildlife Code Section 3500

Section 3503.5 of the California Fish and Wildlife Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Wildlife Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Wildlife Code, Section 3515 states that is it unlawful to take any non-game migratory bird protected under the MBTA.

California Migratory Bird Protection Act

The California Migratory Bird Protect Act (MBPA) was enacted in September 2019 to reinforce the MBTA at the state level. The Act states:

- "It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.) before January 1, 2017, any additional migratory nongame bird that may be designated in that federal act after that date, or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act before January 1, 2017, or subsequent rules or regulations adopted pursuant to that federal act, unless

those rules or regulations are inconsistent with this code." This section is inactive on January 20, 2025, and the following language below will be adopted.

- "It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.), or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act." This section is operative starting on January 20, 2025.

6.1.3 Local and Regional Regulations

City of Laguna Hills Tree Preservation Ordinance (#315)

The City of Laguna Hills has established "Laguna Hills Municipal Code Tree Preservation Policy" (Laguna Hills 2023). Under this ordinance, no person, other than the City, is authorized to trim, damage, or remove public (city-owned) trees without an appropriate permit. Upon request, and for the criteria described below, public trees will be inspected and authorized for removal:

- The tree is deemed hazardous, diseased, and/or declining.
- The tree is damaging the sidewalk, curb, or gutter, and is not receptive to preventative root pruning.
- The tree and/or its roots are a threat to private property.
- Trees in conflict with overhead utility lines.

A resident requesting removal of a street tree, that has been justified for removal by the City, will be requested to donate and plant another tree in its place. The size, species type, and location will be specified by the Director of Public Services or their designee. If the resident will not replace the tree, the City will do so provided the tree is determined by the Director of Public Services to enhance the tree preservation goals. A list of replacement tree species is detailed in the ordinance.

Any person identified as having removed or trimmed a tree, so as to cause damage to the tree, will be responsible for the full cost of replacement of the tree.

7 Conclusions

Based on the analysis in this report, the proposed redevelopment of a commercially developed parcel into a residential community with associated structures and ornamental landscaping at 23161 Mill Creek Dr. would not result in any impacts to biological resources in the City of Laguna Hills.

Plant Communities/Sensitive Natural Communities/Wildlife Habitat: The project would be constructed entirely on Developed/ Ornamental Landscaped (2.43-acres) cover type, which is not a sensitive natural community. Developments and ornamental landscaping are not habitat for special-status species as these species occur in native habitats. The project proposes development within areas already developed that do not support special-status species. The Hardstem and California Bulrush Marsh and California Sycamore Riparian Woodland plant communities are considered sensitive natural communities, and the marsh occurs 340 feet southeast of the Project Site and the woodland occurs 140 feet to the northeast of the Project Site. The Eucalyptus Grove community is 57 feet from the project footprint and Mill Creek Road buffers the area between the sensitive marsh and riparian woodland communities and the development. The Hardstem and California Bulrush community is 340 feet from the project footprint and Mill Creek road and the Eucalyptus Grove community buffer the area between this community and the development, and no impact is expected to occur. Similarly, there is Mill Creek Drive and existing developments between the riparian woodland and the project sit that would create a buffer to any potential indirect impacts to this community. Therefore, no direct or indirect impact to native plant communities would result from the project because the project would be constructed on an existing development and the site is separated from any potential habitat areas by existing developments that would reduce or eliminate any potential indirect effects from construction and/or operation to a level that is insignificant.

Special-Status Plants: No special-status plants were observed on the project site, and it is unlikely that any would occur due to existing development and lack of native habitat. Of the 45 special-status plants known to occur in the region, only six had a low potential of occurring in the Hardstem and California Bulrush Marsh plant community and are unlikely to be found there. However, this habitat does not occur on the project site itself and has a buffer of the Eucalyptus Grove between the two areas and would be unaffected by the project. Plants offsite would not be affected by any indirect impacts as no new fuel modification or brush clearance is proposed, and the project construction noise and vibration would have no affect on offsite plants. Therefore, the project would have no direct or indirect impact to special-status plants.

Protected Trees: Trees protected under the Laguna Hills Tree Preservation Ordinance were observed in the study area. Based on the proposed development footprint, however, these trees are not within the project footprint or at risk of being damaged/ removed for the proposed development because they are not in the impact areas. Therefore, the project will not impact protected and significant trees/ shrubs.

Special-Status Wildlife: The proposed construction footprint of 2.43-acres will be on an existing developed/ ornamental landscaped area. The staging would occur on the project site also where the existing parking lots occur. These impacts would occur in disturbed areas where special-status species habitat is absent, and no special-status species would occur. The remaining native habitat within the study area is already highly disturbed by the surrounding developments and the resulting fragmentation and invasive species, and the project would have no effect on these areas as they are separated from the project site by Mill Creek Road. Indirect impacts from construction or operation of the project would not occur to the offsite native habitats as there are existing barriers such as Mill Creek and buildings and parking areas that separate the project site from these areas, and the separation acts as a buffer to any potential construction or operational impacts in these offsite area. No new fuel modification is proposed and lighting would not occur so indirect impacts would not occur. Because the project impacts, both construction and operational, will occur on areas unable to support special-status species and are not considered native wildlife habitats as a result of the disturbance, the project would have no impact on habitat for special-status wildlife.

No special-status wildlife species were observed during the field visit, likely due to the presence of developed/ ornamental landscaped areas and disturbance of the remaining native habitat. Of the 64 special-status animals known to occur in the region, four had a medium potential of occurring within the Eucalyptus Grove habitat, the California Sycamore Riparian Woodland habitat, Veeh's Reservoir and/or the Hardstem and California Bulrush Marsh habitat. These species include tricolored blackbird, southwestern pond turtle, Cooper's hawk, and yellow warbler. The project would have no impact on these areas or marsh habitat or water features within or near the study area. In addition, no new fuel modification would occur. As described above the project would have not direct or indirect impacts to the potential native habitat for these species in offsite areas.

The Cooper's hawk could perch on trees on the project site but is more likely to nest near the reservoir as there is no foraging habitat on the project site and it is abundant at the reservoir. The project would avoid impacts to nesting birds (including potential Cooper's hawk nests within the buffer area) as discussed below in Section 3.4.3 and would avoid any impacts to Cooper's hawk if perching or nesting on the site during construction. In addition, Cooper's hawk is not yet considered rare, threatened, or endangered and is a watchlist species, which indicates that it is not yet at in a position where the project could have a significant impact per CEQA. The regulatory compliance with the MBTA described below would ensure that impacts to Cooper's hawk would be avoided. However, the project has no potential to have a significant impact on Cooper's hawk per CEQA thresholds as it is a watchlist species.

Therefore, the project would have no impact on special-status wildlife because no native habitat would be impacted and impacts to special-status species would be less than significant in the case of the Cooper's hawk.

There is the potential for nesting birds — including migratory Birds of Conservation Concern (BCC) and Cooper's hawk. Compliance with applicable law would avoid impacts to nesting birds.

Wildlife Movement: Due to the surrounding developments, barriers, and human presence, there is low potential for wildlife to be found moving through the project site. The project would occur on Developed/ Ornamental Landscape cover and would not result in a loss of native habitats or areas important for wildlife movement. No new fuel modification is proposed and impacts direct or indirect would not occur to the movement areas east of the project site at Veeh's Reservoir. The project will not impact any of the water features within the study area, which are not directly adjacent to the project site and are separated from the project site by other developments. Additionally, new barriers such as proposed walls and lighting are not in any existing movement area and no wildlife would be deterred by the project. Therefore, there will be no impacts to wildlife movement from project development.

Water Resources: There are water resources within the study area including Veeh Reservoir and nearby riverine/ wetland habitats adjacent to the reservoir, but none on the project site itself. As mentioned, these water features are already heavily disturbed by the surrounding developments and modifications to their banks and inflow/outflow and are highly contained. These wetlands and aquatic resources are outside of the proposed impact areas and would be unaffected by the development. Additionally, there are other developments, such as roads and commercial buildings creating a buffer zone between these water features and the project site that would prevent encroachment or impacts from the proposed development. Therefore, project development will have no impact on water resources.

Cumulative Impact: The project would avoid impacts to protected biological resources. Therefore, the project would not contribute to any cumulative impacts to protected biological resources in the region.

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Appendix A:
Photograph Exhibit

Image 1.) View of **23161 Mill Creek Drive** from southeast corner of parcel and Mill Creek Dr. to the right, facing northwest.

Image 2.) View of 23161 Mill Creek Drive featuring an office building, paved parking lot, and ornamental landscaping, facing northeast.

Image 3.) Depicts driveway leading to project site along Mill Creek Drive and other commercial developments in the study area, facing south.

Image 4.) Depicts study area northwest of project site with other commercial developments and roadways, facing northwest.

Image 5.) View of public park just east of project site with a freshwater forested/shrub wetland behind the park, facing northeast.

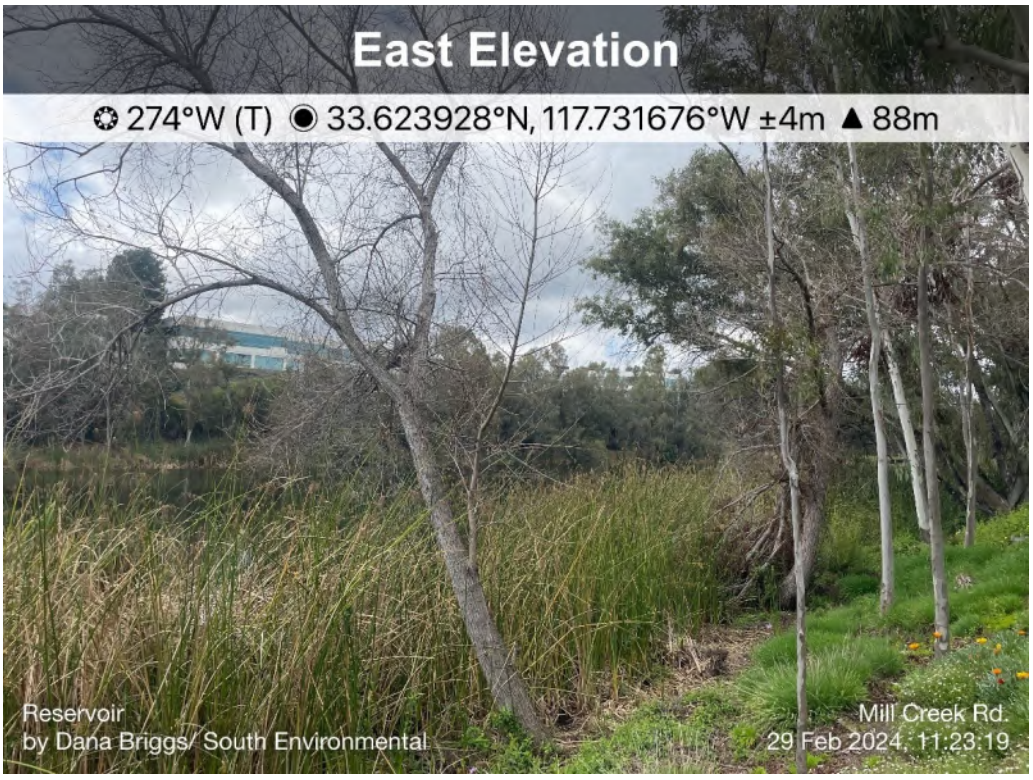


Image 6.) View of Veeh Reservoir in the southeastern study area with a freshwater marsh habitat, facing west.

Image 7.) View of riverine habitat in northern study area that is heavily disturbed by non-native species and surrounding developments, facing northwest.

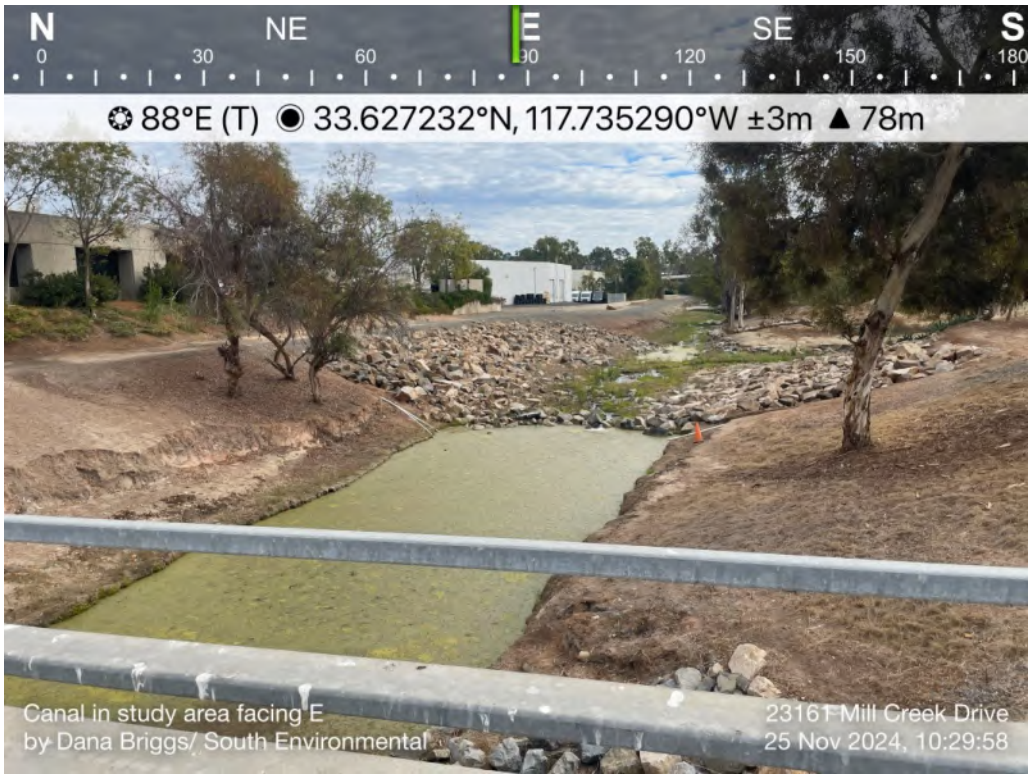


Image 8.) View of riverine habitat in northwestern study area and surrounding urban development, facing east.

Appendix B:
Special-Status Species Analysis

Special-Status Species Analysis

Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status based on adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status species include:

- Plants or wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act;
- Plants or wildlife that meet the definitions of rare or endangered under CEQA Guidelines Section 15380.
- Plants or wildlife covered under an adopted NCCP/HCP;
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (List 1A, 1B and 2 plants) in California;
- Plants listed by the CNPS as plants in which there is limited information about distribution (List 3);
- Plants listed as rare under the California Native Plant Protection Act (Fish and Wildlife Code 1900 et seq.);
- Wildlife designated by CDFW as species of special concern;
- Wildlife "fully protected" in California (California Fish and Wildlife Code Sections 3511, 4700, and 5050); and
- Wildlife protected by the Migratory Bird Treaty Act (MTBA).

8.1.1 Federally-Protected Status

All references to Federally-protected species in this BRA include the most current published status or candidate category to which each species has been assigned by USFWS. For purposes of this assessment the following acronyms are used for Federal status species, as applicable:

FE Federally-listed as Endangered

FT Federally-listed as Threatened
FPE Federally proposed for listing as Endangered
FPT Federally proposed for listing as Threatened
FPD Federally proposed for delisting
FC Federal candidate species (former C1 species)

8.1.2 State-Protected Status

For the purposes of this BRA, the following acronyms are used for State status species, as applicable:

SE State-listed as Endangered
ST State-listed as Threatened
SR State-listed as Rare
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened
SFP State Fully Protected
SSC California Species of Special Concern

8.1.3 California Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of special-status species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (CNPS 2018). The list serves as the candidate list for listing as Threatened and Endangered by CDFW. CNPS has developed six categories of rarity known as the California Rare Plant Rank (CRPR), of which Ranks 1A, 1B, 2A, and 2B are particularly considered sensitive:

Rank 1A Presumed extinct in California.
Rank 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
Rank 2A Presumed extinct in California, but more common elsewhere.
Rank 2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
Rank 3 Plants about which we need more information – a review list.
Rank 4 Plants of limited distribution – a watch list.

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CNPS List (e.g., Rank 1B.1). The threat codes are as follows:

.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);
.2 Moderately threatened in California (20-80% occurrences threatened);

.3 Not very threatened in California (<20% of occurrences threatened or no current threats known).

8.1.4 Potential to Occur Assessment

Special-status species that are **present** or are **high** or **medium** potential to occur within the parcel are based on one or more of the following:

- the direct observation of the species within the parcel during any field survey;
- a record reported in the CNDDB; and
- the parcel is within known distribution of a species and contains appropriate habitat.
- present means the species is known to occur, high potential indicates the habitat is ideal and near known occurrences of the species, and medium indicates that the habitat may be less than ideal due to some lacking element but still usable by the species and within the known range.

Special-status species that are **low** potential) to occur are based on one of the following:

- the parcel has the general habitat types but lacks necessary habitat elements such as suitable microhabitat or soils; or
- the parcel is outside the known elevation range or distribution of the species, and has otherwise suitable habitats;

Special-status species that have no potential to occur on the parcel are labeled as **none** due to the absence of suitable habitat.

Special-Status Plants

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Aphanisma blitoides	aphanisma	Dicots	None	None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub.	On bluffs and slopes near the ocean in sandy or clay soils. 3-305 m.	**None.** The project site and study area lack habitat for the species.
Astragalus brauntonii	Braunton's milk-vetch	Dicots	Endangered	None	1B.1	Chaparral, coastal scrub, valley and foothill grassland.	Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. 3-640 m.	**None.** The project site and study area lack habitat for the species.
Atriplex coulteri	Coulter's saltbush	Dicots	None	None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland.	Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m.	**None.** The project site and study area lack habitat for the species.
Atriplex pacifica	South coast saltscale	Dicots	None	None	1B.2	Coastal scrub, coastal bluff scrub, playas, coastal dunes.	Alkali soils. 1-400 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Atriplex parishii	Parish's brittlescale	Dicots	None	None	1B.1	Vernal pools, chenopod scrub, playas.	Usually on drying alkali flats with fine soils. 4-1420 m.	**None.** The project site and study area lack habitat for the species.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Dicots	None	None	1B.2	Coastal bluff scrub, coastal scrub.	Alkaline soil. 0-480 m.	**None.** The project site and study area lack habitat for the species.
Brodiaea filifolia	Thread-leaved brodiaea	Monocots	Threatened	Endangered	1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools.	Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m.	**None.** The project site and study area lack habitat for the species.
Calochortus weedii var. *intermedius*	Intermediate mariposa-lily	Monocots	None	None	1B.2	Coastal scrub, chaparral, valley and foothill grassland.	Dry, rocky calcareous slopes and rock outcrops. 60-1575 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Centromadia parryi ssp. *australis*	Southern tarplant	Dicots	None	None	1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools.	Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-975 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	Dicots	None	None	1B.1	Coastal bluff scrub, coastal dunes.	Sandy sites. 3-80 m.	**None.** The project site and study area lack habitat for the species.
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	Dicots	None	None	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools.	Gabbroic clay. 30-1630 m.	**None.** The project site and study area lack habitat for the species.
Clinopodium chandleri	San Miguel savory	Dicots	None	None	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	Rocky, gabbroic or metavolcanic substrate. 120-975 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	Dicots	None	None	1B.2	Chaparral, cismontane woodland.	Often in mixed chaparral in California, sometimes post-burn. 30-855 m.	**None.** The project site and study area lack habitat for the species.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	Dicots	None	None	1B.1	Coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland.	Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. 5-290 m.	**None.** The project site and study area lack habitat for the species.
Dudleya multicaulis	Many-stemmed dudleya	Dicots	None	None	1B.2	Chaparral, coastal scrub, valley and foothill grassland.	In heavy, often clayey soils or grassy slopes. 1-910 m.	**None.** The project site and study area lack habitat for the species.
Dudleya stolonifera	Laguna Beach dudleya	Dicots	Threatened	Threatened	1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	In thin soil on north-facing sandstone cliffs. 5-185 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Dudleya viscida	Sticky dudleya	Dicots	None	None	1B.2	Coastal scrub, coastal bluff scrub, chaparral, cismontane woodland.	On north and south-facing cliffs and banks. 20-870 m.	**None.** The project site and study area lack habitat for the species.
Eryngium pendletonense	Pendleton button-celery	Dicots	None	None	1B.1	Coastal bluff scrub, valley and foothill grassland, vernal pools.	Clay. Vernally mesic sites. 20-30 m.	**None.** The project site and study area lack habitat for the species.
Euphorbia misera	Cliff spurge	Dicots	None	None	2B.2	Coastal bluff scrub, coastal scrub, Mojavean desert scrub.	Rocky sites. 3-430 m.	**None.** The project site and study area lack habitat for the species.
Harpagonella palmeri	Palmer's grapplinghook	Dicots	None	None	4.2	Chaparral, coastal scrub, valley and foothill grassland.	Clay soils; open grassy areas within shrubland. 20-955 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	Dicots	None	None	1A	Marshes and swamps (coastal salt and freshwater).	35-1525 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.
Hesperocyparis forbesii	Tecate cypress	Gymnosperms	None	None	1B.1	Closed-cone coniferous forest, chaparral.	Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. 60-1650 m.	**None.** The project site and study area lack habitat for the species.
Horkelia cuneata var. *puberula*	Mesa horkelia	Dicots	None	None	1B.1	Chaparral, cismontane woodland, coastal scrub.	Sandy or gravelly sites. 15-1645 m.	**None.** The project site and study area lack habitat for the species.
Imperata brevifolia	California satintail	Monocots	None	None	2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 3-1495 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	Dicots	None	None	1B.2	Coastal scrub, chaparral.	Sandy soils; often in disturbed sites. 1-915 m.	**None.** The project site and study area lack habitat for the species.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Dicots	None	None	1B.1	Coastal salt marshes, playas, vernal pools.	Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	**None.** The project site and study area lack habitat for the species.
Lepechinia cardiophylla	Heart-leaved pitcher sage	Dicots	None	None	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland.	115-1345 m.	**None.** The project site and study area lack habitat for the species.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	Dicots	None	None	4.3	Chaparral, coastal scrub.	Dry soils, shrubland. 4-1435 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Lycium brevipes var. *hassei*	Santa Catalina Island desert-thorn	Dicots	None	None	3.1	Coastal bluff scrub, coastal scrub.	Coastal bluffs and slopes. 30-95 m.	**None.** The project site and study area lack habitat for the species.
Monardella hypoleuca ssp. *intermedia*	Intermediate monardella	Dicots	None	None	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes).	Often in steep, brushy areas. 195-1675 m.	**None.** The project site and study area lack habitat for the species.
Monardella macrantha ssp. *hallii*	Hall's monardella	Dicots	None	None	1B.3	Broadleafed upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland.	Dry slopes and ridges in openings. 700-1800 m.	**None.** The project site and study area lack habitat for the species.
Myosurus minimus ssp. *apus*	Little mousetail	Dicots	None	None	3.1	Vernal pools, valley and foothill grassland.	Alkaline soils. 20-640 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Nama stenocarpa	Mud nama	Dicots	None	None	2B.2	Marshes and swamps.	Lake shores, river banks, intermittently wet areas. 15-815 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.
Nasturtium gambelii	Gambel's water cress	Dicots	Endangered	Threatened	1B.1	Marshes and swamps.	Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-305 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.
Navarretia prostrata	Prostrate vernal pool navarretia	Dicots	None	None	1B.2	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps.	Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m.	**None.** The project site and study area lack habitat for the species.
Nolina cismontana	Chaparral nolina	Monocots	None	None	1B.2	Chaparral, coastal scrub.	Primarily on sandstone and shale substrates; also known from gabbro. 140-1100 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Pentachaeta aurea ssp. allenii	Allen's pentachaeta	Dicots	None	None	1B.1	Valley and foothill grasslands, coastal scrub.	Openings in scrub or grassland. 75-520 m.	**None.** The project site and study area lack habitat for the species.
Phacelia keckii	Santiago Peak phacelia	Dicots	None	None	1B.3	Closed-cone coniferous forest, chaparral.	Open areas, sometimes along creeks. 545-1525 m.	**None.** The project site and study area lack habitat for the species.
Pseudognaphalium leucocephalum	White rabbit-tobacco	Dicots	None	None	2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral.	Sandy, gravelly sites. 35-515 m.	**None.** The project site and study area lack habitat for the species.
Quercus dumosa	Nuttall's scrub oak	Dicots	None	None	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub.	Generally on sandy soils near the coast; sometimes on clay loam. 15-640 m.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Senecio aphanactis	Chaparral ragwort	Dicots	None	None	2B.2	Chaparral, cismontane woodland, coastal scrub.	Drying alkaline flats. 20-1020 m.	**None.** The project site and study area lack habitat for the species.
Sidalcea neomexicana	Salt spring checkerbloom	Dicots	None	None	2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub.	Alkali springs and marshes. 3-2380 m.	**None.** The project site and study area lack habitat for the species.
Suaeda esteroa	Estuary seablite	Dicots	None	None	1B.2	Marshes and swamps.	Coastal salt marshes in clay, silt, and sand substrates. 0-80 m.	**None.** The project site and study area lack habitat for the species. Not a coastal marsh.
Symphyotrichum defoliatum	San Bernardino aster	Dicots	None	None	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland.	Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	**Low.** The project site lacks habitat for the species, but there is a Hardstem and California Bulrush Marsh community in the study area, but the area is small and heavily disturbed.

Scientific Name	Common name	Taxonomic Group	Federal Listing	State Listing	CNPS CRPR Rank	General Habitat	Microhabitat	Potential to Occur on Study area
Verbesina dissita	Big-leaved crownbeard	Dicots	Threatened	Threatened	1B.1	Chaparral, coastal scrub.	Steep, rocky, primarily north-facing slopes within 1.5 miles of the ocean, in gravelly soils. 150-245 m.	**None.** The project site and study area lack habitat for the species.

Special-Status Animals

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Astur cooperii	Cooper's hawk	Birds	None	None	CDFW_WL-Watch List, IUCN_LC-Least Concern	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Medium.** There is a Eucalyptus Grove habitat near a water source in the study area and not on the project site, but it is highly disturbed due to the surrounding developments and lack of native vegetation.
Actinemys pallida	southwestern pond turtle	Reptiles	Proposed Threatened	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland.	Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater.	**Medium.** There is a Hardstem and California Bulrush Marsh habitat in a small region of the study area, but not the project site itself. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.
Agelaius tricolor	tricolored blackbird	Birds	None	Threatened	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**Medium.** There is a Hardstem and California Bulrush Marsh habitat in a small region of the study area, but not the project site itself. This species has been recorded to the CNDDB within the Veeh Reservoir. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	None	None	CDFW_WL-Watch List	Resident in Southern California coastal sage scrub and sparse mixed chaparral.	Frequents relatively steep, often rocky hillsides with grass and forb patches.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Ammodramus savannarum	grasshopper sparrow	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes.	Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**None.** The project site and study area lack habitat for the species.
Anaxyrus californicus	arroyo toad	Amphibians	Endangered	None	CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	**None.** The project site and study area lack habitat for the species.
Anniella stebbinsi	Southern California legless lizard	Reptiles	None	None	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County.	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	**None.** The project site and study area lack habitat for the species.
Antrozous pallidus	pallid bat	Mammals	None	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**None.** The project site and study area lack habitat for the species. Too much human disturbance in area.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Aquila chrysaetos	golden eagle	Birds	None	None	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**None.** The project site and study area lack habitat for the species.
Arizona elegans occidentalis	California glossy snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**None.** The project site and study area lack habitat for the species.
Asio otus	long-eared owl	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses.	Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**None.** The project site and study area lack habitat for the species.
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	None	None	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFS_S-Sensitive	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Ground may be firm soil, sandy, or rocky.	**None.** The project site and study area lack habitat for the species.
Athene cunicularia	burrowing owl	Birds	None	Candidate Endangered	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None.** The project site and study area lack habitat for the species.
Bombus crotchii	Crotch's bumble bee	Insects	None	Candidate Endangered	IUCN_EN-Endangered	Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**None.** The project site and study area lack habitat for the species.
Bombus pensylvanicus	American bumble bee	Insects	None	None	IUCN_VU-Vulnerable		Long-tongued; forages on a wide variety of flowers including vetches (Vicia), clovers (Trifolium), thistles (Cirsium), sunflowers (Helianthus), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Branchinecta sandiegonensis	San Diego fairy shrimp	Crustaceans	Endangered	None	IUCN_EN-Endangered	Endemic to San Diego and Orange County mesas.	Vernal pools.	**None.** The project site and study area lack habitat for the species.
Buteo regalis	ferruginous hawk	Birds	None	None	CDFW_WL-Watch List, IUCN_LC-Least Concern	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	**None.** The project site and study area lack habitat for the species.
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	Birds	None	None	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Southern California coastal sage scrub.	Wrens require tall opuntia cactus for nesting and roosting.	**None.** The project site and study area lack habitat for the species.
Chaetodipus californicus femoralis	Dulzura pocket mouse	Mammals	None	None		Variety of habitats including coastal scrub, chaparral, and grassland primarily in San Diego County.	Attracted to grass-chaparral edges.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	None	None		Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego, Riverside, San Bernardino, and Los Angeles Counties, inclusive of Orange County.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	**None.** The project site and study area lack habitat for the species.
Choeronycteris mexicana	Mexican long-tongued bat	Mammals	None	None	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Occasionally found in San Diego County, which is on the periphery of their range.	Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	**None.** The project site and study area lack habitat for the species.
Cicindela latesignata	western beach tiger beetle	Insects	None	None		Mudflats and beaches of coastal estuaries from San Diego County to Los Angeles County.	Typically inhabit wet or dry sandy beaches and mud, sand, or salt flats.	**None.** The project site and study area lack habitat for the species.
Circus hudsonius	northern harrier	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**None.** The project site and study area lack habitat for the species. Lacks grassland and undisturbed areas for nesting.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	Threatened	Endangered	BLM_S-Sensitive, USFS_S-Sensitive	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**None.** The project site and study area lack habitat for the species. Lacks typical native nesting trees.
Coelus globosus	globose dune beetle	Insects	None	None	IUCN_VU-Vulnerable	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico.	Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	**None.** The project site and study area lack habitat for the species.
Coturnicops noveboracensis	yellow rail	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Meadow & seep	Freshwater marshlands.	**Low.** There is a Hardstem and California Bulrush Marsh habitat in a small region of the study area, but not the project site itself. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.
Crotalus ruber	red-diamond rattlesnake	Reptiles	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	**None.** The project site and study area lack habitat for the species. Lacks microhabitat species requires.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	Insects	Candidate	None	IUCN_EN-Endangered, USFS_S-Sensitive	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Low.** Eucalyptus groves occur within the study area. However, the study area is not within the coastal zone where this species would utilize that habitat.
Dipodomys stephensi	Stephens' kangaroo rat	Mammals	Threatened	Threatened	IUCN_VU-Vulnerable	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover.	Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	**None.** The project site and study area lack habitat for the species.
Elanus leucurus	white-tailed kite	Birds	None	None	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**None.** The project site and study area lack habitat for the species. Lacks microhabitat- isolated, dense-topped deciduous trees for nesting/ perching.
Empidonax traillii extimus	southwestern willow flycatcher	Birds	Endangered	Endangered		Riparian woodlands in Southern California.		**None.** This species requires a large, dense riparian area with year round water flow. This species would not occur at Veeh Reservoir as there is not enough area of riparian habitat for this species to be present.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Emys marmorata	western pond turtle	Reptiles	Proposed Threatened	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Medium.** Veehs Reservoir in the study area is suitable habitat for this species. There is no habitat on the project site.
Eremophila alpestris actia	California horned lark	Birds	None	None	CDFW_WL-Watch List, IUCN_LC-Least Concern	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	**None.** The project site and study area lack habitat for the species.
Eucyclogobius newberryi	tidewater goby	Fish	Endangered	None	AFS_EN-Endangered, IUCN_NT-Near Threatened	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	**None.** The project site and study area lack habitat for the species.
Eumops perotis californicus	western mastiff bat	Mammals	None	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.	Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Gila orcuttii	arroyo chub	Fish	None	None	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins.	Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**None.** The project site and study area lack habitat for the species.
Icteria virens	yellow-breasted chat	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	**None.** The project site and study area lack habitat for the species. Lacks preferred nesting vegetation.
Lasiurus frantzii	western red bat	Mammals	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.	Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**None.** The project site and study area lack habitat for the species. Lacks undisturbed trees for roosting.
Laterallus jamaicensis coturniculus	California black rail	Birds	None	Threatened	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_EN-Endangered	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Low.** There is a Hardstem and California Bulrush Marsh habitat in a small region of the study area, but not the project site itself. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Myotis yumanensis	Yuma myotis	Mammals	None	None	BLM_S-Sensitive, IUCN_LC-Least Concern	Optimal habitats are open forests and woodlands with sources of water over which to feed.	Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	**None.** The project site and study area lack habitat for the species. Lacks undisturbed habitat for roosting.
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub of Southern California from San Diego County to San Luis Obispo County.	Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	**None.** The project site and study area lack habitat for the species.
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Rocky areas with high cliffs.	**None.** The project site and study area lack habitat for the species.
Nyctinomops macrotis	big free-tailed bat	Mammals	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Low-lying arid areas in Southern California.	Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	Endangered	Candidate Endangered	AFS_EN-Endangered	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	**None.** The project site and study area lack habitat for the species.
Onychomys torridus ramona	southern grasshopper mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	**None.** The project site and study area lack habitat for the species.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	Birds	None	Endangered	USFWS_BCC-Birds of Conservation Concern	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County.	Nests in Salicornia on and about margins of tidal flats.	**None.** The project site and study area lack habitat for the species.
Perognathus longimembris pacificus	Pacific pocket mouse	Mammals	Endangered	None	CDFW_SSC-Species of Special Concern	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County.	Seems to prefer soils of fine alluvial sands near the ocean, but much remains to be learned.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Phrynosoma blainvillii	coast horned lizard	Reptiles	None	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**None.** The project site and study area lack habitat for the species.
Plestiodon skiltonianus interparietalis	Coronado skink	Reptiles	None	None	BLM_S-Sensitive, CDFW_WL-Watch List	Grassland, chaparral, pinon-juniper and juniper sage woodland, pine-oak and pine forests in Coast Ranges of Southern California.	Prefers early successional stages or open areas. Found in rocky areas close to streams and on dry hillsides.	**None.** The project site and study area lack habitat for the species.
Polioptila californica californica	coastal California gnatcatcher	Birds	Threatened	None	CDFW_SSC-Species of Special Concern	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California.	Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**None.** The project site and study area lack habitat for the species.
Rallus obsoletus levipes	light-footed Ridgway's rail	Birds	Endangered	Endangered	CDFW_FP-Fully Protected	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation.	Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	**None.** The project site and study area lack habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	Fish	None	None	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	**None.** The project site and study area lack habitat for the species.
Salvadora hexalepis virgultea	coast patch-nosed snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Brushy or shrubby vegetation in coastal Southern California.	Require small mammal burrows for refuge and overwintering sites.	**None.** The project site and study area lack habitat for the species.
Setophaga petechia	yellow warbler	Birds	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	**Medium.** There is a Hardstem and California Bulrush Marsh habitat and Eucalyptus Grove near water in the study area. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.
Sorex ornatus salicornicus	southern California saltmarsh shrew	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal marshes in Los Angeles, Orange and Ventura counties.	Requires dense vegetation and woody debris for cover.	**None.** The project site and study area lack habitat for the species. Not a saltmarsh.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Spea hammondii	western spadefoot	Amphibians	Proposed Threatened	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	**None.** The project site and study area lack habitat for the species.
Sternula antillarum browni	California least tern	Birds	Endangered	Endangered	CDFW_FP-Fully Protected	Nests along the coast from San Francisco Bay south to northern Baja California.	Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	**None.** The project site and study area lack habitat for the species.
Streptocephalus woottoni	Riverside fairy shrimp	Crustaceans	Endangered	None	IUCN_EN-Endangered	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub.	Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	**None.** The project site and study area lack habitat for the species.
Taricha torosa	Coast Range newt	Amphibians	None	None	CDFW_SSC-Species of Special Concern	Coastal drainages from Mendocino County to San Diego County.	Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	**Low.** There is a Hardstem and California Bulrush Marsh habitat adjacent to Veeh Reservoir and riverine habitats in the study area. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Study area
Taxidea taxus	American badger	Mammals	None	None	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**None.** The project site and study area lack habitat for the species.
Thamnophis hammondii	two-striped gartersnake	Reptiles	None	None	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation.	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	**Low.** There is Veeh Reservoir and connected riverine habitats in the study area, but not the project site itself. However, this habitat is highly disturbed by surrounding developments and is not adjacent to any high-quality marsh habitat.
Tryonia imitator	mimic tryonia (=California brackishwater snail)	Mollusks	None	None	IUCN_DD-Data Deficient	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County.	Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	**None.** The project site and study area lack habitat for the species.
Vireo bellii pusillus	least Bell's vireo	Birds	Endangered	Endangered		Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	**Low.** Suitable habitat occurs at Veeh Reservoir, but it is highly disturbed. The project site lacks habitat for this species.

Appendix C:
Literature Review

The **Special-Status Flora and Wildlife** that are subject to the legislation, policies, or assessments indicated in Appendix B (Special-Status Species) are queried for each project site using several online literature resources:

Special-Status Flora and Wildlife

- California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB), RareFind 5 link CNDDB Maps and Data (ca.gov)

- United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) link https://ecos.fws.gov/ipac/

Special-Status Flora

- Online database of the California Native Plant Society, Inventory of Rare and Endangered Plants link CNPS Rare Plant Inventory.

Special-Status Wildlife

- CDFW. 2023b. California Wildlife Habitat Relationships (CWHR) life history accounts and range maps link https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range

The designation of **Plant Communities** is dependent on the geographic area where the project site occurs. In Southern California, there are two primary vegetation community classification systems. These community classifications also indicate whether the community is considered a sensitive natural community by the CDFW. These two main literature sources area as follows:

- Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties California (CDFW, CNPS 2006)

- California Native Plant Society (CNPS), A Manual of California Vegetation Online link http://vegetation.cnps.org/

The potential for **Wildlife Movement** at a project site is assessed with several sources that cover geographic connectivity in terms of current development, established wildlife corridors, critical habitat established by the Fish and Wildlife Service, and federal, state, and local protected areas including parks, forests, and reserves. The sources queried for wildlife movement are listed below:

- California Protected Areas Database (CPAD) online link https://www.calands.org/

- GreenInfo Network, Park Information online link https://www.greeninfo.org

- Google Maps, online link https://maps.google.com
- SC Wildlands, South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion.
- US Fish and Wildlife Service Dedicated and Proposed Critical Habitat GIS Data online link https://www.fisheries.noaa.gov/national/endangered-species-conservation/critical-habitat#critical-habitat-designations,-maps,-and-gis-data

The potential for **Water Resources**, for example wetlands, streams, rivers, marshes, on the project site was assessed with two literature sources. These water sources may be U.S. jurisdictional water resources subject to state and federal regulations or not.

- US Fish and Wildlife Service. National Wetlands Inventory Online Wetlands Mapper link https://www.fws.gov/wetlands/data/mapper.html
- US Geological Survey. National Wetlands Inventory Online Wetlands Mapper link https://www.fws.gov/wetlands/data/mapper.html

Appendix D:
Biologist's Resume

Email: msouth@southenvironmental.com
Mobile: 303-818-3632

Matthew South

PRINCIPAL BIOLOGIST

EDUCATION

B.S., Wildlife Ecology, University of Wisconsin-Madison, 2004

CERTIFICATIONS

Certified Wildlife Biologist, The Wildlife Society 2014

Certified Technical Service Provider (TSP) for Fish and Wildlife Management Plans, USDA NRCS 2017

Authorized Desert Tortoise Biologist – Numerous BOs

Unmanned Aircraft System Pilot Certification, FAA #4177603

TRAINING

Wetland Delineation Training Course – The Wetland Institute (2014)

Southwest Willow Flycatcher Workshop, 2017

USGS Desert Tortoise Health Assessment and Tissue Collection Techniques Training, 2009

Matthew South founded South Environmental in 2018. He is a certified wildlife biologist with over 18 years of professional experience providing natural resources consulting services for a wide variety of clients that include residential, commercial, government, utility, infrastructure, research, and non-profit projects. For the last 15 years, Mr. South has been an environmental consultant in southern California acting as a Wildlife Biologist and Geographic Information System (GIS) Analyst. In early 2018 he started South Environmental and has since been supporting clients in Los Angeles, Ventura, Santa Barbara, San Bernardino, and Riverside Counties.

Mr. South's background in ecology has led to a passion for conservation planning and resources assessments for the purpose of preservation and management. The integration of the latest technologies such as advanced GIS systems, mobile computing, and drone sensing allows him to innovate new data collection, analysis, and collaboration tools for the environmental sciences that produce more accurate data and better-informed resource managers.

EXPERTISE

- **Conservation and Management Planning.** Mr. South's has extensive experience preparing mitigation and monitoring plans, habitat conservation plans, and technical biological resources management plans that are compliant with federal, state, and local regulations. Mr. South is the only active NRCS TSP for Fish and Wildlife Plans Certified in California.
- **Biological Resources Assessment.** Mr. South has completed dozens of biological resources assessments throughout southern California.
- **Rare Plants and Arborist Services.** Mr. South has surveyed and assessed thousands of native and landscaped trees in southern California. He is a certified arborist with 5-years of tree survey experience working closely with some of the most experienced arborists in California. In addition, he has performed hundreds of hours of rare plant surveys and habitat assessments.
- **Wetland & Jurisdictional Delineations.** Mr. South has conducted dozens of jurisdictional and wetland delineations per the guidelines and methods from the US Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and the state Regional Water Quality Control Boards (RWQCB).
- **GIS.** Mr. South is an expert at spatial data collection and analysis using ESRI mobile and desktop software products and Trimble hardware.

SELECT PROJECT EXPERIENCE

St. Andrews Recreation Center Project, City of Los Angeles Department of Recreation and Parks, California (2023). South Environmental was retained to conduct a Biological Resources Assessment (BRA) and Tree Survey Report for the St. Andrew's Recreation Center at 8701 S St. Andrew's Place in the City of Los Angeles, California for development on one parcel (Assessor's Identification Number [AIN] 6036-009-900) owned by the City of Los Angeles and administered by the Department of Recreation and Parks (RAP). The parcel (study area) is in the Empowerment Congress Southwest Area Neighborhood Council in the south-central part of the City and within the South Los Angeles Community Plan Area. This report identified sensitive or protected biological resources on the parcel and indicated the regulations governing these resources. The biological resources of the parcel was assessed based on a literature review and a field site survey. The Tree Report included a description of the survey area; methods used to survey the trees involving assessment of tree structure, health, and mapping; and the results of the survey including photographs of each tree.

Bronson Canyon Playground Project, City of Los Angeles Department of Recreation and Parks, California (2023). South Environmental was retained to prepare a BRA, jurisdictional delineation, and rare plant survey for the City of Los Angeles RAP Bronson Canyon Playground Project located at 3200 Canyon Drive in the City of Los Angeles, California, for the proposed construction of a playground and access improvements including a new pedestrian walkway on a parcel owned by the City of Los Angeles in Griffith Park with the Assessor's Identification Number [AIN] 5583-025-900. The BRA identified and assessed the potential impacts to sensitive or protected biological resources on the project site (development areas and associated work areas), indicated the regulations governing these resources, and discussed recommendations for avoiding or mitigating these impacts. The biological resources of the project site were assessed based on a literature review and a field site survey.

Bell Creek Brush Clearance Project, City of Los Angeles Department of Recreation and Parks, California (2023). South Environmental was retained to prepare an Invasive Plant Treatment and Monitoring Plan (plan) detailing the proposed actions to compensate for the temporary impacts to plant communities from the Bell Creek Brush Clearance Project under a Lake and Streambed Alteration Agreement. The implementation of the plan was consistent with measures included in that agreement, including measure 2.22 regarding invasive species management being conducted to ensure protection of the existing wildlife habitat. Implementation of clearance activities under the plan were designed to reduce the presence of and prevent the spread of non-native and invasive plant species within the Bell Creek area. The plan outlined monitoring and treatment methods to control the spread of non-native and invasive plant species in the project treatment areas and identified priority species and priority treatment areas to focus efforts and resources toward achieving the final success criteria. The biological resources of the parcel were assessed based on a literature review and a field site survey.

Various Locations, WEAP Trainings and Nesting Bird Surveys, City of Los Angeles Department of Recreation and Parks, California (2023). South Environmental was retained to provide Worker Environmental Awareness and Protection (WEAP) Trainings, field survey, monitoring, and reporting, for several City of Los Angeles RAP locations. South Environmental prepared a contractor education brochure in English and Spanish that provided information on protecting nesting birds and included pictures of sensitive plants and wildlife (particularly bats) occurring within the project areas. South Environmental also conducted environmental awareness training to Department inspectors, contractors, and subcontractors at the project site prior to the start of brush clearance activities. South Environmental also conducted as-needed nesting bird surveys, established buffer zones, and performed biological monitoring in response to the presence of active

nests. A brief letter report to RAP was prepared to document field observations, protective measures implemented, and the overall success of the measures.

Sepulveda Basin Prescribed Burn Project, City of Los Angeles Department of Recreation, Los Angeles, California (2022). South Environmental was retained to prepare a burrowing owl survey report for use by the City of Los Angeles RAP for the proposed prescribed burning of approximately 86.49 acres of undeveloped areas on the Sepulveda Basin Apollo XI/Valley Fliers Airfield and adjacent lands. Several active burrowing owl (*Athene cunicularia*) burrows were identified in October 2021 (survey area) during general surveys conducted to support the project in the early planning phase. This report was prepared according to Appendix C and Appendix D of the 2012 Staff Report on Burrowing Owl Mitigation. The report included a description of the project, biological setting, vegetation communities, survey methodology, and survey results that include burrowing owl behavior observations, and recommendations for project implementation that would avoid impacts to burrowing owls and active burrows.

Various Biology Reports within City of Los Angeles (2019-present). Mr. South has prepared and overseen the preparation of dozens of biological resources assessment reports within the City of Los Angeles. These reports are prepared within the range of the population of mountain lions that is the target of the listing status, in the Santa Monica Mountains, San Gabriel Mountains, Simi Hills, and Verdugo Hills. Numerous other projects have been completed that are not listed. Select Projects include:

- Baseline Road in LaVerne
- Altadena Hills Project
- 16 Beverly Park
- 64 Beverly Park
- 74 Beverly Park
- 79 Beverly Park
- Toyopa Drive
- Mapleton Drive
- Tigertail
- 680 Sarbonne
- 777 Sarbonne
- Stradella Road
- Tower Grove
- Bella Drive
- Chautauqua Boulevard
- Benedict Canyon
- Haslam Terrace
- Summitridge Drive
- Rial Lane
- Outpost Ave
- Pasquera
- Beverly Grove
- Multiple Granito Drive Projects
- Floral and Electra Drive Project
- Hillside
- Magnolia
- Swallow
- Sierra Mar
- Beverly Grove
- Stradella
- Chalon Road
- Moraga
- Brentridge
- Viewcrest
- Old Chimney Road
- Multiple Developments on Mulholland Highway
- Berkley Hall School Project
- Charmel Lane
- Paseo Miramar Roadway Project
- Posetano-Revello Project
- Palmera
- Shadow Mountain Drive
- Astral Project
- Nofral Road Projects
- San Onofre Drive
- Crescent Drive

Email: dbriggs@southenvironmental.com
Mobile: 714-330-6290

EDUCATION

B.S., Ecology, Evolution, & Organismal Biology, California State University, Monterey Bay, 2017

M.S., Conservation and Restoration Science, University of California, Irvine, 2022

SKILLS

-Scientific collection and management of field data

-Technical writing

-Project management and risk assessment

-Plant and animal identification through dichotomous keys, field guides, and experience

-Statistical analyses through R Studio

CERTIFICATIONS

-Wilderness First Aid Certification

Dana Briggs Wyler

BIOLOGIST

Dana Briggs Wyler is a current environmental professional and recent graduate from University of California, Irvine's Masters in Conservation and Restoration Science program. Here, she specialized in project management, restoration design, and field monitoring in areas with sensitive species. She has extensive field data collection and restoration experience in central and southern California learned while in school. While at UCI, she was involved with a project monitoring a fuel modification zone using native plant species to support regional biodiversity, especially Least Bell's Vireo and California Gnatcatcher. She also participated in a restoration and monitoring program of native grasslands in Irvine aimed to provide data for community resilience to fire. More recently, she worked for Southern California Coastal Water Research Project as a toxicologist where she conducted research and assessments of southern California's water resources.

EXPERTISE

- **Field Data Collection.** Dana has extensive experience collecting data in diverse terrestrial and aquatic habitats in both southern and central California.
- **Biological Monitoring.** Dana has diverse experience identifying wildlife species throughout the Southern California region.
- **Plant Identification.** Dana is proficient in identifying native, non-native, and invasive plant species throughout southern California, specifically in coastal, wetland, riparian, and chaparral.
- **Technical Writing.** Dana has prepared numerous biological resource assessments reports for the city of Los Angeles. Reports include detail-oriented descriptions of biological resources, surveys for special-status species, biological resources maps, and assessments of potential impacts to biological resources from development.
- **Data Management and Analysis.** Dana has significant expertise in statistical analyses as well as producing statistical figures through R Studio. She has extensive experience working with both single data sets as well as large databases.

SELECT PROJECT EXPERIENCE

South Environmental, Monitoring Biologist. Ramona Expressway (2023-present). As a Biologist for South Environmental, Dana's responsibilities were to provide WEAP trainings and biological monitoring for the Ramona Expressway project with First Carbon. Duties included:

- Conduct Worker Environmental Awareness Program (WEAP) training to all onsite construction personnel to describe species of concern and requirements to protect them under the Endangered Species Act and the Western Riverside Multi-Species Habitat Conservation Plan and mitigation measures being implemented on the project site to conserve the species of concern.
- Monitoring construction activities for the duration of project activities to ensure that all practicable measures are being employed to avoid incidental disturbance of habitat and species:
    - establish environmentally sensitive areas around sensitive biological resources on the project site during the construction phase.
    - ensure that vegetation clearance activities limit disturbance to the smallest practical area and that construction personnel and activities do not enter environmentally sensitive areas.
    - perform daily pre-construction sweeps of work areas prior to initiation of daily construction activities.
    - inspect open trenches, pits, and pipes or other materials within which a covered species or other sensitive species may become entrapped or hide within.
    - Summarize relevant findings in a letter report that will be prepared at the completion of ground disturbing activities.

Aliso Canyon Emergency Monitoring Project Southern California Gas (2023-present). Dana is the lead monitor for a long-term project that includes the removal of sediment from catch basins where sensitive wetlands and wildlife such as coast range newt occurs. Dana is responsible for overseeing the monitoring effort, daily reports, and overall project compliance.

City of LA Recreation and Parks City Park Brush Clearance Monitoring within Riparian Areas (2023). Dana was the primary monitor that conducted nesting bird surveys and compliance monitoring at White Point Park where brush clearance is performed annually to meet LA Fire Department requirements. The work was within and near riparian areas and wetland and riparian vegetation and wildlife were the target species. Also, Dana monitored nesting coastal California gnatcatchers at this site and protected the nest during the project.

City of Los Angeles Biological Resources Assessments (2023 – present). Dana conducts site assessments for biological resources, surveys for special-status plants and animals, maps and characterizes plant communities and wetlands/streams, and assesses potential impacts to biological resources from proposed developments. Dana has worked on the following reports:

- 41 Mar Vista Biological Resources Report in the Santa Monica Mountains Local Coastal Program (LCP)
- 4801 Knob Hill Drive Biologist's Statement of Biological Resources
- 1746 Mandeville SB9 Statement of Habitat
- 2460 Sunset Plaza SB9 Statement of Habitat
- 21050 San Miguel SB9 Statement of Habitat
- 11496 Orum SB9 Statement of Habitat & California Wildlife Habitat Relationship (CWHR) Assessment

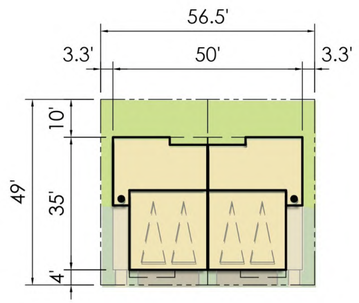
- 230 Carolwood Biologist's Statement of Biological Resources
- 2383 Mandeville Canyon Biologist's Statement of Biological Resources
- 4960 Calvin SB9 Statement of Habitat
- 8152 Ellenbogen SB9 Statement of Habitat
- 10826 Tuxford Statement of Habitat

Dana has also conducted the following monitoring projects:

- Ramona Expressway monitoring biologist
- Glenoaks/ SoCal Edison compliance monitoring
- White Point nesting bird survey and monitoring

Southern California Coastal Water Research Project (2021 – 2022). Dana was a laboratory and field assistant for coastal wetlands project. Dana later was promoted to research technician in the toxicology department where she coordinated and implemented a water toxicology experiment that support southern California wetlands and waters.

Appendix E:
Site Plan



SITE DATA

DUETS	36 UNITS
TOTAL	**36 UNITS**
GARAGE PARKING	72 SPACES
GUEST PARKING	15 SPACES
TOTAL PARKING	**87 SPACES**

(2.42 SPACES PER UNIT)

36 UNITS x 0.3 GUEST STALLS = 11 SPACES REQUIRED; 15 SPACES PROVIDED

10.22.24

0' 30' 60'

SCALE: 1" = 30'

CONCEPT SITE STUDY

LAGUNA HILLS (KHOSHBIN) | TOLL BROTHERS

LAGUNA HILLS, CALIFORNIA

NOTE: SQUARE FOOTAGE MAY VARY BASED ON CALCULATION METHODS

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JANUARY 28, 2026

CITY OF LAGUNA HILLS, CA
24035 El Toro Road
Laguna Hills, CA 92653

SUBJECT: TOLL BROTHERS TOWNHOME PROJECT TRIP GENERATION AND VEHICLE MILES TRAVELED (VMT) SCREENING ANALYSIS AND GATE QUEUEING STUDY, CITY OF LAGUNA HILLS

INTRODUCTION

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this Trip Generation and Vehicle Miles Traveled (VMT) Screening Analysis for the proposed Toll Brothers Laguna Hills Townhome Project (hereinafter referred to as "project").

The purpose of this study is to utilize the *City of Laguna Hills Vehicle Miles Traveled Analysis Guidelines under the California Environmental Quality Act General Plan Development Review Traffic Study Guidelines, August 2021*, (hereinafter referred to as "Traffic Study Guidelines") to determine if the project would cause a significant impact to VMT and level of service (LOS) pursuant to the California Environmental Quality Act (CEQA) and the City of Laguna Hills roadway performance standards, respectively. This analysis utilizes the screening criteria established in the Laguna Hills Traffic Study Guidelines.

This report also reviews the proposed gated entry design to help ensure adequate vehicle queueing and circulation is accommodated.

PROJECT DESCRIPTION

The proposed project site will be constructed on the 2.43-acre parcel at 23161 Mill Creek Drive (APN 588-142-07) in the City of Laguna Hills, Orange County, California (Project Site). The project site is located on the west side of Mill Creek Drive, approximately 0.27 miles south of the Lake Forest Drive, Mill Creek Drive, and Scientific Intersection. The project site is currently developed with a two-story office building, surface parking lot, and associated landscaping and pavement. **Exhibit A** shows the location map of the proposed project.

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family-attached condominium residential units, parking, roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income.

Access to the project is proposed via one (1) full-access gated driveway along Mill Creek Drive.

Exhibit A shows an aerial location map of the project site. **Exhibit B** shows the project's proposed site plan.

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development.

Trip generation rates from the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) are used to calculate the proposed project's trip generation forecast. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

The project proposes to construct thirty-six (36) townhome dwelling units. The most appropriate trip rate for this land use is ITE Land Use 215: Single-Family Attached Housing. As described in the ITE Trip Generation Manual, Single-Family Attached Housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

Table 1 shows the ITE trip generation rates utilized for the trip generation analysis of the proposed project land use and the proposed project trip generation forecasts based on those ITE trip generation rates.

Table 1 | Project Trip Generation Rates & Forecast[1]

Land Use (ITE Code)	Quantity	Units[1]	Weekday						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
ITE Trip Generation Rate									
Single-Family Attached Housing (215)	--	DU	25%	75%	0.48	59%	41%	0.57	7.20
Trip Generation Forecast									
Single-Family Attached Housing (215)	36	DU	4	13	17	12	9	21	259

[1] Source: ITE Trip Generation Manual (11th Edition, 2021).

[2] DU = Dwelling Unit

As shown in Table 1, based on the ITE trip generation rates, the proposed project is forecast to generate approximately 259 daily trips, which include approximately 17 AM peak hour trips and 21 PM peak hour trips.

As specified in the Laguna Hills Traffic Study Guidelines, a traffic impact analysis, which includes LOS analysis for non-CEQA purposes, shall be required for a proposed project if a project adds 50 or more peak hour trips or 500 or more trip-ends per day. Based on the published rates from the latest ITE Manual, the proposed project is not expected to exceed 50 peak hour trips or 500 daily trips (i.e., 259 daily trips, 17 AM peak hour trips, and 21 PM peak hour trips). Therefore, the proposed project is not required to prepare a traffic impact analysis for non-CEQA purposes and is not expected to result in any significant adverse impacts on the operations of the roadway network and intersections.

VEHICLE MILES TRAVELED (VMT) SCREENING

The Laguna Hills Traffic Study Guidelines provides recommendations in the form of thresholds of significance and methodologies for identifying VMT related impacts. The first step in evaluating a land use project's potential VMT impact is to perform an initial screening assessment utilizing the City of Laguna Hills VMT Screening Form for Land Use Projects (VMT Screening Form).

Projects that satisfy at least one of the screening requirements may be presumed to result in a less than significant impact to VMT. The following five (5) types of screening criteria are applicable:

- 100% Affordable Housing
- Located within ½ mile of Qualifying Transit
- Local Serving Land Use
- Low VMT Area
- Net daily Trips Less than 500 ADT

Appendix A located at the end of this letter report contains the completed City of Laguna Hills VMT Screening Form.

VMT Screening Type 1: 100% Affordable Housing – Not Satisfied

Per the City of Laguna Hills VMT guidelines, if a project consists of 100% affordable housing, then the presumption can be made that it will have a less than significant impact on VMT. The project does not consist of 100% affordable housing and as a result, VMT Screening Criteria Type 1 is not met.

VMT Screening Type 2: Located within ½ mile of Qualifying Transit – Not Satisfied

Per the City of Laguna Hills VMT guidelines, lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within one half (½) mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less than significant impact on VMT.

Upon further review, the project is not located within one half mile of qualifying transit (e.g., major transit stop or high-quality transit corridor). As a result, VMT Screening Criteria Type 2 is not met.

VMT Screening Type 3: Local Serving Land Use – Not Satisfied

Per the City of Laguna Hills VMT guidelines, local serving land uses provide goods and services to the local community. Local serving land uses offer more opportunities for residents and employees to shop, dine and obtain services closer to home and work. Local serving uses can also include community resources that may otherwise be located outside of the local area. By improving destination proximity, local serving uses lead to shortened trip lengths and reduced VMT. Therefore, local serving uses may be presumed to have a less than significant impact on VMT.

Per Table 1: List of Local Serving Uses from the City of Laguna Hills VMT guidelines, the project is not considered a local serving land use. As a result, VMT Screening Criteria Type 3 is not met.

VMT Screening Type 4: Low VMT Area Screening - Satisfied

Per the City of Laguna Hills VMT guidelines, projects located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. If a project is located in a Traffic Analysis Zone (TAZ) with VMT per capita or VMT per employee that is less than or equal to the citywide average, than the project is considered to be located in a low VMT area and can be presumed to have a less than significant impact on VMT. The project is consistent with the baseline land use assumptions for TAZ 1504. This includes a total of 982 households that exhibit similar travel demand characteristics as the proposed project. Therefore, it is reasonable to use the baseline statistics for estimating the project's VMT.

As shown in OCTAM TAZ Map (Appendix A), the project is located within OCTAM TAZ 1504.

Table 2 summarizes the results of the low VMT area screening assessment.

Table 2 | VMT Screening Type 4: Low VMT Area Screening Assessment[1,2]

OCTAM TAZ	VMT/Service Population
1504	12.9
City of Laguna Hills VMT Threshold of Significance	**16.1**
Potentially Significant Impact? (Yes/No)	**No**

[1] *Source:* Orange County Transportation Analysis Model (OCTAM)

OCTAM is the preferred traffic model for screening and analyzing VMT in the City of Laguna Hills. The project is located within OCTAM TAZ 1504 which has a baseline VMT per Capita of 12.9. Because the project's TAZ VMT does not exceed the citywide average VMT/capita of 16.1, the project is considered to be located in a low VMT area and can be presumed to have a less than significant impact on VMT. As a result, VMT Screening Criteria Type 4 is met.

VMT Screening Type 5: Net Daily Trips Less Than 500 ADT - Satisfied

Per the City of Laguna Hills VMT guidelines, projects that generate less than 500 net average daily trips (ADT) would not cause a substantial increase in the total citywide or regional VMT and are therefore presumed to have a less than significant impact on VMT.

The City's 500 ADT screening threshold is founded on substantial, locally tailored evidence as documented in Appendix C of the Laguna Hills VMT Guidelines. The VMT Guidelines show that projects below the 500 ADT screening threshold do not measurably increase citywide VMT or GHG emissions. Thus, the City's screening threshold is consistent with CEQA Guidelines, which permit lead agencies to adopt thresholds of significance if those thresholds are supported by substantial evidence relevant to the agency's context.

Per Table 1 above, the project is forecast to generate approximately 259 daily trips. As a result, VMT Screening Criteria Type 5 is met.

Therefore, the proposed project is screened out based on VMT Screening Type 4: Low VMT Area Screening and VMT Screening Type 5: Net Daily Trips Less Than 500 ADT. As such, the proposed project may be presumed to have a less than significant VMT impact under CEQA. No further VMT analysis is required.

QUEUING ANALYSIS AT GATED DRIVEWAY

A queuing evaluation has been performed at the proposed gated access driveway. The purpose of this analysis is to determine whether adequate storage capacity is provided to allow vehicles to enter the project area without causing vehicles to spill back onto the public roadway (i.e., Mill Creek Drive). To analyze potential vehicle queues, RK utilized the following studies:

- *Entrance-Exit Design and Control for Major Parking Facilities*, prepared by Robert W. Crommelin, P.E., dated October 5, 1972.
- *Residential Electronic Gate Service Study (REGSS),* prepared by RK Engineering Group Inc., dated July 22, 2016.

Exhibit C illustrates the storage length provided at the project access. As shown in Exhibit C, the storage length measured from the gate to the curb face is approximately 91 feet and the callbox is located approximately 65 feet from the curb face.

As also shown in Exhibit C, the width of the project access driveway lanes is approximately 21.5 feet at the start of the median and expands to approximately 30 feet with an area for vehicles to bypass the visitor lane which is designed in accordance with Orange County Standard Plan 1107.

The gate queuing for residents was measured from the gate itself (i.e., 91 feet), whereas gate queuing for visitors would be measured from the callbox (i.e., 65 feet). Assuming an average car length of 19 feet (i.e., 22 feet of total spacing per vehicle), the project access driveway is expected to accommodate approximately 4 vehicles within the resident lane, and approximately 2 vehicles within the visitor lane without spilling onto Mill Creek Drive.

Arrival Rate

As shown previously in Table 1, the maximum inbound project peak hour traffic is forecast to be 14 vehicles during the PM peak hour. RK utilized the resident vs. visitor traffic splits as sourced in the

Residential Electronic Gate Service Study (REGSS), dated July 22, 2016, prepared by RK Engineering Group Inc., to determine the arrival rate for both resident and visitor traffic. The REGSS is included in **Appendix B**.

Table 3 calculates the number of project trips entering the driveway by user type based on the project's inbound trip generation and the resident vs. visitor traffic splits per the REGSS.

Table 3 | Crommelin Traffic Arrival Rate[1]

User Type	Maximum Peak Hour Inbound Trip Generation [2]	Observed Average Percent Split[3,4]	Crommelin Traffic Arrival Rate (Number of Vehicles per Hour)
Residents	12	79.52%	10
Visitors		20.48%	2

[1] *Source*: Entrance-Exit Design and Control for Major Parking Facilities, prepared by Robert W. Crommelin, P.E., dated October 1972
[2] *Source*: ITE Trip Generation Manual (11th Edition, 2021), referenced in Table 1.
[3] Recommended gate service rate for combined user (Resident & Visitor) for a single-entry lane.
[4] *Source*: Residential Electronic Gate Service Rate Study, dated July 22, 2016, prepared by RK Engineering Group Inc.

Per the REGSS, the observed entering PM peak hour traffic splits were 79.52% for residents and 20.48% for visitors. As shown in Table 3, based on the inbound trip generation and resident vs. visitor traffic splits per the REGSS, the arrival rates for residents and visitors are 10 vehicles per hour and 2 vehicles per hour, respectively.

Service Rate

Per the REGSS, the recommended service rates for two entry lanes utilized by residents and visitors are 220 vehicles per hour and 115 vehicles per hour, respectively.

Intensity Rate

The intensity rate is the ratio of the arrival rate to the service rate. Hence, the following intensity rates have been calculated per user type:

- Residents: [10 VPH / 220 VPH] = 0.05
- Visitors: [2 VPH / 115 VPH] = 0.02

Queue Findings

Exhibit D-1 and **Exhibit D-2** show the results of the gate stacking analysis utilizing the Crommelin methodology for residents and visitors, respectively, by plotting the previously calculated intensity rate on the Crommelin nomograph and identifying the corresponding number of vehicles in the reservoir space behind the service position. The 95th percentile confidence interval is the typical engineering design standard.

Table 4 summarizes the results of the gate stacking analysis utilizing the Crommelin methodology.

Table 4 | Gate Stacking Analysis Results

User Type	Crommelin Traffic Arrival Rate (Number of Vehicles per Hour)[1]	Crommelin Traffic Service Rate (Number of Vehicles per Hour)[2]	Crommelin Traffic Intensity Rate	Anticipated Maximum Queue Behind Service Position (Vehicles)[3]	Anticipated Maximum Queue Including Service Position (Vehicles)[4]
Residents	10	220	0.05	1	2
Visitors	2	115	0.02	1	2

[1] Crommelin traffic arrival rate based on the project's trip generation and residential inbound trip distribution at ultimate condition.
[2] Recommended gate service rate for combined user (Resident & Visitor) for a single-entry lane.
Source: Residential Electronic Gate Service Rate Study, dated July 22, 2016, prepared by RK Engineering Group Inc.
[3] Maximum Queue Behind Service Station Position estimated using the Crommelin graph (rounded up to the nearest vehicle).
[4] An additional one vehicle is assumed to be in the service position.

As shown in Table 2, the 95th percentile vehicular queue for proposed driveway is forecast to be approximately two (2) vehicles during the peak hour for both the residential and visitor lane. As illustrated in Exhibit C, the proposed driveway provides a throat that can accommodate 4 vehicles in the resident lane and 2 vehicles in the visitor lane. As such, vehicles are not expected to spill back onto Mill Creek Drive.

VEHICLE TURNAROUND ASSESSMENT

Exhibit E-1 and **Exhibit E-2** illustrates the turnaround movement of a standard passenger vehicle and a standard unit (SU) delivery truck, respectively, per the American Association of State Highway and Transportation Officials (AASHTO) standards at the project access driveway.

As shown in Exhibit E-1, a passenger vehicle would be required to drive over the designated parking spaces to be able to maneuver the turnaround area from the callbox in one turn. However, the project is proposing to exceed the number of parking spaces required. As such, these designated parking spaces would likely not be utilized often allowing visitors that need to turnaround the ability to complete the maneuver in one turn. Additionally, if those parking spaces are occupied a passenger vehicle would only need to complete a three-point turn to turnaround.

As shown in Exhibit E-2, a delivery truck would be required to make a multi-point turn to maneuver the turnaround area without driving over the center callbox median or into the parking spaces. However, regardless of the parking spaces being occupied a delivery truck would be required to make a multi-point turn to maneuver a turnaround successfully. As such, even though the driveway is designed in accordance with Orange County Standard Plan 1107, a delivery truck would be obligated to make a multi-point turn due to the design of the drive-aisle.

CONCLUSIONS

RK Engineering Group, Inc. has completed this Trip Generation and Vehicle Miles Traveled (VMT) Screening Assessment for the proposed Toll Brothers Laguna Hills Townhome Project.

As specified in the Laguna Hills Traffic Study Guidelines, a detailed traffic impact analysis will be required if a project adds 50 or more peak hour trips or 500 or more trip-ends per day. The project is forecast to generate approximately 259 daily trips which consists of 17 AM peak hour trips and 21 PM peak hour trips. As such, the proposed project is not required to prepare a traffic impact analysis and is not expected to result in any significant adverse impacts on the operations of the roadway network and intersections.

Furthermore, consistent with Laguna Hills Traffic Study Guidelines, the proposed project is screened out from a full VMT analysis based on the VMT Screening Type 4: Low VMT Area Screening and VMT Screening Type 5: Net Daily Trips Less Than 500 ADT. As such, the proposed project may be presumed to have a less than significant impact on VMT under CEQA. Therefore, no additional VMT analysis is required.

Additionally, a queuing evaluation has been performed at the proposed gated access driveway utilizing the Crommelin methodology. As a result, the 95th percentile vehicular queue for proposed driveway is forecast to be approximately two (2) vehicles during the peak hour for both a residential and visitor lane and are not expected to spill back onto Mill Creek Drive. Furthermore, a turnaround assessment was performed for a passenger vehicle and a SU delivery truck, per the AASHTO standards at the project access driveway and it was found that both vehicles would be required to make a multi-point turn to complete the maneuver without driving into the parking spaces.

RK Engineering Group, Inc. appreciates this opportunity to work on this project. If you have any questions regarding this review, or need further clarification, please contact us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC.

Justin Tucker, P.E., T.E.
Principal

Sabrina Ayala
Engineer I

Attachments

Toll Brothers Laguna Hills Townhome Project Noise Impact Study

City of Laguna Hills, California
January 28, 2026

rkengineer.com

RK ENGINEERING GROUP INC.

Toll Brothers Laguna Hills Townhome Project Noise Impact Study

City of Laguna Hills, California

Prepared for:
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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this report is to evaluate the potential noise impacts from the proposed Toll Brothers Laguna Hills Townhome Project (hereinafter referred to as "project") and provide recommendations, if necessary, to minimize any project noise impacts.

The assessment was conducted pursuant to the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.) and the standards and methodology follow the City of Laguna Hills Municipal Code and General Plan requirements.

The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Identification of the regulatory setting and applicable noise standards;
- Establishment of the existing ambient noise environment at the project site;
- Analysis of the project's construction and operational noise impact to adjacent receptors;
- Analysis of the project's noise/land use compatibility and preliminary interior noise levels; and

1.2 Site Location & Project Description

The proposed project site will be constructed on the 2.43-acre parcel at 23161 Mill Creek Drive (APN 588-142-07) in the City of Laguna Hills, Orange County, California (Project Site). The project site is located on the west side of Mill Creek Drive, approximately 0.27 miles south of Lake Forest Drive, Mill Creek Drive, and Scientific Intersection. The project site is currently developed with a two-story office building, surface parking lot, and associated landscaping and pavement. **Exhibit A** shows the location map of the proposed project.

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family-attached condominium residential units, parking, roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income.

Construction activities are expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating. The project will require the import/export of up to approximately 35,000 cubic yards of earthwork material for grading purposes during construction.

Exhibit B shows the proposed site plan used for this analysis.

1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to noise exposure. There are several sensitive land uses adjacent to the project site as described below.

A project site location map, including sensitive receptor locations, is provided in **Exhibit A**.

Receptor-1 Existing residential land uses located to the west of the proposed project site. The nearest residential home located at Receptor-1 (marked as circle "1" on **Exhibit A**) is located approximately 80 feet west of the project site's western boundary.

Receptor-2 Existing commercial land uses located to the north, east, and south of the proposed project site. the nearest commercial receptor located at Receptor-2 (marked as circle "2" on **Exhibit A**) is located directly adjacent to the project site's southern boundary.

1.4 Summary of Analysis Results

Table 1-1 provides a summary of the noise analysis results, per the CEQA impact criteria checklist.

Table 1-1 | CEQA Noise Impact Criteria

Noise Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Legend

① = Sensitive Receptor Location

= Project Site Boundary

Exhibit A

Location Map

Exhibit B

Site Plan

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic, or stationary noise, the medium of concern is air. Noise is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its frequency (pitch) and its amplitude (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting out at 20 Hz all the way to the high pitch of 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. The loudness of sound increases or decreases, as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (μPa). One μPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels and abbreviated dB.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two (2) sounds of equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two (2) sounds differ by approximately 10 dB the higher sound level is the predominant sound.

2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in noise level of 3 dB. A change in 5

dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway), would result in a barely perceptible change in sound level.

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant, while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels. The following are the most commonly used noise descriptors along with brief definitions.

- **A-Weighted Sound Level.** The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

- **Ambient Noise Level.** The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

- **Community Noise Equivalent Level (CNEL).** The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

- **Decibel (dB).** A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

- **dBA.** A-weighted sound level (see definition above).

- **Equivalent Sound Level (Leq).** The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

- **Habitable Room.** Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

- **L(n).** The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 is the sound level exceeded 10 percent of the sample time. Similarly, L50, L90 and L99, etc.

- **Noise.** Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

- **Outdoor Living Area.** Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

- **Percent Noise Levels.** See L(n).

- **Sound Level (Noise Level).** The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

- **Sound Level Meter.** An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

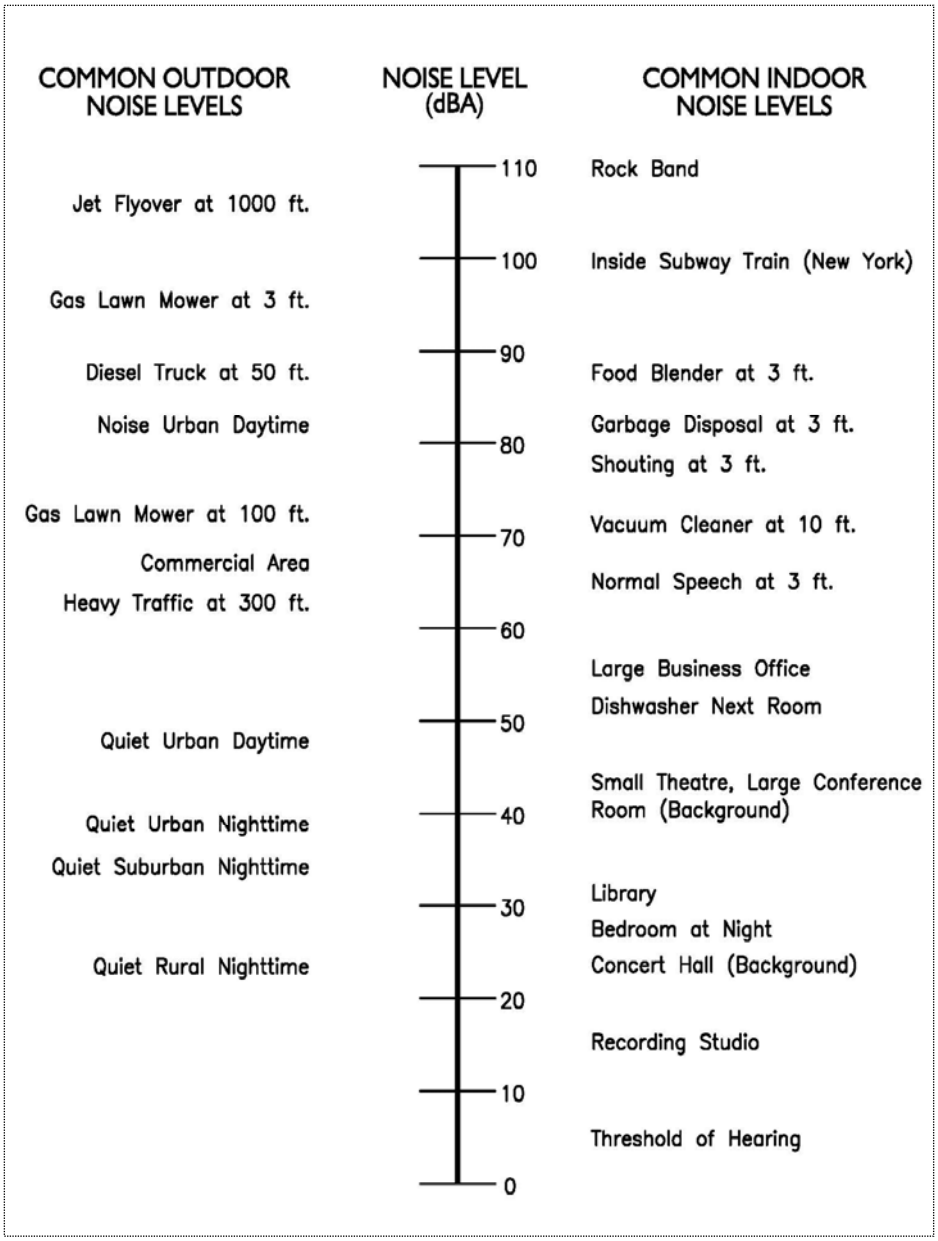
- **Single Event Noise Exposure Level (SENEL).** The dBA level which, if it lasted for one (1) second, would produce the same A-weighted sound energy as the actual event.

2.7 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at an additional rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 3 dB per doubling of distance for a line source and 6.0 dB per doubling of distance for a point source.

Figure 1-1 | Typical Sound Levels from Indoor and Outdoor Noise Sources[1]



[1] Source: AASHSTO. 1993. Guide on Evaluation and Abatement of Traffic Noise

2.8 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration that only exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude:

- **PPV.** Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.
- **RMS.** Known as the root mean squared (RMS) can be used to denote vibration amplitude.
- **VdB.** A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

2.9 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. The Federal Transit Administration (FTA) has published guidance relative to vibration impacts.

2.10 Vibration Propagation

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wavefront, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wavefront. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wavefront. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown

to be effective enough for screening purposes in order to identify potential vibration impacts that may need to be studied through actual field tests.

2.11 Construction-Related Vibration Level Prediction[2]

Vibration activities are separated into two different categories. The vibration can be transient or continuous in nature. Each category can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the project area respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. The thresholds from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, September 2018, in the table below provide general guidelines as to the maximum vibration limits for when vibration becomes potentially damaging to structures.

The FTA Transit Noise and Vibration Impact Assessment Manual, September 2018, provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts. **Table 2-1** provides general vibration damage potential thresholds.

Table 2-1 | Construction Vibration Damage Criteria

Building/Structural Category	PPV (in./sec.)	Approximate L_V[1]
Reinforced-concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

[1] RMD velocity in decibels, VdB re 1 micro-in/sec

Soil conditions have an impact on how vibration propagates through the ground. The Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, provides suggested "n" values based on soil class. **Table 2-2** outlines the manual's suggested values and description.

[2] Source: Caltrans Transportation and Construction Vibration Guidance Manual, April 2020.

Table 2-2 | Suggested "n" Values Based on Soil Classes

Soil Class	Description of Soil Material	Suggested Value of "n"
I	Weak or soft soils: loose soils, dry or partially saturated peat and muck, mud, loose beach sand, and dune sand.	1.4
II	Most sands, sandy clays, silty clays, gravel, silts, and weathered rock.	1.3
III	Hard soils: densely compacted sand, dry consolidated clay, consolidated glacial till, and some exposed rock.	1.1
IV	Hard, component rock: bedrock, freshly exposed hard rock.	1.0

3.0 Regulatory Setting

The proposed project is located in the City of Laguna Hills. The applicable noise regulations are described below.

3.1 State Regulations

The State of California has established noise insulation standards as outlined in Title 24 of the Building Standards Code which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold.

Noise insulation design standards for residential dwellings are established in the 2022 California Building Code, Title 24, Part 2, Volume 1, Section 1206 Sound Transmission. The City is required by the State Housing Law to adopt these State codes as minimum performance standards. The City may enact stricter noise standards throughout the city or on a case-by-case basis if deemed necessary. In brief, the Title 24 noise standards require the following for allowable interior noise levels:

1. Interior noise levels due to exterior sources must not exceed a community noise equivalent level (CNEL) or a day-night level (LDN) of 45 dBA, in any habitable room.

2. Party wall and floor-ceiling assembly designs must provide a minimum STC of 50, based on lab tests. Field tested assemblies must provide a minimum noise isolation class (NIC) of 45.

3. Floor-ceiling assembly designs must provide for a minimum impact insulation class (IIC) of 50, based on lab tests. Field tested assemblies must provide a minimum FIIC of 45.

4. Penetrations or openings in sound rated assemblies must be treated to maintain required ratings.

3.2 City of Laguna Hills Noise Regulations

The proposed project is located in the City of Laguna Hills and is subject to the standards and regulations established by the City of Laguna Hills General Plan Noise Element and Municipal Code Chapter 5-24 – Noise Control, as discussed below.

A copy of the City of Laguna Hills General Plan and Municipal Code standards are provided in **Appendix A**.

3.2.1 General Plan Noise Standards

3.2.1.1 Noise/Land Use Compatibility

The City of Laguna Hills General Plan establishes planning criteria for determining a development's noise/land use compatibility based on the community noise equivalent level (CNEL). CNEL noise levels are typically used to evaluate mobile noise source impacts such as those from roadways.

Table 3-1 shows the City of Laguna Hills noise/land use compatibility standards for the land uses on and adjacent to the proposed project site, as prescribed in the General Plan.

Table 3-1 | City of Laguna Hill Land Use Compatibility Guidelines[1]

Land Use Category	Community Noise Exposure (dBA CNEL)[2]			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Single family, duplex, mobile home	60 and below	55 – 70	70 – 75	75 and above
Residential – Multiple family	65 and below	60 – 70	70 – 75	75 and above
Office Buildings, Business Commercial, Professional	70 and below	67 – 77	75 and above	--

[1] Source: City of Laguna Hills General Plan Noise Element, Figure N-1: Land Use Compatibility Guidelines.

[2] Notes:

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development clearly should not be undertaken.

3.2.1.2 Noise Standards

In addition to the above noise/land use compatibility guidelines, the General Plan has established the following noise standards which represent the maximum acceptable noise level as measured form any residential property in the City. Accordingly, it is unlawful to cause the noise level on any residential property to exceed the exterior noise standards listed in **Table 3-2**:

1. For a cumulative period of more than 30 minutes in any hour;

2. Plus 5 dBA for a cumulative period of more than 15 minutes in any hour;

3. Plus 10 dBA for a cumulative period of more than 1 minute in any hour; or
4. Pus 20 dBA for any period of time.

In addition, it is unlawful to cause the noise level on any residential property to exceed the interior noise standards listed in **Table 3-2**:

1. For a cumulative period of more than 5 minutes in any hour;
2. Plus 5 dBA for a cumulative period of more than 1 minute in any hour; or
3. Plus 10 dBA for any period of time.

Table 3-2 | City of Laguna Hills General Plan Noise Standards[1]

Land Use Category	Allowable Noise Level (dBA Leq)	
	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Residential - Exterior	55.0	50.0
Residential - Interior	55.0	45.0
Nonresidential	65.0	65.0

[1] Source: City of Laguna hills General Plan Noise Element, Table N-2: Residential Noise Standards.

For the purposes of this analysis, the noise levels listed in **Table 3-1** are used to evaluate the project's noise/land use compatibility, and the noise levels listed in **Table 3-2** are used to evaluate the project's consistency with established plans, policies, and programs for noise control within the City.

3.2.2 Municipal Code Noise Standards

3.2.2.1 Noise Standards

Table 3-3 shows the exterior noise standards established in Chapter 5-24 of the City of Laguna Hills Municipal Code.

Table 3-3 | City of Laguna Hills Municipal Code Noise Standards[1]

Land Use Category	Exterior Noise Level Thresholds (dBA Leq)	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Residential - Exterior	55.0	50.0
Residential - Interior	55.0	45.0
Nonresidential	65.0	65.0

[1] Source: City of Laguna Hills Municipal Code Chapter 5-24 – Noise Control.

Per the Municipal Code, it is unlawful for any person at any location within the City to operate, or cause to be operated, any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on any other property, either incorporated or unincorporated, to exceed:

1. The noise standard for a cumulative period of more than thirty (30) minutes in any hour;
2. The noise standard plus five dBA for a cumulative period of more than fifteen (15) minutes in any hour;
3. The noise standard plus ten dBA for a cumulative period of more than five minutes in any hour;
4. The noise standard plus fifteen (15) dBA for a cumulative period of more than one minute in any hour; or
5. The noise standard plus twenty (20) dBA for any period of time.

In addition, it is unlawful to cause the noise level on any residential property to exceed the interior noise standards, as follows:

1. For a cumulative period of more than five (5) minutes in any hour;
2. Plus five (5) dBA for a cumulative period of more than one (1) minute in any hour; or
3. Plus ten (10) dBA for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category is increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category is increased to reflect the maximum ambient noise level.

3.2.2.2 Construction Noise Standards

Per the Municipal Code, noise sources associated with construction, repair, remodeling, or grading of any real property shall be exempted from the provisions of Chapter 5-24, provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, eight p.m. and eight a.m. on Saturday, or at any time on Sunday or a federal holiday.

4.0 Study Method and Procedures

The following section describes the noise measurement procedures and locations, noise modeling procedures, and assumptions used in this analysis.

4.1 Noise Measurement Procedures and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as the nearest houses to the project site;
- Locations that are acoustically representative and equivalent to the area of concern;
- Human land usage; and
- Sites clear of major obstructions and contamination.

RK conducted the sound level measurements in accordance with Caltrans technical noise specifications. All measurement equipment met American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4: Specification for Sound Level Meter, 1983)

Piccolo-II Type 2 integrating-averaging level meters were used to conduct noise measurements at the project site and property boundaries.

The Leq, Lmin, Lmax, L2, L8, L25, and L50 statistical data were recorded over the measurement time intervals and the information was utilized to define the noise characteristics for the project. The following gives a brief description of the procedures for sound level measurements:

- Microphones for sound level meters were placed five (5) feet above the ground;
- Sound level meters were calibrated before each measurement;
- Following the calibration of equipment, a windscreen was placed over the microphone;
- Frequency weighting was set on “A” and slow response; and
- Temperature and sky conditions were observed and documented.

Appendix B includes photos, field sheets, and measured noise data.

4.2 Stationary Noise Source Modeling

Stationary noise generated by the project was modeled using a computer program that replicates the FHWA Noise Prediction Model (FHWA-RD-77-108). The FHWA model arrives at a predicted noise level through a series of adjustments to the reference energy noise level. For stationary sources, the following noise levels were applied to the model. The model outputs the projected noise level based on the following key parameters:

- Referenced noise level (i.e., how loud a source is at a specific distance);
- Vertical and horizontal distances of sensitive receptor from the noise source;
- Vertical and horizontal distances of noise barriers from the noise source and receptor;
- Typical noise source spectra; and
- Topography.

The project proposes to install one (1) Carrier 37MUHAQ60AA3 outdoor heat pump for each dwelling unit. To model the noise generated by these units, manufacturer specifications were obtained and utilized. **Table 4-1** indicates the referenced noise levels used in this analysis.

Table 4-1 | Referenced Stationary Noise Levels

Noise Source	Distance from Source (Feet)	Noise Levels	
		dBA Leq	dBA Lmax
HVAC[1]	3.25	65	65

[1] Noise level is representative of a single unit. Manufacturer specifications for the proposed HVAC units are provided in **Appendix C**.

4.3 Interior Noise Modeling

The interior noise level is the difference between the projected exterior noise level at the structure's façade and the noise reduction provided by the structure itself. Typical building construction will provide a conservative 12 dBA noise level reduction with a "windows open" condition and a very conservative 20 dBA noise level reduction with "windows closed". The interior noise level is estimated by subtracting the building shell design from the estimated exterior noise level.

The interior noise analysis is based on industry standards for building noise reduction established by the Federal Highway Administration (FHWA), the 2013 Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol (TeNS), the California Office of Noise Control Catalog of Sound Transmission Class (STC) and Impact Insulation Class (IIC) Ratings for Wall and Floor/Ceiling Assemblies, and the California Building Standards Code, Title 24.

The TeNS manual shows that the noise reduction due to building exteriors with ordinary sash windows (windows closed) is at least 20 decibels. By providing upgraded STC rated windows, the project design is considered adequate to meet interior noise standards. The building's exterior walls will be constructed per the latest building code insulation requirements and provide occupants with the most protection from exterior noise. Insulated exterior walls, designed per the latest California Building Standards, would provide a minimum of STC 35-40. Windows, on the other hand, are one of the acoustically weakest parts of the structure. Therefore, for a conservative estimate of preliminary interior noise, the building's noise reduction potential is limited to the STC of the windows.

4.4 Construction Noise Modeling

The construction noise vibration assessment is based on the General Assessment methodology set forth by the FTA's Transit Noise and Vibration Impact Assessment Manual, Section 7 – Noise and Vibration during Construction. This analysis utilizes the Federal Highway Administration (FHWA) Roadway Construction Noise Model, together with several key construction parameters, to estimate future construction noise levels during each phase of construction. Consistent with the FTA General Assessment methodology, the following assumptions have been utilized in the construction noise model:

- Noise emission level ($L_{emission}$) – Determine the emission level at 50 feet according to noise from typical construction equipment.
- Usage factor (Adj_{Usage}) – Assume a usage factor of one (1). This assumes a time period of one-hour with full power operation.
- Distance (D) – Assume that all equipment operates at the center of the project, or centerline for guideway or highway construction projects.
- Ground effect (G) – G equals zero (0) assuming free-field conditions and ignoring ground effects.
- The $L_{eq.equip}$ is determined only for the two noisiest pieces of equipment expected to be used in each phase of construction. The equipment noise levels are summed for each phase of construction using decibel addition.

Noise levels were projected from the center of the project site to the adjacent sensitive receptor property lines. Although some construction activity may occur closer to the adjacent receptors than the center of the project site, noise levels are based on an average distance from the center of the site per FTA General Assessment recommendations.

4.5 Construction Vibration Modeling

The construction vibration assessment is based on the methodology set forth within the Caltrans Transportation and Construction Induced Vibration Guidance Manual. The vibration impacts from

bulldozers, heavy truck loading, vibratory rollers and compactors, and caisson drilling activity are analyzed. All vibratory activity is analyzed as a continuous and/or frequent event. This represents a conservative assessment, as construction equipment would in practice operate intermittently rather than continuously. It is expected that vibration levels will be highest during the paving phase. No impact pile driving is expected as part of this project.

Vibratory impacts were calculated from the nearest expected location of on-site construction to the nearest sensitive receptors and structures using the reference vibration levels, soil conditions, and the reference equation PPV= PPV ref (25/D)^n (in/sec) (from Caltrans Manual) where:

- PPV = reference measurement at 25 feet from the vibration source;
- D = distance from equipment to property line; and
- n = vibration attenuation rate through ground (n = 1.1 was utilized for this study).

For the purposes of this analysis, hard soil conditions (i.e., densely compacted sand, dry consolidated clay, consolidated glacial till, and some exposed rock) were assumed.

5.0 Existing Noise Environment

The existing noise environment for the project site and surrounding areas has been established based on noise measurement data collected by RK. The project setting is residential and commercial and the primary environmental noise impacting the project site is roadway noise from Mill Creek Drive.

5.1 Noise Measurement Results

To determine the existing noise level environment, RK conducted two (2) 24-hour noise measurements at the project site and receptors.

Noise levels were measured on May 21, 2024, using Piccolo-II Type 2 integrating-averaging sound level meters. The information was utilized to establish the noise characteristics of the existing ambient environment.

The noise monitoring locations were selected based on the proximity and location of adjacent sensitive receptors. **Exhibit C** graphically illustrates the location of the noise measurements.

- Noise Monitoring Location 1 (L-1) was taken near the residential receptors to the west/southwest of the project site, approximately 35 feet northwest of the centerline of Mill Creek Drive.
- Noise Monitoring Location 2 (L-2) was taken near the commercial uses to the southeast of the project site, approximately 240 feet northeast of the centerline of Mill Creek Drive.

Noise measurements were conducted at the above-selected locations to determine the existing ambient noise environment at the project site and nearby sensitive receptors. The primary source of ambient noise during the measurement period was roadway noise along adjacent streets.

Results of the ambient noise measurements are shown in **Tables 5-1** and **5-2**. **Appendix B** includes photographs, field sheets, and measured noise data.

Table 5-1 | 24-Hour Noise Measurement Results – L-1[1]

Time	dBA Leq	Time	dBA Leq
12:00 AM	53.0	12:00 PM	57.6
1:00 AM	43.9	1:00 PM	63.2
2:00 AM	43.3	2:00 PM	57.5
3:00 AM	41.6	3:00 PM	65.8
4:00 AM	46.3	4:00 PM	59.4
5:00 AM	58.0	5:00 PM	58.0
6:00 AM	68.3	6:00 PM	54.0
7:00 AM	67.8	7:00 PM	52.5
8:00 AM	60.9	8:00 PM	48.9
9:00 AM	62.8	9:00 PM	47.4
10:00 AM	64.0	10:00 PM	46.6
11:00 AM	57.6	11:00 PM	65.3
24-Hour CNEL			**67.4**

[1] L-1 was measured on May 21, 2024.

Table 5-2 | 24-Hour Noise Measurement Results – L-2[1]

Time	dBA Leq	Time	dBA Leq
12:00 AM	46.8	12:00 PM	56.3
1:00 AM	49.3	1:00 PM	53.9
2:00 AM	47.1	2:00 PM	53.8
3:00 AM	47.2	3:00 PM	53.7
4:00 AM	48.3	4:00 PM	57.3
5:00 AM	51.8	5:00 PM	55.0
6:00 AM	66.0	6:00 PM	56.2
7:00 AM	63.3	7:00 PM	53.7
8:00 AM	52.7	8:00 PM	56.3
9:00 AM	53.2	9:00 PM	50.0
10:00 AM	53.5	10:00 PM	48.6
11:00 AM	51.8	11:00 PM	49.0
24-Hour CNEL			**63.5**

[1] L-2 was measured on May 21, 2024.

As shown in **Table 5-1** and **Table 5-2**, the existing ambient noise levels at the proposed project site range from approximately 67.4 dBA CNEL to 63.5 dBA CNEL.

Legend

① = Noise Monitoring Location

= Project Site Boundary

Exhibit C

Noise Monitoring Location

6.0 Operational Noise Impacts

The following noise impact analysis has been performed to determine whether the proposed project would result in a substantial increase in ambient noise levels in the vicinity of the site. Additionally, the noise analysis examines whether the project can meet the City of Laguna Hills and State of California requirements for residential exterior and interior noise exposure.

6.1 Stationary Noise Source Impacts

The proposed project consists of constructing and operating thirty-six (36) townhome dwelling units. The main source of potential on-site noise would be HVAC equipment.

These types of on-site stationary noises would not typically be categorized as loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness. In particular, social activities and vehicle-related noise are generally substantially less during the noise sensitive nighttime hours.

To help ensure on-site noise levels do not exceed the City of Laguna Hills General Plan and Municipal Code noise standards, the following stationary noise impact analysis has been prepared. The analysis considers all project noise sources operating continuously during daytime hours (7:00 a.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.). The result is a worst-case assessment of impacts, as HVAC units would likely only operate intermittently throughout the day.

Stationary noise calculation worksheets are provided in **Appendix D**.

6.1.1 HVAC Noise Impacts

HVAC noise levels were modeled using manufacturer specifications for the proposed outdoor units, which are planned to be located at ground level and shielded behind noise barrier walls/enclosures. To ensure a comprehensive assessment, the analysis assumes simultaneous operation of all units with direct line of sight to adjacent receptors. Noise from units blocked from line of sight is assumed to be adequately attenuated by intervening onsite structures.

To estimate noise level impacts at the adjacent residential receptors, the referenced noise level is input into the FHWA model and projected from the nearest proposed HVAC locations to the nearest residential habitable areas at a distance of approximately 100 feet. Per the City of Laguna Hills Municipal Code Section 5-24.100, “the location selected for measuring exterior noise levels shall be at any point on the affected property.” In this case, the property line adjacent to the project site consists of landscaped slope that does not contain and would not accommodate habitable structures. Accordingly, receptors were placed at the nearest residential structures, which represent the actual locations of potential noise exposure. This approach is consistent with the intent of the Code requirement while providing a conservative and realistic assessment of potential impacts.

To estimate noise level impacts at the adjacent commercial receptors, the referenced noise level is input into the FHWA model and projected from the nearest proposed HVAC locations to the nearest commercial property line, at a distance of approximately 10 feet.

The project site and surrounding area consist primarily of paved surfaces and vegetated areas. Consistent with the inverse square law for stationary noise sources, stationary noise generated by the project was projected to the nearby receptors using a distance attenuation factor of 20, which results in a reduction of approximately 6 dBA per doubling of distance from the noise source.

Tables 6-1 and **6-2** show the projected operational noise levels at the nearest residential and commercial receptors, respectively. The noise modeling used in this analysis accounts for existing topographical changes in elevation in the vicinity of the project site and receptors, as well as attenuation provided by the proposed property line walls.

The project includes property line retaining walls along the western and southern project boundaries. Along the western boundary, which separates the project site from adjacent residential receptors, the property line wall is anticipated to range in height from approximately 5 feet to approximately 15 feet. To be conservative, potential noise impacts at residential receptors are modeled assuming a worst-case wall height of 5 feet. Along the southern boundary, which separates the project site from adjacent commercial receptors, the wall is anticipated to range in height from approximately 15 feet to approximately 19 feet. Accordingly, noise modeling for the southern boundary assumes a conservative wall height of 15 feet.

Stationary noise calculation worksheets are provided in **Appendix D**.

Table 6-1 | Stationary Noise Impacts at Residential Receptors

Noise Source	Receptor Distance from Noise Source (feet)	Noise Level at Receptor	
		dBA Leq	dBA Lmax
HVAC[1]	100	39.1	39.1
Noise Level Threshold (Day / Night)		55.0 / 50.0	75.0 / 70.0
Noise Level Exceeds Threshold?		**No / No**	**No / No**

[1] Noise level is indicative of eight units and includes the attenuation effects of the proposed noise barriers/enclosures. For the purposes of this analysis, noise associated with the simultaneous operation of all units with direct line of sight to adjacent receptors is considered. Noise from units blocked from line of sight is assumed to be adequately attenuated by intervening onsite structures.

Table 6-2 | Stationary Noise Impacts at Commercial Receptors

Noise Source	Receptor Distance from Noise Source (feet)	Noise Level at Receptor	
		dBA Leq	dBA Lmax
HVAC[1]	10	49.6	49.6
Noise Level Threshold (Day and Night)		65.0	65.0
Noise Level Exceeds Threshold?		**No**	**No**

[1] Noise level is indicative of eight units and includes the attenuation effects of the proposed noise barriers/enclosures. For the purposes of this analysis, noise associated with the simultaneous operation of all units with direct line of sight to adjacent receptors is considered. Noise from units blocked from line of sight is assumed to be adequately attenuated by intervening onsite structures.

As shown in the tables above, noise levels generated by the project are not expected to exceed the City's daytime or nighttime noise standards at any of the adjacent residential or commercial receptor locations.

6.1.2 Other Stationary Noise Source Impacts

In addition to onsite HVAC noise, the proposed project will generate noise associated with maintenance activities, including landscaping and trash removal. These types of on-site stationary noises would not typically be categorized as loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness. Furthermore, these activities would typically occur during daytime hours only.

Per the City of Laguna Hills Municipal Code Section 5-24.070(I), property maintenance activities such as landscaping are exempt from noise standards when conducted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays, or between 9:00 a.m. and 8:00 p.m. on Sundays and federal holidays. In compliance with the Municipal Code, no project-related maintenance activity, including landscaping, shall occur outside of the approved hours.

Furthermore, it should be noted that the project site is currently occupied by an existing commercial building, which includes trash removal and landscaping operations. As a result, these activities would not be new sources of noise generated by the project, and the project would not result in a substantial change in noise levels in the vicinity of the project site from these activities.

6.1.3 Summary of Stationary Noise Source Impacts

As discussed in **Sections 6.1.1** and **6.1.2**, the proposed project is not expected to generate stationary noise levels in excess of the noise standards established by the City, and **the impact is considered less than significant**.

6.2 Mobile Source Noise Impacts

6.2.1 Roadway Noise

The main source of roadway noise in the vicinity of the project site is activity along Mill Creek Drive. As described in the City's General Plan Mobility Element, Mill Creek Drive is classified as a Collector (Commuter) Arterial, which can accommodate up to 10,000 vehicle trips per day.

Per California Department of Transportation (Caltrans) guidance, a doubling of traffic volume along a roadway would be required to increase ambient noise levels by 3 dBA or more[3]. An increase in noise levels by 3 dBA or more is an industry standard threshold of significance and is generally considered the point at which the human ear will perceive a change in noise level[4].

The project is expected to generate approximately 259 daily trips[5]. Per Streetlight segment volume data, the segment of Mill Creek Drive adjacent to the proposed project site has an average daily traffic (ADT) of approximately 1,877. As a result, the 259 daily trips generated by the proposed project will not double the amount of traffic along adjacent streets, and the potential increase in noise from project-related roadway activity would be less than 3 dBA. **Therefore, the increase in roadway noise levels as a result of the project would be less than significant**.

6.2.2 Airport Noise

The John Wayne Airport, located in Santa Ana, California, is the nearest airport to the proposed project site at a distance of approximately 8 miles. The project site is not located within the John Wayne Airport, or any other airport's airport land use plan area.

Furthermore, as described above, the proposed project is not expected to expose people residing or working in the project area to excessive airplane noise levels. **Therefore, the project would have no impact on exposing people residing or working in the area to excessive airplane noise.**

6.3 Noise/Land Use Compatibility

The project proposes to site new townhome dwelling units along Mill Creek Drive. Traffic noise from Mill Creek Drive will be the primary source of noise impacting the project site and may expose future residents to noise levels above the City of Laguna Hills exterior noise thresholds for residential uses.

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[3] Source: Technical Noise Supplement to the Traffic Noise Analysis Protocol, California Department of Transportation (Caltrans), September 2013.
[4] Source: Technical Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects, California Department of Transportation (Caltrans), April 2020.
[5] Source: *Toll Brothers Townhome Project Trip Generation and Vehicle Miles Traveled (VMT) Screening Analysis and Gate Queueing Study, City of Laguna Hills* (January 2025), prepared by RK.

6.3.1 Exterior Noise/Land Use Compatibility

A noise/land use compatibility assessment has been prepared to help determine whether existing exterior noise levels affecting the project site exceed the City's noise/land use compatibility threshold for residential land uses. This assessment is for informational and local planning purposes only and isn't intended to serve as a CEQA impact determination, since it looks at existing noise conditions relative to future on-site sensitive receptors.

Exterior ambient noise levels are assessed at the first-row residential building façades of each dwelling unit facing Mill Creek Drive.

The first-row residential lots will be set back a minimum of approximately 55 feet from the centerline of Mill Creek Drive.

Future exterior noise levels are estimated based on the existing ambient noise level measurements collected by RK. To account for future increases in roadway volumes, a three-decibel increase has been applied to the measured noise levels. This is a conservative estimate, as a doubling of traffic volume along a roadway would by required to increase ambient noise levels by 3 dBA or more[6].

Table 6-3 shows the anticipated exterior noise levels at the first-row residential building façades.

Table 6-3 | Exterior Noise/Land Use Compatibility (dBA CNEL)

Receptor Location	Noise Monitoring Location	Estimated Future Exterior Noise Levels
First-row building façades along Mill Creek Drive	L-1	70.4

As shown in **Table 6-3**, future exterior ambient noise levels are expected to be approximately 70.4 dBA CNEL and fall within the Normally Unacceptable noise/land use compatibility category.

Per the City of Laguna Hills General Plan, if new construction of Normally Unacceptable land uses proceeds, a detailed analysis of the noise reduction requirements must be made and the required noise insulation features must be included in the design.

In order to ensure that interior noise levels comply with County and State standards, the following preliminary interior noise analysis is provided.

[6] Source: Technical Noise Supplement to the Traffic Noise Analysis Protocol, California Department of Transportation (Caltrans), September 2013.

6.3.2 Interior Noise/Land Use Compatibility

The project must show that interior noise levels at the project site will not exceed the City of Laguna Hills and State of California noise/land use compatibility threshold for residential land uses. A preliminary interior noise analysis has been performed for the first row of habitable dwellings facing the adjacent roadways using a typical "windows open" and "windows closed" condition. A "windows open" condition assumes 12 dBA of noise attenuation from the exterior noise level. A "windows closed" condition" assumes 20 dBA of noise attenuation from the exterior noise level.

Table 6-4 indicates the future interior noise levels along the adjacent roadways.

Table 6-4 | Future Interior Noise Levels (dBA CNEL)

Exterior Façade Study Location	Projected Exterior Noise Level[1]	Interior Noise Standard	Required Building Shell Noise Reduction	Interior Noise Level with Standard Windows (STC ~ 25)		Required STC Rating
				"Windows Open"[2]	"Windows Closed"[3]	
First-row dwelling units along Mill Creek Drive	70.4	45.0	25.4	58.4	50.4	28

[1] Worst-case future exterior noise levels are based on existing ambient noise level measurements collected by RK.
[2] A minimum of 12 dBA noise reduction is assumed with the "windows open" condition.
[3] A minimum of 20 dBA noise reduction is assumed with the "windows closed" condition.

The project is expected to require a "windows closed" condition and upgraded STC-rated windows for all residential units facing Mill Creek Drive. To accommodate windows closed conditions, all residential units facing the adjacent roadways shall be equipped with adequate fresh air ventilation.

Exterior walls, designed per the latest California Building Standards are typically rated between STC 35-40. In order to ensure adequate noise attenuation is provided from the building shell, exterior walls should be designed to meet the required sound attenuation targets. Attic vents and other openings should be baffled and oriented away from facing the adjacent roadways.

Prior to issuance of building permits, the project proponent should demonstrate to the City Building Department that the proposed building shell and window assemblies will achieve exterior to interior noise reduction necessary to meet the State of California and City of Laguna Hills requirements.

7.0 Construction Noise and Vibration Impacts

Temporary construction noise and vibration impacts have been assessed from the project site to the surrounding adjacent land uses. The degree of construction noise and vibration will vary depending on the type of construction activity taking place and the location of the activity relative to the surrounding properties.

During the construction period, the contractors will be required to comply with the City of Laguna Hills Municipal Code Chapter 5-24. Per the Municipal Code, noise sources associated with construction, repair, remodeling, or grading of any real property shall be exempted from the provisions of Chapter 5-24, provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, eight p.m. and eight a.m. on Saturday, or at any time on Sunday or a federal holiday. The Municipal Code does not include specific noise level limits for construction activities.

Because the City of Laguna Hills does not establish quantitative thresholds for construction-related noise, the proposed project's potential construction noise impacts have been evaluated using the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2006) criteria. The FTA provides criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential and commercial uses, the General Assessment daytime noise thresholds are 90 dBA Leq and 100 dBA Leq, respectively, for a 1-hour period. However, for the purposes of a conservative analysis, the project's construction-related noise impacts will be assessed utilizing the Detailed Analysis daytime noise thresholds of 80 dBA Leq and 85 dBA Leq, respectively, for residential and commercial land uses. It is assumed that no project-related construction would occur during the noise-sensitive nighttime hours.

Construction phasing and equipment usage assumptions are referenced from the *Toll Brothers Laguna Hills Townhome Project Air Quality, Greenhouse Gas, And Energy Study, City of Laguna Hills*, prepared by RK.

7.1 Typical Construction Noise Levels

Table 7-1 shows typical construction noise levels compiled by the Environmental Protection Agency (EPA) for common-type construction equipment. Typical construction noise levels are used to estimate potential project construction noise levels at the adjacent sensitive receptors.

Table 7-1 | Typical Construction Noise Levels (dBA Leq)[1]

Equipment Type	Noise Level at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
Impact Equipment	
Pneumatic Wrenches	82 - 87
Jack Hammers, Rock Drills	80 - 99
Pile Drivers (Peak)	95-105
Other	
Vibrators	68 - 82
Saws	71 - 82

[1] Referenced noise levels from the Environmental Protection Agency (EPA).

7.2 Construction Noise Impact Analysis

This assessment analyzes potential noise impacts of the two noisiest pieces of equipment during all expected phases of construction, including demolition, site preparation, grading, building construction, paving, and architectural coating. Noise levels are calculated based on an average distance of equipment over a 1-hour period to the nearest adjacent residential and commercial receptors. The project's estimated construction noise levels have been calculated using the Federal Highway Administration Roadway Construction Noise Model Version 1.1.

Tables 7-2 and **7-3** show the noise level impacts from the center of the project site to the nearest residential and commercial property lines. Construction noise calculation worksheets are provided in **Appendix E**.

Table 7-2 | Project Construction Noise Levels – Residential Receptors

Phase	Equipment	Quantity	Equipment Noise Level at 215 ft. (dBA Leq)	Combined Noise Level (dBA Leq)
Demolition	Concrete/Industrial Saws	1	76.9	78.0
	Tractors/Loaders/Backhoes	1	71.3	
Site Preparation	Graders	1	72.3	74.9
	Tractors/Loaders/Backhoes	1	71.3	
Grading	Graders	1	72.3	74.9
	Tractors/Loaders/Backhoes	1	71.3	
Building Construction	Cranes	1	67.9	73.0
	Tractors/Loaders/Backhoes	1	71.3	
Paving	Rollers	1	67.3	72.8
	Tractors/Loaders/Backhoes	1	71.3	
Architectural Coating	Air Compressors	1	65.0	65.0
Worst-Case Construction Phase Noise Level (dBA Leq)				**78.0**
FTA Daytime Detailed Assessment Construction Noise Criteria (dBA Leq)[1]				80.0
Noise level exceeds criteria?				**No**

[1] Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual, Section 7: Noise and Vibration During Construction.*

Table 7-3 | Project Construction Noise Levels – Commercial Receptors

Phase	Equipment	Quantity	Equipment Noise Level at 135 ft. (dBA Leq)	Combined Noise Level (dBA Leq)
Demolition	Concrete/Industrial Saws	1	81.0	82.0
	Tractors/Loaders/Backhoes	1	75.4	
Site Preparation	Graders	1	76.4	78.9
	Tractors/Loaders/Backhoes	1	75.4	
Grading	Graders	1	76.4	78.9
	Tractors/Loaders/Backhoes	1	75.4	
Building Construction	Cranes	1	72.0	77.0
	Tractors/Loaders/Backhoes	1	75.4	
Paving	Rollers	1	71.4	76.8
	Tractors/Loaders/Backhoes	1	75.4	
Architectural Coating	Air Compressors	1	69.1	69.1
Worst-Case Construction Phase Noise Level (dBA Leq)				**82.0**
FTA Daytime Detailed Assessment Construction Noise Criteria (dBA Leq)[1]				85.0
Noise level exceeds criteria?				**No**

[1] Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual, Section 7: Noise and Vibration During Construction.*

As shown in **Tables 7-2** and **7-3**, the project is not expected to generate noise levels which exceed the FTA Detailed Assessment construction noise thresholds for residential and commercial land uses. **As a result, the project impact would be less than significant.**

7.3 Construction Vibration

To determine the vibratory impacts during construction, reference construction equipment vibration levels were utilized and then extrapolated to the façade of the nearest adjacent structures.

The nearest structures to the project site are the existing residential homes located to the west of the proposed project site and the existing commercial structure located to the south of the project site. These structures are considered to be older residential homes and new commercial structures and are located approximately 100 feet and 10 feet, respectively, from the nearest expected areas of onsite construction activity.

The construction of the proposed project is not expected to require the use of substantial vibration-inducing equipment or activities, such as pile drivers or blasting. The main source of vibration impacts during the construction of the project would be the operation of equipment such as bulldozer activity during site preparation, loading trucks during grading and excavation, and vibratory rollers during paving.

The construction vibration assessment utilizes the referenced vibration levels and methodology set forth within the Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, September 2018. **Table 7-4** shows the FTA-referenced vibration levels.

Table 7-4 | Typical Construction Vibration Levels[1]

Equipment	Peak Particle Velocity (PPV) at 25 Feet (in./sec.)	Approximate Vibration Level (LV) at 25 feet
Piledriver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Piledriver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

[1] Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual, Section 7: Noise and Vibration During Construction.*

Tables 7-5 and **7-6** show the project's construction-related vibration analysis at the nearest residential and commercial structures to the project construction area. Construction vibration calculation worksheets are provided in **Appendix E**.

The FTA provides criteria for potential damage resulting from construction vibration based on building type. The adjacent residential structures are estimated to be constructed in the 1970's and are therefore considered to be older residential structures. Older residential buildings commonly include construction materials and interior finishes that may be more susceptible to cosmetic cracking from vibration when compared to newer construction, such as plaster or other brittle finishes. Consistent with FTA criteria, these residential structures are conservatively evaluated using the vibration damage potential threshold of 0.20 inches per second PPV.

The nearest adjacent commercial building is assumed to be of modern, engineered construction with steel or reinforced concrete framing and interior finishes. Therefore, it is evaluated using the FTA category 'reinforced concrete, steel, or timber (no plaster),' with a vibration damage potential threshold of 0.50 inches per second PPV. This category is intended for engineered structures that are generally less susceptible to vibration-related cosmetic or structural damage than non-engineered buildings or unusually vibration-sensitive structures.

Table 7-5 | Construction Vibration Impact Analysis – Residential Structures

Construction Activity	Distance to Nearest Structure (Feet)	Duration	Calculated Vibration Level (PPV) (in./sec.)
Large Bulldozer	100	Continuous/Frequent	0.019
Loaded Trucks		Continuous/Frequent	0.017
Vibratory Rollers		Continuous/Frequent	0.046
Worst-Case Construction Vibration Level			**0.046**
Vibration Damage Potential Threshold[1]			0.200
Vibration level exceeds threshold?			**No**

[1] Source: FTA Transit Noise and Vibration Impact Assessment Manual (September 2018) vibration damage potential threshold for "Non-engineered timber and masonry buildings".

Table 7-6 | Construction Vibration Impact Analysis – Commercial Structures

Construction Activity	Distance to Nearest Structure (Feet)	Duration	Calculated Vibration Level (PPV) (in./sec.)
Large Bulldozer	15	Continuous/Frequent	0.156
Loaded Trucks		Continuous/Frequent	0.133
Vibratory Rollers		Continuous/Frequent	0.368
Worst-Case Construction Vibration Level			**0.368**
Vibration Damage Potential Threshold[1]			0.500
Vibration level exceeds threshold?			**No**

[1] Source: FTA Transit Noise and Vibration Impact Assessment Manual (September 2018) vibration damage potential threshold for "reinforced-concrete, steel, or timber (no plaster)."

Based on the tables above, project-related construction activity is not expected to cause any potential damage to the nearest structures. **Hence, the impact from construction-related vibration would be less than significant.**

Appendices

Appendix A

City of Laguna Hills General Plan Noise Element and Municipal Code Chapter 5-24 – Noise Control

Laguna Hills GENERAL PLAN Noise Element

July 14, 2009

Laguna Hills GENERAL PLAN

City Council

Mayor:	Joel Lautenschleger
Mayor Pro Tem:	Randal Bressette
Council Member:	Melody Carruth
Council Member:	R. Craig Scott
Council Member:	L. Allan Songstad, Jr.

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Vern Jones, Community Development Director
Julie Molloy, Project Manager
Peggy Johns, City Clerk
Ken Rosenfield, Public Services Director/
City Engineer
Steve Doan, Chief of Police Services
Greg Simonian, City Attorney
Jennifer Luna, Administrative Assistant

General Plan Advisory Committee

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Noise

Introduction

Noise is unwanted sound that interferes with living, working, and enjoying daily life. Exposure to excessive noise can affect general well-being and contributes to annoyance and undue stress. The Noise Element is intended to reduce unwanted sounds for the health, safety, and welfare of the community. Removing or reducing significant sources of noise where feasible will improve the quality of life for Laguna Hills residents, workers, and visitors.

Purpose and Scope of the Noise Element

The purpose of the Noise Element is to identify and assess existing noise sources in the community, and to discuss the City's role in ensuring comfortable and safe noise levels in the future. As a part of the General Plan process, citizens and City officials identified goals for the future relating to balancing land uses in the City, in part to minimize incompatibilities and exposure to excessive noise while providing the range of uses needed to maintain a high quality of life. The goals, policies, and programs will assist in achieving noise compatibility between land uses.

The State of California recognizes the relationship between noise and noise sensitive uses and has adopted guidelines for noise elements that have been followed in the preparation of this Element.

Background

Laguna Hill is located in an urbanized and developed area and is subject to numerous noise sources, primarily vehicular traffic on major roadways. The City is also subject to typical urban noise sources such as construction, police and fire department sirens, landscaping equipment, barking dogs, and car alarms.

Major noise sources in the City include traffic on Interstate 5 (I-5), State Route 73 (SR-73), and major arterials throughout the City. Truck traffic is prevalent on these roadways and generates higher noise levels relative to other vehicle types that travel

on local roadways. Train traffic on the Atchison, Topeka, and Santa Fe Railway (AT&SF) rail line, which runs parallel to I-5, is another source of noise in the City. The AT&SF rail line traffic includes daily passenger (Amtrak), transit (Metrolink), and freight service. The nearest airport is John Wayne International Airport, approximately 10 miles northwest of Laguna Hills. The distance from the airport results in no noise impact from aircraft overflight.

The City has land uses that are sensitive to noise and may be significantly affected by interference from noise. Noise sensitive land uses include residences, schools, churches, hospitals, convalescent (nursing) homes, hotels, and certain parks. Excessive noise exposure to human receptors can cause adverse physical and psychological responses, in addition to interfering with speech and concentration, and diminishing the quality of life.

In addition to humans, protected animal species and their habitats may be considered sensitive receptors if located near construction and operational noise sources, especially during the species' breeding seasons. The City of Laguna Hills is located within a region where there is the potential habitat for noise sensitive bird species, such as the coastal California gnatcatcher and least Bell's vireo, that nest or forage in upland scrub vegetation.

Noise is generally defined as unwanted sound. Its effects can range from annoyance to health problems.

EFFECTS OF NOISE ON PEOPLE

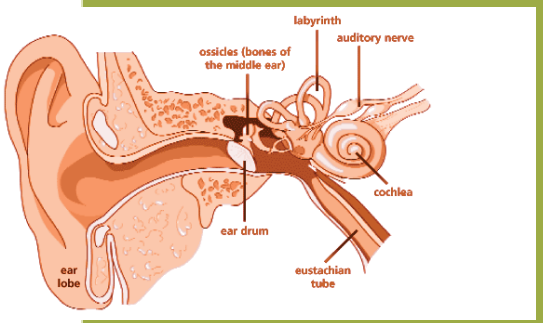
The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment or loss. While physical damage to the ear from an intense noise is rare, degradation of auditory acuity can occur within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but it may be due to a single event such as an explosion. Table N-1 provides typical instantaneous noise levels of common activities.

Table N-1 Common Noise Levels	
Noises	**Sound Level (dBA)**
Threshold of Pain	140
Rock Band, Leaf Blower, Car Horn	110
Gas Lawn Mower, Train Approaching (Engines)	90
Diesel Truck, Food Blender	80
Gas Lawn Mower, Vacuum Cleaner	70
Normal Conversation, Heavy Traffic at 300 feet	60
Large Business Office, Dishwasher in Next Room	50
Quiet residential area	40
Library	30
Normal Breathing	10
Lowest Threshold of Human Hearing	0

These are typical noise levels. Distance from the source will reduce the noise level. A 10 dB increase doubles perceived loudness. Continued exposure to noise above 85 dB can cause hearing loss. A single exposure to 140 dB noise can cause some hearing loss.

Noise Plan

As Laguna Hills and surrounding communities continue to grow, noise levels associated with transportation- and nontransportation-related noise continue to increase. The City seeks ways to safeguard the community from excessive noise as the ambient noise level in the community rises. The goals, policies, and the Plan in this section describe the means to reduce the negative effects of noise in the City. Programs addressing noise, contained in the Implementation Program section of the General Plan, are an extension of the Noise Plan and contain specific actions that the City uses to protect the community from excessive noise.



NOISE MEASUREMENT

Evaluating noise is complex. Noise levels are measured as decibels (dB) on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, doubling the energy of a noise source (e.g., traffic volume) would not double the noise level.

The human ear is not equally sensitive to all frequencies within the sound spectrum. The most common method to characterize sound is the "A-weighted" sound level, or dB(A), which filters out noise frequencies not audible to the human ear, thereby weighting the audible frequencies. Therefore, the dBA is used for noise measurements and standards involving the human perception of noise.

In addition to instantaneous noise levels, noise levels measured over a period of time are used to assess noise limits and impacts. Noise levels measured over 1 hour are usually expressed as dBA L_{eq}, the equivalent 1-hour noise level. Time of day is also an important factor for noise assessment; noise levels that may be acceptable during the day may interfere with the ability to sleep during evening or nighttime hours. Therefore, 24-hour noise levels are used. The community noise equivalent level (CNEL) is the cumulative noise exposure in a community during a 24-hour period, which adds 5 dB(A) to evening sound levels (between 7:00 p.m. and 10:00 p.m.), and 10 dB(A) to the nighttime sound levels (between 10:00 p.m. and 7:00 a.m.). The day/night average sound level (L_{dn}) is the same as the CNEL, except the 3-hour evening period is considered part of the daytime period.

In addition to noise measurement, traffic noise levels for freeways and arterials can be modeled using a traffic noise model with traffic volumes, mix, and speed characteristics.

NOISE AND LAND USE PLANNING

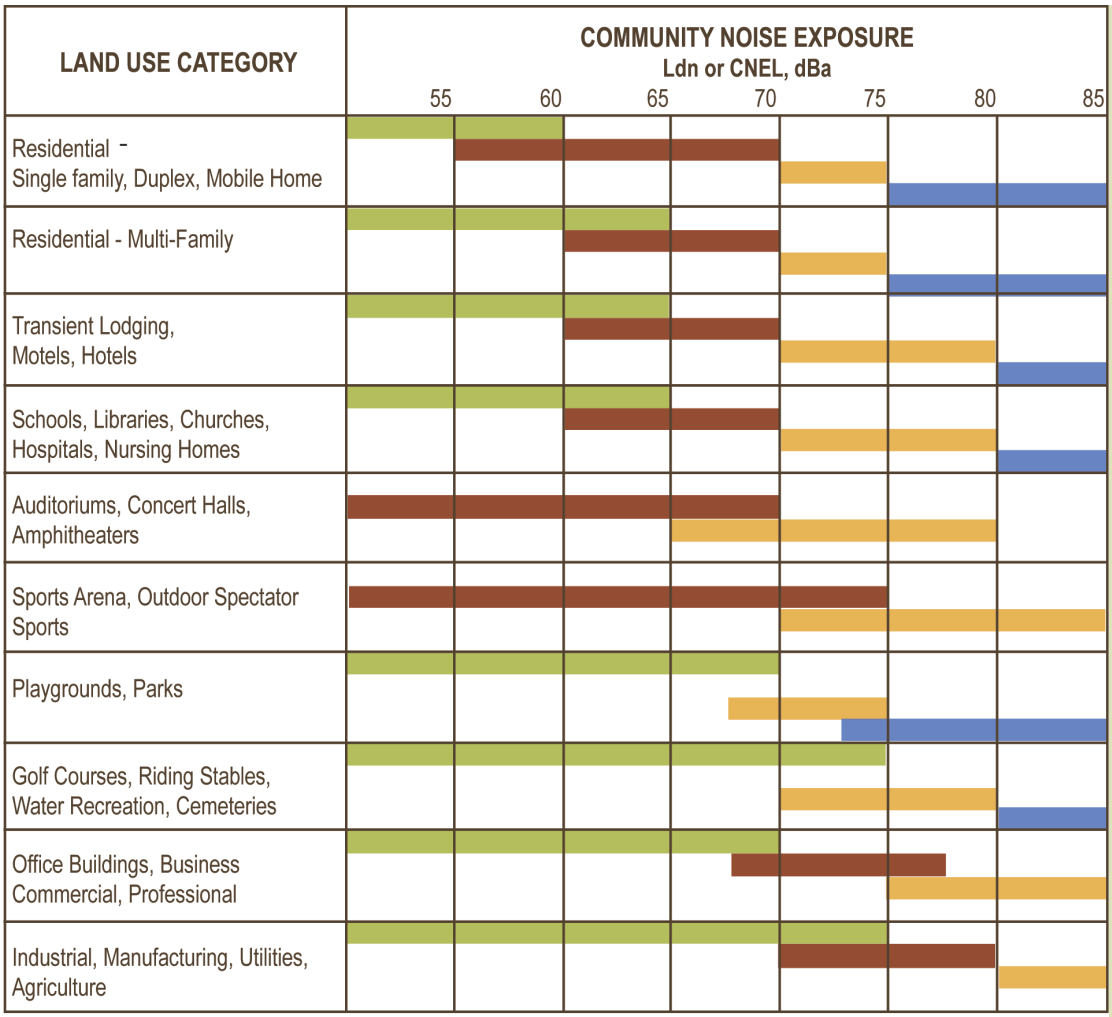
Accumulation of noise from transportation and nontransportation sources determine the overall noise environment within a community. Transportation noise refers to noise from automobile use, trucking, airport operations and rail operations. Nontransportation noise typically refers to noise from stationary sources such as commercial establishments, machinery, air conditioning systems, compressors, and landscape maintenance equipment.

Regardless of the type of noise, noise levels are highest near the source and substantially decrease with distance. Most noise impacts can be avoided when noise sources, sensitive land uses, and information about the future noise environment are considered in land use planning and development decisions. Land uses that generate significant noise should be separated from uses that are particularly sensitive to noise.

To establish the compatibility of various land uses with exterior noise levels, the City uses CNEL in its planning guidelines. CNEL takes into account heightened sensitivity of persons to noise during evening and nighttime periods.

Figure N-1 illustrates Laguna Hills' land use compatibility guidelines.

Noise levels can be estimated and represented as noise contour lines, which indicate the area subject to a particular noise level. Figures N-2 and N-3 show the estimated existing and projected future noise contours in Laguna Hills, based on traffic volume counts and projected 2030 traffic volumes on the City's arterials.



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Office of Planning and Research, 1998.

Figure N-1
Land Use Compatibility Guidelines

The noise contours are used as a guide for land use and development decisions. Land uses within contours of 60 dB(A) or greater may be noise impacted depending on the use. When noise sensitive land uses are proposed within these contours, an acoustical analysis may be required. For a project to be approved in a noise impacted area, the analysis must demonstrate that the project is designed to attenuate noise to meet the City's noise standards as defined in Table N-1. If the project is not designed to meet the noise standards, mitigation measures can be recommended in the analysis. If the analysis demonstrates that the noise standards can be met with implementation of the mitigation measures, the project can be approved with the mitigation measures required as conditions of project approval.

NOISE STANDARDS

Table N-2 summarizes the City of Laguna Hills exterior and interior noise standards. The standards represent the maximum acceptable noise levels as measured from any residential property in the City. Accordingly, it is unlawful to cause the noise level on any residential property to exceed the exterior noise standards:

1. for a cumulative period of more than 30 minutes in any hour;
2. plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour;
3. plus 10 dB(A) for a cumulative period of more than 5 minutes in any hour;
4. plus 15 dB(A) for a cumulative period of more than 1 minute in any hour; or
5. plus 20 dB(A) for any period of time.

In addition, it is unlawful to cause the noise level on any residential property to exceed the interior noise standards (see Table N-2):

1. for a cumulative period of more than 5 minutes in any hour;
2. plus 5 dB(A) for a cumulative period of more than 1 minute in any hour; or
3. plus 10 dB(A) for any period of time.

Table N-2
Residential Noise Standards

	Daytime Noise Standards (7:00 am to 10:00 pm)	Nighttime Noise Standards (10:00 pm to 7:00 am)
Exterior Noise Standards	**55 dB(A)**	**50 dB(A)**
Interior Noise Standards	**55 dB(A)**	**45 dB(A)**

Source: Laguna Hills Municipal Code Chapter 5-24.
Note: Standards are based on measurements taken from any residential property in the City.

CITY OF LAGUNA HILLS GENERAL PLAN | NOISE

Noise Contours

CNEL 70 — CNEL 60

CNEL 65 — Measurement Locations

City Boundary — Freeway/ Toll Road

Major Streets — Local Streets

Source: Urban Crossroads, 2008.

Figure N - 2

Noise Contours 2008

Noise Contours

CNEL 70 — CNEL 60

CNEL 65 — Measurement Locations

City Boundary — Freeway/ Toll Road

Major Streets — Local Streets

Source: Urban Crossroads, 2008

Figure N - 3

Noise Contours 2030

The nonresidential exterior noise standard is always 65 dBA. Exempt from these standards are activities at any public or private educational facilities, or public park or playground; emergency equipment or work; construction activities during the day on Monday through Saturday; certain agricultural operations; and landscaping and maintenance. Schools, hospitals, and churches are protected from noise sources that exceed the specified noise limits.

TRANSPORTATION-RELATED NOISE

Laguna Hills contains a number of transportation-related noise sources including freeways, major roadways, and railroad operations. I-5, SR-73, the railroad, and major roadways create high levels of noise that affect the overall quality of life in the community and are the major contributors of noise in the City. Some locations, such as areas adjacent to I-5 at Los Alisos, are regularly impacted by transportation noise. Reducing transportation-related noise is necessary to improve the quality of life for noise sensitive land uses. Cost-effective strategies to reduce the influence of transportation-related noise sources are an essential part of the Noise Element.

NOISE CONTROL AT RECEPTION SITES

The most efficient and effective means of controlling noise from transportation is to reduce noise at the source. However, the City has little direct control over noise produced by transportation sources because State noise regulations preempt location regulations. Because the City cannot control the noise at the source, City noise programs focus on reducing the impact of transportation noise reception sites.

The most effective way to mitigate transportation noise impacts on the City is by using the site development permit process and implementing CEQA. During the planning stages of the development process, potential impacts from transportation noise will be identified and mitigation measures will be required as needed to meet the City's noise standards. Site planning, landscaping, natural topography and design, and construction noise barriers are the most common method of alleviating vehicular traffic and train noise impacts. Setbacks and buffer areas can also be used to achieve small noise reductions. The City can also use weight limitations on certain roadways and designate truck routes to reduce traffic noise in specific locations.

The City also encourages the construction and use of alternative modes of transportation such as alternative fuel vehicles, transit systems, and transit-oriented development (higher density, mixed use development near major rail and transit stops) to reduce transportation-related noise. Alternative transportation modes can emit less noise per passenger than their automotive counterparts and can reduce traffic congestion.

Noise Control at the Source

The California Vehicle Code contains noise regulations pertaining to the operation of all vehicles on public roads. These noise standards for cars, trucks, and motorcycles are enforced through coordination with the California Highway Patrol and the Orange County Sheriff's Department. The City also regulates traffic flow and coordinates with the California Highway Patrol and Orange County Sheriff's Department to enforce speed limits to reduce traffic noise.

NONTRANSPORTATION-RELATED NOISE

The City contains a variety of land uses, many of which generate noise. Noise from non-transportation-related sources includes industrial areas that involve heavy equipment and machinery, and commercial areas such as restaurants, bars, and entertainment establishments. Mechanical equipment such as heating, ventilating, and air conditioning units also generates noise throughout the City. Residential areas are also subject to noise from the use of pool equipment, landscape maintenance equipment, barking dogs, and other noise sources. Finally, construction activities throughout the City can temporarily elevate noise.

Application of the City's noise regulations is the best means to control non-transportation-related noise. The Community Development Department and Orange County Sheriff's Department cooperate to identify development or actives that violate noise regulations. The City's municipal code gives the City the authority to enforce the noise standards through penalties and other abatement tactics.

Noise generated by new development is effectively controlled though the site development permit process, compliance with CEQA, and compliance with the City noise standards contained in this Noise Element and the City's noise regulations. During preliminary stages in the development process, potential noise impacts will be identified and mitigation measures imposed.

When reviewing proposed mixed use and nonresidential projects, noise generation and potential impacts to surrounding development are considered. An acoustical analysis is required for projects that will generate noise potentially affecting sensitive receptors. Where significant impacts are identified, mitigation measures will be required. Mitigation measures that could be applied when reviewing projects include acoustically treated and/or quiet designs for furnaces, fans, motors, compressors, pumps, and other mechanical equipment. The City may also require limited delivery hours and/or hours of operation to minimize impacts to adjacent residential or other noise sensitive uses. In addition, all City departments must comply with State and federal

Occupational Safety and Health Administration (OSHA) standards. Any new equipment or vehicles purchased by the City will comply with local, State, and federal noise regulations, and the City will encourage landscaping contractors to utilize up to date noise-reducing equipment.

NOISE ORDINANCE

The City Noise Ordinance is designed to protect people from non-transportation noise sources such as construction activity, commercial and industrial operations, machinery, and pumps and air conditioners. Enforcing the ordinance includes requiring proposed development projects to show compliance with the ordinance, including operating in accordance with noise levels and hours of operation limits placed on the project site. The City also requires construction activity to comply with established work schedule limits. The ordinance is reviewed periodically for adequacy and amended as needed to address community needs and development patterns.

The City also has the opportunity to control noise and vibration transfers between adjacent land uses. Problems can arise when noise-producing uses are located immediately adjacent to sensitive uses, such as business park or light industrial uses near residences or schools. Additionally, increasing mixed use development throughout the City will place more sensitive residential uses alongside or above commercial uses, which could present challenges. The City's Zoning Ordinance or any Specific Plan developed following adoption of the General Plan will include specific standards that address noise and vibration transfer in mixed use development.

Goals and Policies

The goals and policies section sets both broad and specific direction for the future of the City based on identified issues, as captured in the Guiding Themes and expressed by the community, City staff, and decision makers.

Three major issue areas are addressed in the goals and policies of the Noise Element. These major issues are:

- Using land use planning and development techniques to reduce noise and ensure compatibility between different land uses;
- Utilizing a variety of techniques and strategies to reduce transportation-related noise; and
- Requiring site design and other measures to reduce or maintain noise at acceptable levels for non-transportation-related noise.

NOISE AND LAND USE PLANNING

Land use directly affects noise compatibility because higher noise levels associated with certain land uses can encroach upon more sensitive land uses. Noise-producing and noise sensitive uses will be planned and/or sufficiently buffered to ensure that sensitive uses are not exposed to unacceptable noise levels. Non-compatible land uses will incorporate noise attenuation and/or control measures in the development and design process to reduce noise.

Goal N-1: Reduce the effects of noise through proper land use planning and development techniques.

Policy N-1.1: Use the City's noise/land use compatibility matrix (Figure N-1) as a guide for future planning and development decisions.

Policy N-1.2: Use transitional and buffer areas to separate excessive noise-generating uses from residential and other noise sensitive land uses.

Policy N-1.3: Limit future residential and other noise sensitive land uses in areas exposed to high levels of noise and/or utilize strategies to reduce noise experienced by sensitive uses at the point of reception.

TRANSPORTATION-RELATED NOISE

Transportation-related noise sources are the major contributors of noise in Laguna Hills and affect the overall quality of life. Reduction of transportation-related noise through a variety of measures is necessary to deal with the detrimental effects attributable to excessive noise.

Goal N-2: Reduce the impact of transportation-related noise on residential areas and other sensitive land uses.

Policy N-2.1: Reduce new transportation-related noise impacts to noise sensitive land uses through the use of noise control measures.

Policy N-2.2: Require noise-reducing construction techniques and site design measures for new development in areas impacted by transportation-related noise.

Policy N-2.3: Encourage new development to provide facilities that support the use of alternative transportation modes, such as walking, bicycling, carpooling and, where applicable, transit to reduce automobile traffic and its associated noise.

Policy N-2.4: Consider using low-noise pavement surfaces on Mobility Element roadways that reduce motor vehicle traffic noise.

Policy N-2.5: Control truck traffic routing to reduce truck traffic impacts on noise sensitive land uses.

Policy N-2.6: Use traffic calming design and traffic control measures as needed to reduce vehicular speeds and associated noise levels in residential neighborhoods.

NONTRANSPORTATION-RELATED NOISE

Noise unrelated to vehicles, streets, and freeways also impacts the quality of life in Laguna Hills. Excessive noise from construction, business operations, and everyday activities negatively affects the community. Site design, regulation, and enforcement measures will reduce non-transportation-related noise.

Goal N-3: Reduce the impact of non-transportation-related noise on residential areas and other sensitive land uses.

Policy N-3.1: Ensure noise sources from construction activities, entertainment venues, private development/residences, landscaping activities, and special events impacting noise sensitive lands use are maintained at acceptable levels.

Policy N-3.2: Require that commercial and mixed use structures be designed to prevent transfer of noise and vibration to residential and other noise sensitive land uses.

Policy N-3.3: Require commercial and mixed use developments to locate loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from residential development and, if necessary, to shield such noise sources with acoustic barriers.

Summary of Approach

The goals, policies, and programs in the Noise Element will help the City reduce noise from transportation and non-transportation-related sources. The Noise Element encourages the use of land use compatibility measures and noise reduction techniques to ensure that redevelopment and new development are compatible with established uses. Table N-3 identifies the three major issue areas guiding the Noise Element. These major issues represent the direction the City will take in its noise goals, policies, and programs to implement the vision of Laguna Hills as captured in the Guiding Themes and expressed in the Noise Plan.

Table N-3
Description of Actions to Address Noise Issues

Issues	Element	Section	Policy	Programs	Figure	Table
Noise and Land Use Planning	Noise	Noise and Land Use Planning	N-1.1 through N-1.3	N-1 through N-4	Figure N-1 (Land Use Compatibility) Figure N-3 (Future Noise Contours)	Table N-2 (Noise Standards)
	Land Use	Respect for Existing Neighborhoods	LU-2.7	LU-6		
Transportation-Related Noise	Noise	Transportation-related Noise	N-2.1 through N-2.6	N-1, N-3, N-5		
Nontransportation-Related Noise	Noise	Nontransportation-related noise	N-3.1 through N-3.3	N-5		

Chapter 5-24

NOISE CONTROL

Sections:

5-24.010	Declaration of policy.
5-24.020	Definitions.
5-24.030	Noise level measurement criteria.
5-24.040	Designated noise zone.
5-24.050	Exterior noise standards.
5-24.060	Interior noise standards.
5-24.070	Special provisions.
5-24.080	Schools, hospitals and churches—Special provisions.
5-24.090	Motor vehicle racing.
5-24.100	Air conditioning and refrigeration—Special provisions.
5-24.110	Noise level measurement.
5-24.120	Manner of enforcement.
5-24.130	Violations—Misdemeanors.

5-24.010 Declaration of policy.

In order to control unnecessary, excessive and annoying sounds emanating from the city, it is declared to be the policy of the city to prohibit such sounds generated from all sources as specified in this chapter.

It is determined that certain sound levels are detrimental to the public health, welfare and safety, and contrary to public interest. (OCC § 4-6-1)

5-24.020 Definitions.

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"Cumulative period" means an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" means a unit which denotes the ratio between two quantities which are proportional to power: the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Dwelling unit" means a single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

"Emergency machinery, vehicle or work" means any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

"Fixed noise source" means a stationary device which creates sounds while fixed or motionless, including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

"Grading" means any excavating or filling of earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

"Impact noise" means the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

"Mobile noise source" means any noise source other than a fixed noise source.

"Noise level" means the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micronewtons per square meter. The unit of measurement shall be designated as dB(A).

"Person" means a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels.

"Simple tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound level meter" means an instrument meeting American National Standard Institute's Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

"Sound pressure level" of a sound, in decibels, means twenty (20) times the logarithm to the base ten of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated. (OCC § 4-6-2)

5-24.030 Noise level measurement criteria.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in Section 5-24.020 of this chapter. (OCC § 4-6-3)

5-24.040 Designated noise zone.

The entire territory of the city is designated as "Noise Zone 1." (OCC § 4-6-4)

5-24.050 Exterior noise standards.

A. The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

RESIDENTIAL EXTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	50 dB(A)	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels is reduced by five dB(A).

B. The following noise standards, unless otherwise specifically indicated, apply to all land use entities that affect nonresidential property. If a land use affects both residential and nonresidential property then the residential standards are applied.

NONRESIDENTIAL EXTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	65 dB(A)	At any time

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels is reduced by five dB(A).

C. It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:
   1. The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or
   2. The noise standard plus five dB(A) for a cumulative period of more than fifteen (15) minutes in any hour; or
   3. The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour; or
   4. The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one minute in any hour; or
   5. The noise standard plus twenty (20) dB(A) for any period of time.

D. In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category is increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category is increased to reflect the maximum ambient noise level.

(Ord. 2003-11 § 2: OCC § 4-6-5)

5-24.060 Interior noise standards.

A. The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	45 dB(A)	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five dB(A).

B. It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property, either incorporated or unincorporated, to exceed:
   1. The interior noise standard for a cumulative period of more than five minutes in any hour; or
   2. The interior noise standard plus five db(A) for a cumulative period of more than one minute in any hour; or
   3. The interior noise standard plus ten db(A) for any period of time.

C. In the event the ambient noise level exceeds either of the first two noise limit categories above, the cumulative period applicable to said category shall be in-

creased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(OCC § 4-6-6)

5-24.070 Special provisions.

The following activities shall be exempted from the provisions of this chapter:

A. Activities conducted on the grounds of any public or private nursery, elementary, intermediate or secondary school or college.

B. Outdoor gatherings, public dances and shows, provided said events are conducted pursuant to a license issued by the city pursuant to Title 4 of this code.

C. Activities conducted on any park or playground, provided such park or playground is owned and operated by a public entity.

D. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.

E. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, eight p.m. and eight a.m. on Saturday, or at any time on Sunday or a federal holiday.

F. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

G. Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

H. Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.

I. Noise sources associated with the maintenance of real property, provided said activities take place between seven a.m. and eight p.m. on any day except Sunday or a federal holiday, or between the hours of nine a.m. and eight p.m. on Sunday or a federal holiday.

J. Any activity to the extent regulation thereof has been preempted by state or federal law.

K. A temporary public construction activity deemed necessary for the safety and convenience of the traveling public by the City Manager or his or her authorized representative, which exemption shall be placed in writing, and subject to such conditions deemed necessary to protect the public welfare, health, and safety and to minimize noise disturbances.

(Ord. 2004-8 § 2; Ord. 2003-3 Exh. A § 1; OCC § 4-6-7)

5-24.080 Schools, hospitals and churches—Special provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while the same is in use to exceed the noise limits as specified in Section 5-24.050 of this chapter prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three separate locations within one-tenth of a mile of the institution indicating the presence of a school, church or hospital. (OCC § 4-6-8)

5-24.090 Motor vehicle racing.

It is unlawful to conduct motor vehicle racing, testing, timing or similar noise-producing activities at raceways, speedways, off-road vehicle courses, drag strips or other similar places, including, but not limited to, the operation of midget race cars, drag cars, motorcycles, off-road vehicles, and specialty automobiles, between the hours of eleven-thirty p.m. and eight a.m. (OCC § 4-6-8.1)

5-24.100 Air conditioning and refrigeration—Special provisions.

During the five-year period following the effective date of this chapter, the noise standards enumerated in Sections 5-24.050 and 5-24.060 shall be increased eight db(A) where the alleged offensive noise source is an air conditioning or refrigeration system or associated equipment which was installed prior to the effective date of this chapter. (OCC § 4-6-9)

5-24.110 Noise level measurement.

The location selected for measuring exterior noise levels shall be at any point on the affected property. Interior noise measurements shall be made within the affected dwelling unit. The measurement shall be made at a point at least four feet from the wall, ceiling, or floor nearest the alleged offensive noise source and may be made with the windows of the affected unit open. (OCC § 4-6-10)

5-24.120 Manner of enforcement.

The City Manager, the Chief of Police Services, and their duly authorized representatives are directed to enforce the provisions of this chapter. The Chief of Police Services and his or her duly authorized representatives are authorized, pursuant to Penal Code Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

No person shall interfere with, oppose, or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his or her duly. (Ord. 2003-11 § 3: OCC § 4-6-11)

5-24.130 Violations—Misdemeanors.

Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. The provisions of this chapter shall not be construed as permitting conduct not prescribed herein and shall not affect the enforceability of any other applicable provisions of law. (OCC § 4-6-15)

Appendix B
Field Data and Photos

RK ENGINEERING GROUP INC.

Field Sheet

Project:	Toll Brothers Laguna Hills Townhome Project		**Engineer:**	B. Morrison	**Date:** 5/20/2024
					JN: 3075-2024-29
Measurement Address:	23161 Mill Creek Drive		**City:**	Laguna Hills, CA	

Sound Level Meter:
Piccolo II
Serial #: P0222082204
P0222082205

Calibrator:
BSWA
Serial #: 500732

Calibration Record:

Meter	Input (dB)	Time
1	94	2:26 p.m.
2	94	2:28 p.m.
3	--	--
4	--	--

Conditions:

Temperature (°F):	H: 68, L: 56
Windspeed (m.p.h.):	1
Wind Direction:	Northwest
Skies:	Partly Cloudy

Meter Settings:

- [x] A-Weighted
- [ ] C-Weighted
- [ ] Linear
- [ ] Impulse
- [x] Slow
- [ ] Fast
- [ ] 1/1 Octave
- [ ] 1/3 Octave
- [x] _60_ Minute Intervals
- [x] L(n) Percentile Values

Notes:
Noise measurements were taken at 1-hour intervals over a 24-hour period. Ambient noise sources during the measurement period consisted primarily of roadway activity along Mill Creek Drive.

Measurement Type:

- [x] Long-term (24-hour)
- [ ] Short-term

1 = Noise Monitoring Location

RK ENGINEERING GROUP INC.

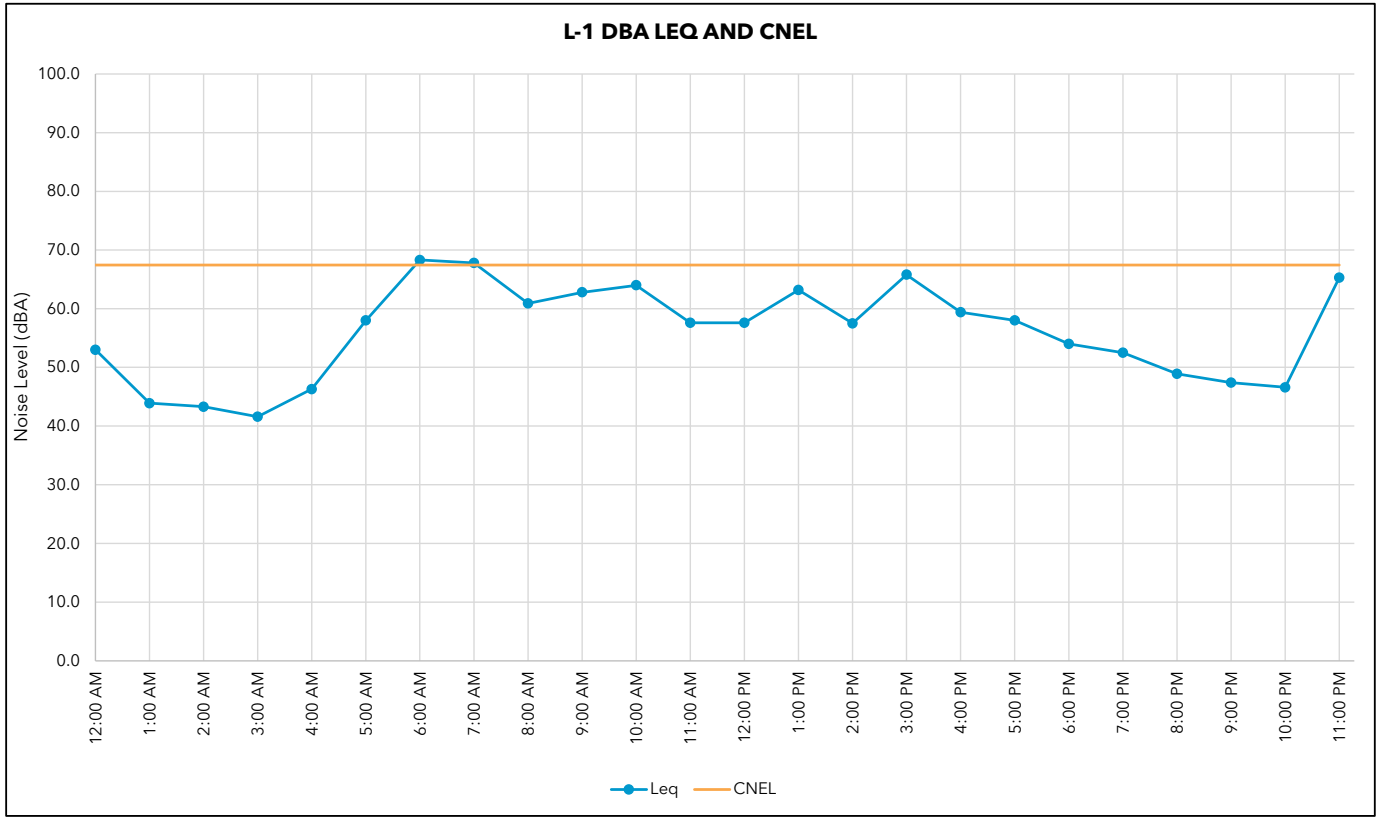
Field Photos - Noise Monitoring Location 1 (L-1)

Project:	Toll Brothers Laguna Hills Townhome Project		**Engineer:**	B. Morrison	**Date:** 5/20/2024
Measurement Address:	23161 Mill Creek Drive		**City:**	Laguna Hills, CA	**JN:** 3075-2024-29
Notes:	Noise Monitoring Location 1 (L-1) was taken near the residential receptors to the west/southwest of the project site, approximately 35 feet northwest of the cetnerline of Mill Creek Drive.				

Noise Monitoring Location 1 Noise Monitoring Results (dBA Leq and CNEL)

Time	Leq	CNEL
12:00 AM	53.0	67.4
1:00 AM	43.9	67.4
2:00 AM	43.3	67.4
3:00 AM	41.6	67.4
4:00 AM	46.3	67.4
5:00 AM	58.0	67.4
6:00 AM	68.3	67.4
7:00 AM	67.8	67.4
8:00 AM	60.9	67.4
9:00 AM	62.8	67.4
10:00 AM	64.0	67.4
11:00 AM	57.6	67.4
12:00 PM	57.6	67.4
1:00 PM	63.2	67.4
2:00 PM	57.5	67.4
3:00 PM	65.8	67.4
4:00 PM	59.4	67.4
5:00 PM	58.0	67.4
6:00 PM	54.0	67.4
7:00 PM	52.5	67.4
8:00 PM	48.9	67.4
9:00 PM	47.4	67.4
10:00 PM	46.6	67.4
11:00 PM	65.3	67.4

Day Min:	47.4
Night Min	41.6



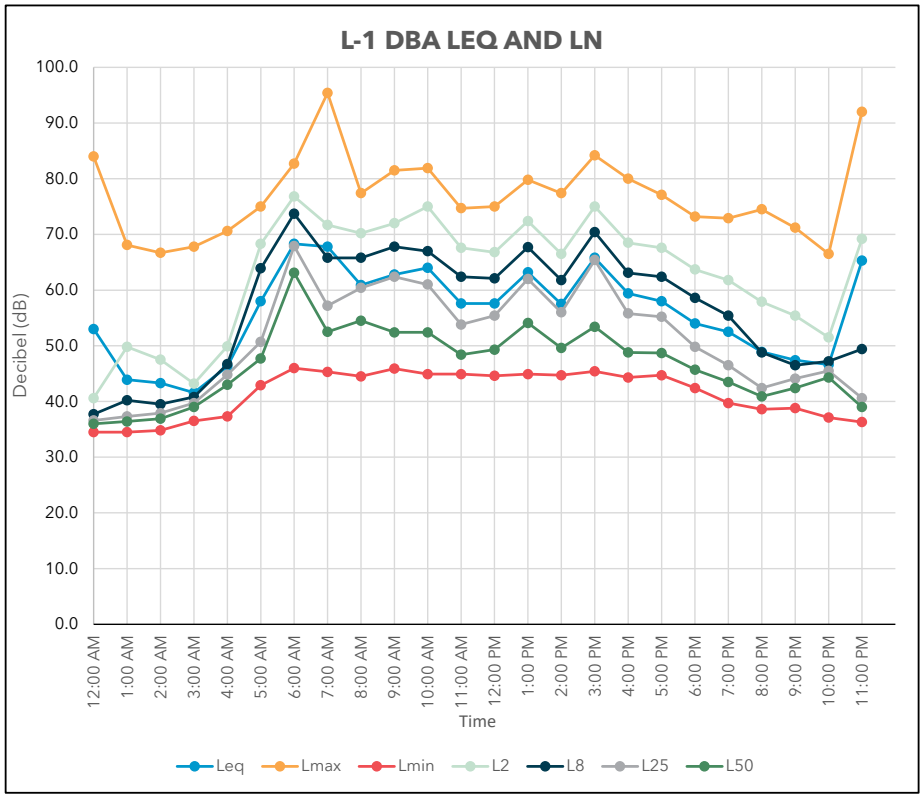
RK ENGINEERING GROUP INC.

Noise Monitoring Location 1 Noise Monitoring Results (dBA Leq and Ln)

PROJECT:	Toll Brothers Laguna Hills Townhome Project	**JOB #:**	3075-2024-29
NOISE METER:	Piccolo II SLM, 24-Hour Measurement	**DATE:**	5/20/2024
LOCATION:	1	**BY:**	B. Morrison

Time	Leq	Lmax	Lmin	L2	L8	L25	L50
12:00 AM	53.0	84.0	34.5	40.6	37.7	36.6	36.0
1:00 AM	43.9	68.1	34.5	49.8	40.2	37.3	36.4
2:00 AM	43.3	66.7	34.8	47.5	39.5	37.9	36.9
3:00 AM	41.6	67.8	36.5	43.2	40.8	39.7	39.0
4:00 AM	46.3	70.6	37.3	49.9	46.7	44.8	43.0
5:00 AM	58.0	75.0	42.9	68.3	63.9	50.7	47.7
6:00 AM	68.3	82.7	46.0	76.8	73.7	67.9	63.1
7:00 AM	67.8	95.4	45.3	71.7	65.8	57.2	52.5
8:00 AM	60.9	77.4	44.5	70.2	65.8	60.4	54.5
9:00 AM	62.8	81.5	45.9	72.0	67.8	62.4	52.4
10:00 AM	64.0	81.9	44.9	75.0	67.0	61.0	52.4
11:00 AM	57.6	74.7	44.9	67.6	62.4	53.8	48.4
12:00 PM	57.6	75.0	44.6	66.8	62.1	55.4	49.3
1:00 PM	63.2	79.8	44.9	72.4	67.7	62.0	54.1
2:00 PM	57.5	77.4	44.7	66.5	61.8	56.0	49.6
3:00 PM	65.8	84.2	45.4	75.0	70.4	65.4	53.4
4:00 PM	59.4	80.0	44.3	68.5	63.1	55.8	48.8
5:00 PM	58.0	77.1	44.7	67.6	62.4	55.2	48.7
6:00 PM	54.0	73.2	42.4	63.7	58.6	49.8	45.7
7:00 PM	52.5	72.9	39.7	61.8	55.4	46.5	43.5
8:00 PM	48.9	74.5	38.6	57.9	48.8	42.4	40.9
9:00 PM	47.4	71.2	38.8	55.4	46.5	44.1	42.4
10:00 PM	46.6	66.5	37.1	51.5	47.2	45.5	44.3
11:00 PM	65.3	92.0	36.3	69.2	49.4	40.6	39.0

Daytime	61.3	95.4	37.1	69.8	64.5	58.6	50.5
Nighttime	61.4	92.0	34.5	69.0	65.1	59.0	54.3



RK ENGINEERING GROUP INC.

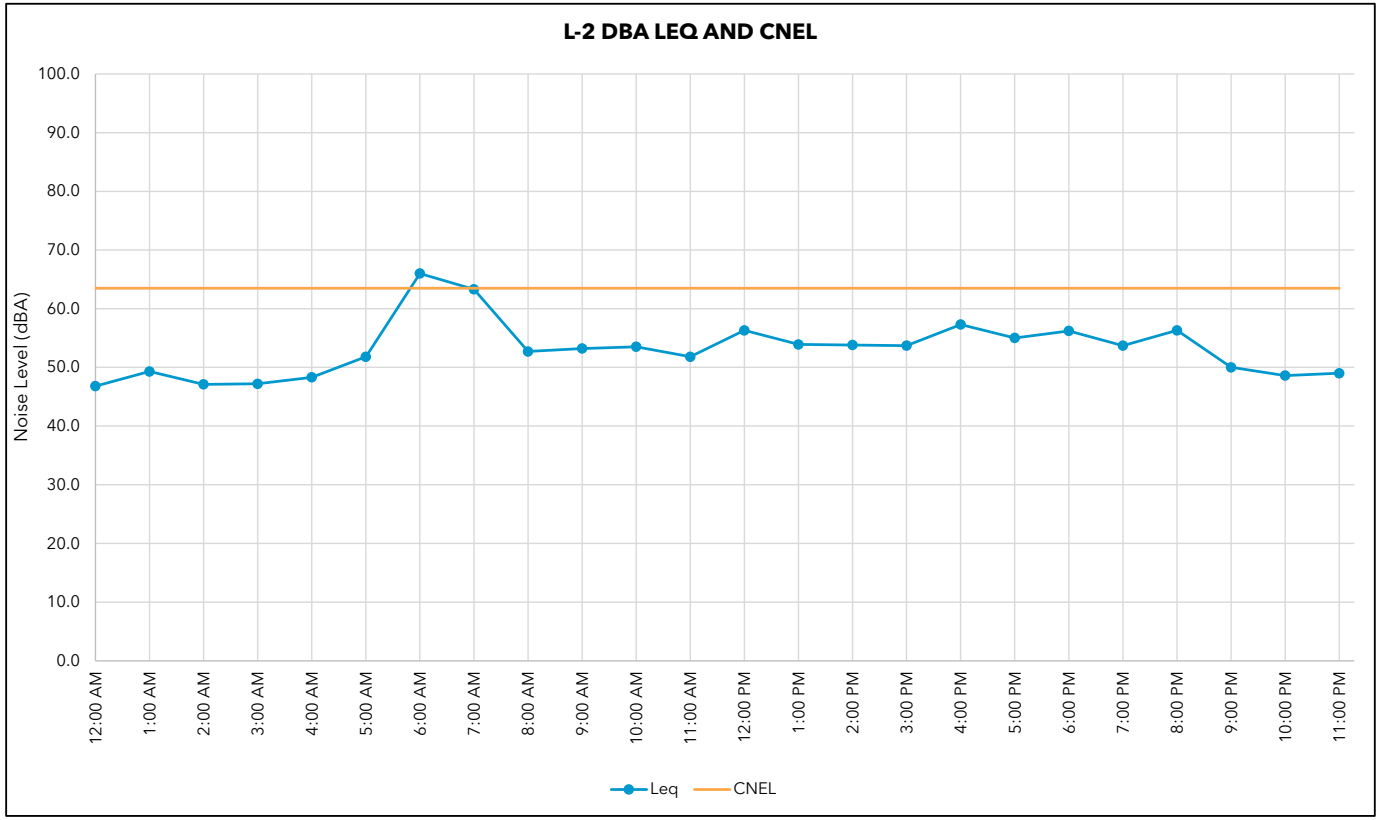
Field Photos - Noise Monitoring Location 2 (L-2)

Project:	Toll Brothers Laguna Hills Townhome Project		**Engineer:**	B. Morrison	**Date:** 5/20/2024
Measurement Address:	23161 Mill Creek Drive		**City:**	Laguna Hills, CA	**JN:** 3075-2024-29
Notes:	Noise Monitoring Location 2 (L-2) was taken near the commercial uses to the east of the project site, approximatley 240 feet northeast of the centerline of Mill Creek Drive.				

Noise Monitoring Location 2 Noise Monitoring Results (dBA Leq and CNEL)

Time	Leq	CNEL
12:00 AM	46.8	63.5
1:00 AM	49.3	63.5
2:00 AM	47.1	63.5
3:00 AM	47.2	63.5
4:00 AM	48.3	63.5
5:00 AM	51.8	63.5
6:00 AM	66.0	63.5
7:00 AM	63.3	63.5
8:00 AM	52.7	63.5
9:00 AM	53.2	63.5
10:00 AM	53.5	63.5
11:00 AM	51.8	63.5
12:00 PM	56.3	63.5
1:00 PM	53.9	63.5
2:00 PM	53.8	63.5
3:00 PM	53.7	63.5
4:00 PM	57.3	63.5
5:00 PM	55.0	63.5
6:00 PM	56.2	63.5
7:00 PM	53.7	63.5
8:00 PM	56.3	63.5
9:00 PM	50.0	63.5
10:00 PM	48.6	63.5
11:00 PM	49.0	63.5

Day Min:	50.0
Night Min	46.8



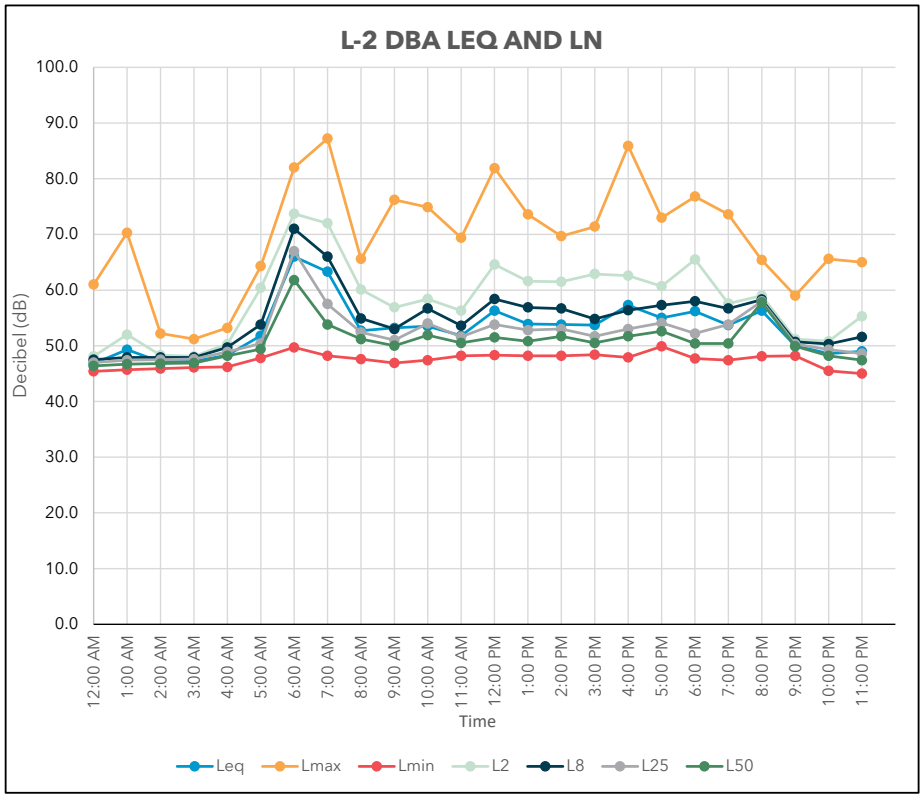
RK ENGINEERING GROUP INC.

Noise Monitoring Location 2 Noise Monitoring Results (dBA Leq and Ln)

PROJECT:	Toll Brothers Laguna Hills Townhome Project	**JOB #:**	3075-2024-29
NOISE METER:	Piccolo II SLM, 24-Hour Measurement	**DATE:**	5/20/2024
LOCATION:	2	**BY:**	B. Morrison

Time	Leq	Lmax	Lmin	L2	L8	L25	L50
12:00 AM	46.8	61.0	45.4	48.1	47.5	47.0	46.4
1:00 AM	49.3	70.3	45.7	52.0	47.9	47.4	46.7
2:00 AM	47.1	52.2	45.9	48.3	47.9	47.5	46.8
3:00 AM	47.2	51.2	46.1	48.1	47.9	47.6	46.9
4:00 AM	48.3	53.2	46.2	50.3	49.7	48.9	48.2
5:00 AM	51.8	64.3	47.8	60.4	53.8	50.4	49.4
6:00 AM	66.0	82.0	49.7	73.7	71.0	67.0	61.8
7:00 AM	63.3	87.2	48.2	72.0	66.0	57.5	53.8
8:00 AM	52.7	65.6	47.6	60.1	54.9	52.4	51.2
9:00 AM	53.2	76.2	46.9	56.9	53.0	51.0	50.0
10:00 AM	53.5	74.9	47.4	58.4	56.7	54.0	51.9
11:00 AM	51.8	69.4	48.2	56.3	53.6	51.6	50.5
12:00 PM	56.3	81.9	48.3	64.6	58.4	53.8	51.5
1:00 PM	53.9	73.6	48.2	61.6	56.9	52.8	50.8
2:00 PM	53.8	69.7	48.2	61.5	56.7	53.0	51.7
3:00 PM	53.7	71.4	48.4	62.9	54.8	51.7	50.5
4:00 PM	57.3	85.9	47.9	62.6	56.4	53.0	51.7
5:00 PM	55.0	73.0	49.9	60.7	57.3	54.1	52.6
6:00 PM	56.2	76.8	47.7	65.5	58.0	52.2	50.4
7:00 PM	53.7	73.6	47.4	57.6	56.7	53.8	50.4
8:00 PM	56.3	65.4	48.1	59.0	58.3	58.0	57.8
9:00 PM	50.0	59.0	48.2	51.2	50.7	50.3	49.9
10:00 PM	48.6	65.6	45.5	50.8	50.3	49.3	48.2
11:00 PM	49.0	65.0	45.0	55.3	51.6	48.6	47.4

Daytime	55.9	87.2	45.5	63.3	58.0	53.7	52.1
Nighttime	57.5	82.0	45.0	65.0	62.2	58.4	53.8



Appendix C
Stationary Noise Calculation Worksheets

RK ENGINEERING GROUP INC.

Stationary Noise Calculations - Based on FHWA-RD-77-108

Project:	Toll Brothers Laguna Hills Townhome Project Noise Impact Study	**Date:**	1/21/2026
		JN:	3075-2024-29
Noise Source:	HVAC - Single Unit	**Engineer:**	B. Morrison
Location:	Nearest adjacent residential receptor		

Noise Input Data				
OBS DIST=	100.0			
DT WALL=	7.0			
DT W/OB=	93.0			
HTH WALL=	5.0	********		
BARRIER =	0.0	(0=WALL,1=BERM)		
OBS HTH=	12.0			
NOISE HTH=	4.0		BARRIER+	
OBS EL =	0.0		TOPO SHIELDING =	-5.09
NOISE EL =	0.0		NOISE HTH EL=	4.0
DROP-OFF=	20.0	(20 = 6 dBA PER DOUBLING OF DISTANCE)		

Noise Output Data (dBA)							
	Distance (ft.)	**Leq**	**Lmax**	**L2**	**L8**	**L25**	**L50**
REF LEVEL	3.25	65.0	65.0	65.0	65.0	65.0	65.0
PROJ LEVEL	100	35.2	35.2	35.2	35.2	35.2	35.2
SHIELDING	100	-5.1	-5.1	-5.1	-5.1	-5.1	-5.1
ADJ LEVEL	**100**	***30.1***	***30.1***	***30.1***	***30.1***	***30.1***	***30.1***
NOISE LEVEL REDUCTION DUE TO DISTANCE =							-29.76233278

RK ENGINEERING GROUP INC.

dB Adder

Project:	Toll Brothers Laguna Hills Townhome Project Noise Impact Study	**Date:**	1/21/2026
		JN:	3075-2024-29
Noise Source:	Combined HVAC Units	**Engineer:**	B. Morrison
Location:	Nearest adjacent residential receptor		

Noise Levels (dBA)						
Noise Source	**Leq**	**Lmax**	**L2**	**L8**	**L25**	**L50**
HVAC - 1	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 2	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 3	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 4	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 5	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 6	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 7	30.1	30.1	30.1	30.1	30.1	30.1
HVAC - 8	30.1	30.1	30.1	30.1	30.1	30.1
Total	***39.1***	***39.1***	***39.1***	***39.1***	***39.1***	***39.1***

RK ENGINEERING GROUP INC.

Stationary Noise Calculations - Based on FHWA-RD-77-108

Project:	Toll Brothers Laguna Hills Townhome Project Noise Impact Study	**Date:**	1/21/2026
		JN:	3075-2024-29
Noise Source:	HVAC - Single Unit	**Engineer:**	B. Morrison
Location:	Nearest adjacent commercial receptor		

Noise Input Data				
OBS DIST=	10.0			
DT WALL=	7.0			
DT W/OB=	3.0			
HTH WALL=	15.0	********		
BARRIER =	0.0	(0=WALL,1=BERM)		
OBS HTH=	12.0			
NOISE HTH=	4.0		BARRIER+	
OBS EL =	0.0		TOPO SHIELDING =	-14.60
NOISE EL =	0.0		NOISE HTH EL=	4.0
DROP-OFF=	20.0	(20 = 6 dBA PER DOUBLING OF DISTANCE)		

Noise Output Data (dBA)							
	Distance (ft.)	**Leq**	**Lmax**	**L2**	**L8**	**L25**	**L50**
REF LEVEL	3.25	65.0	65.0	65.0	65.0	65.0	65.0
PROJ LEVEL	10	55.2	55.2	55.2	55.2	55.2	55.2
SHIELDING	10	-14.6	-14.6	-14.6	-14.6	-14.6	-14.6
ADJ LEVEL	**10**	***40.6***	***40.6***	***40.6***	***40.6***	***40.6***	***40.6***
NOISE LEVEL REDUCTION DUE TO DISTANCE =							-9.76233278

RK ENGINEERING GROUP INC.

dB Adder

Project:	Toll Brothers Laguna Hills Townhome Project Noise Impact Study	**Date:**	1/21/2026
		JN:	3075-2024-29
Noise Source:	Combined HVAC Units	**Engineer:**	B. Morrison
Location:	Nearest adjacent commercial receptor		

Noise Levels (dBA)						
Noise Source	**Leq**	**Lmax**	**L2**	**L8**	**L25**	**L50**
HVAC - 1	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 2	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 3	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 4	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 5	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 6	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 7	40.6	40.6	40.6	40.6	40.6	40.6
HVAC - 8	40.6	40.6	40.6	40.6	40.6	40.6
Total	***49.6***	***49.6***	***49.6***	***49.6***	***49.6***	***49.6***

Appendix D
Construction Noise and Vibration Calculation Worksheets

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Demolition	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	100		89.6	215	0
Tractor	No	100	84		215	0

Results
Calculated (dBA)

Equipment		*Lmax	Leq
Concrete Saw		76.9	76.9
Tractor		71.3	71.3
	Total	76.9	78

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Site Preparation	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	100	85		215	0
Tractor	No	100	84		215	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Grader		72.3	72.3
Tractor		71.3	71.3
	Total	72.3	74.9

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Grading	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	100	85		215	0
Tractor	No	100	84		215	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Grader		72.3	72.3
Tractor		71.3	71.3
	Total	72.3	74.9

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Building Construction	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	100		80.6	215	0
Tractor	No	100	84		215	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Crane		67.9	67.9
Tractor		71.3	71.3
	Total	71.3	73

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Paving	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Roller	No	100		80	215	0
Tractor	No	100	84		215	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Roller		67.3	67.3
Tractor		71.3	71.3
	Total	71.3	72.8

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Architectural Coating	Residential	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Compressor (air)	No	100		77.7	215

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Compressor (air)		65	65
	Total	65	65

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Demolition	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	100		89.6	135	0
Tractor	No	100	84		135	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Concrete Saw		81	81
Tractor		75.4	75.4
	Total	81	82

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Site Preparation	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	100	85		135	0
Tractor	No	100	84		135	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Grader		76.4	76.4
Tractor		75.4	75.4
	Total	76.4	78.9

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Grading	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	100	85		135	0
Tractor	No	100	84		135	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Grader		76.4	76.4
Tractor		75.4	75.4
	Total	76.4	78.9

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Building Construction	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	100		80.6	135	0
Tractor	No	100	84		135	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Crane		72	72
Tractor		75.4	75.4
	Total	75.4	77

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Paving	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Roller	No	100		80	135	0
Tractor	No	100	84		135	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Roller		71.4	71.4
Tractor		75.4	75.4
	Total	75.4	76.8

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/25/2025
Case Description: Toll Brothers Laguna Hills Townhome Project

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Architectural Coating	Commercial	47.4	47.7	47.4

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Compressor (air)	No	100		77.7	135

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Compressor (air)		69.1	69.1
	Total	69.1	69.1

*Calculated Lmax is the Loudest value.

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Residential Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV = **0.019 in/sec**

Equipment Type =	2	Large Bulldozer
PPV_{ref} =	0.089	Reference PPV at 25 ft.
D =	100.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Residential Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV = **0.017 in/sec**

Equipment Type =	4	Loaded Trucks
PPV_{ref} =	0.076	Reference PPV at 25 ft.
D =	100.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Residential Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV =	**0.046 in/sec**

Equipment Type =	1	Vibratory Roller
PPV_{ref} =	0.210	Reference PPV at 25 ft.
D =	100.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Commercial Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV = **0.156 in/sec**

Equipment Type =	2	Large Bulldozer
PPV_{ref} =	0.089	Reference PPV at 25 ft.
D =	15.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Commercial Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV = **0.133 in/sec**

Equipment Type =	4	Loaded Trucks
PPV_{ref} =	0.076	Reference PPV at 25 ft.
D =	15.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

RK ENGINEERING GROUP INC.

Vibration Impact Analysis

Project:	Toll Brothers Laguna Hills Townhomes Project	**Date:**	2/25/2025
Activity:	Construction Vibration	**JN:**	3075-2024-29
Location:	Nearest Commercial Structures	**Engineer:**	B. Morrison

Vibration Input/Output Data

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV =	**0.368 in/sec**

Equipment Type =	1	Vibratory Roller
PPV_{ref} =	0.210	Reference PPV at 25 ft.
D =	15.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

Equipment PPV Reference Levels

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

Toll Brothers Laguna Hills Townhome Project Air Quality, Greenhouse Gas, and Energy Impact Study

City of Laguna Hills, California
January 28, 2026

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Toll Brothers Laguna Hills Townhome Project Air Quality, Greenhouse Gas, and Energy Impact Study

City of Laguna Hills, California

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this air quality, greenhouse gas, (GHG) and energy impact study is to determine whether the construction and operation of the Toll Brothers Laguna Hills Townhome Project (hereinafter referred to as "project") would cause significant air quality, GHG, or energy impacts.

This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the California Air Resources Board (CARB), the SCAQMD, and City of Laguna Hills recommendations for quantification of emissions and evaluation of potential impacts.

This study also evaluates the project's potential impact on energy conservation pursuant to CEQA Guidelines, Appendix F, Energy Conservation Analysis, and the use of renewable energy sources.

1.2 Site Location & Project Description

The proposed project site will be constructed on the 2.43-acre parcel at 23161 Mill Creek Drive (APN 588-142-07) in the City of Laguna Hills, Orange County, California (Project Site). The project site is located on the west side of Mill Creek Drive, approximately 0.27 miles south of Lake Forest Drive, Mill Creek Drive, and Scientific Intersection. The project site is currently developed with a two-story office building, surface parking lot, and associated landscaping and pavement. **Exhibit A** shows the location map of the proposed project.

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family-attached condominium residential units, parking, roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income.

Construction activities are expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating. During construction, the project would demolish approximately 34,200 square feet of building area, 29,461 square feet of asphalt, and 5,000 square feet of hardscape. The project would require the import/export of up to approximately 35,000 cubic yards of earthwork material for grading purposes. All mobile off-road diesel construction equipment including generators will be equipped with Tier 4 low emission "clean diesel" engines.

Exhibit B shows the proposed site plan used for this analysis. **Table 1-1** summarizes the land use assumptions used for this analysis.

Table 1-1 | Project Land Use Summary

Project Land Use	CalEEMod Land Use Category	Quantity	Metric[1]
Townhomes	Condo/Townhouse	36	DU
Onsite Paved Surfaces	Parking Lot	0.92	AC

[1] DU = Dwelling unit.
AC = Acres.

1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases.

For CEQA purposes, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours or longer, such as residences, hospitals, and schools (etc.), as described in the Localized Significance Threshold Methodology (SCAQMD 2008a, page 3-2). There are several sensitive land uses adjacent to the project site, including the following.

A project site location map, including sensitive receptor locations, is provided in **Exhibit A**.

Receptor-1 Existing residential land uses located to the west of the proposed project site. The nearest residential home located at Receptor-1 (marked as circle "1" on **Exhibit A**) is located approximately 80 feet (~24 meters) west of the project site's western boundary.

For conservative localized analysis purposes, sensitive receptors are considered to be less than 25 meters from the project site.

1.4 Summary of Analysis Results

Table 1-2 provides a summary of the CEQA air quality impact analysis results.

Table 1-2 | CEQA Air Quality Impact Criteria

Air Quality Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
Would the project:				
a) Conflict with, or obstruct the implementation of, the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Table 1-3 provides a summary of the CEQA GHG impact criteria analysis results.

Table 1-3 | CEQA GHG Impact Criteria

Greenhouse Gas Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases?			X	

Table 1-4 provides a summary of the CEQA energy impact criteria analysis results.

Table 1-4 | CEQA Energy Impact Criteria

Energy Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant	No Impact
Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy?			X	
b) Conflict with or obstruct a State and/or local plan for renewable energy or energy efficiency?			X	

Legend

1 = Sensitive Receptor Location

= Project Site Boundary

Exhibit A

Location Map

Exhibit B

Site Plan

2.0 Air Quality Setting

The Federal Clean Air Act (§ 7602) defines air pollution as any agent or combination of such agents, including any physical, chemical, biological, or radioactive substance which is emitted into or otherwise enters the ambient air. Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution. Air pollution can cause disease, allergies and death. It affects soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate. It can also cause damage to and deterioration of property, present hazards to transportation, and negatively impact the economy.

This section provides background information on criteria air pollutants, the applicable federal, state and local regulations concerning air pollution, and the existing physical setting of the project within the context of local air quality.

2.1 Description of Air Pollutants

The following section describes the air pollutants of concern related to the project. Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health. The following descriptions of criteria air pollutants have been provided by the SCAQMD.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, and competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for carbon monoxide is intended to protect persons whose medical condition already compromises their circulatory system's ability to deliver oxygen. These medical conditions include certain heart ailments, chronic lung diseases, and anemia. Persons with these conditions have reduced exercise capacity even when exposed to relatively low levels of CO. Fetuses are at risk because their blood has an even greater affinity to bind with CO. Smokers are also at risk from ambient CO levels because smoking increases the background level of CO in their blood. The South Coast Basin has achieved attainment status for carbon monoxide by both USEPA and CARB.

- **Nitrogen Dioxide (NO_2)** is a byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in young

children has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light which results in a brownish red cast to the atmosphere and reduced visibility. Although NO_2 concentrations have not exceeded national standards since 1991 and the state hourly standard since 1993, NO_x emissions remain of concern because of their contribution to the formation of O_3 and particulate matter.

- **Ozone (O_3)** is one of a number of substances called photochemical oxidants that are formed when volatile organic compounds (VOC) and NO_x react in the presence of ultraviolet sunlight. O_3 concentrations in the South Coast basin are typically among the highest in the nation, and the damaging effects of photochemical smog, which is a popular name for a number of oxidants in combination, are generally related to the concentrations of O_3. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the subgroups most susceptible to O_3 effects. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. The South Coast Air Basin is designated by the USEPA as an extreme non-attainment area for ozone. Although O_3 concentrations have declined substantially since the early 1990s, the South Coast basin continues to have peak O_3 levels that exceed both state and federal standards.

- **Fine Particulate Matter (PM_{10})** consists of extremely small suspended particles or droplets 10 microns or smaller in diameter that can lodge in the lungs, contributing to respiratory problems. PM_{10} arises from such sources as re-entrained road dust, diesel soot, combustion products, tire and brake abrasion, construction operations, and fires. It is also formed in the atmosphere from NO_x and SO_2 reactions with ammonia. PM_{10} scatters light and significantly reduces visibility. Inhalable particulates pose a serious health hazard, alone or in combination with other pollutants. More than half of the smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Inhalable particulates can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance. The South Coast basin has recently achieved federal attainment status for PM_{10}, but is non-attainment based on state requirements.

- **Ultra-Fine Particulate Matter ($PM_{2.5}$)** is defined as particulate matter with a diameter less than 2.5 microns and is a subset of PM_{10}. $PM_{2.5}$ consists mostly of products from the reaction of NO_x and SO_2 with ammonia, secondary organics, finer dust particles, and the combustion of fuels, including diesel soot. $PM_{2.5}$ can cause exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease, declines in pulmonary function growth in children, and increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in $PM_{2.5}$ levels have been related to hospital admissions for acute

respiratory conditions, school absences, and increased medication use in children and adults with asthma. The South Coast basin is designated as non-attainment for $PM_{2.5}$ by both federal and state standards.

- **Sulfur Dioxide (SO_2)** is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. Individuals with asthma may experience constriction of airways with exposure to SO_2. Though SO_2 concentrations have been reduced to levels well below state and federal standards, further reductions in SO_2 emissions are needed because SO_2 is a precursor to sulfate and PM_{10}. The South Coast basin is considered a SO_2 attainment area by USEPA and CARB.

- **Lead (Pb)** is a toxic heavy metal that can be emitted into the air through some industrial processes, burning of leaded gasoline and past use of lead-based consumer products. Lead is a neurotoxin that accumulates in soft tissues and bones, damages the nervous system, and causes blood disorders. It is particularly problematic in children, in that permanent brain damage may result, even if blood levels are promptly normalized with treatment. Concentrations of lead once exceeded the state and federal air quality standards by a wide margin, but as a result of the removal of lead from motor vehicle gasoline, ambient air quality standards for lead have not been exceeded since 1982. Though special monitoring sites immediately downwind of lead sources recorded localized violations of the state standard in 1994, no violations have been recorded since. Consequently, the South Coast basin is designated as an attainment area for lead by both the USEPA and CARB. This report does not analyze lead emissions from the project, as it is not expected to emit lead in any significant measurable quantity.

- **Volatile Organic Compounds (VOCs)**, although not actually a criteria air pollutant, VOCs are regulated by the SCAQMD because they cause chemical reactions which contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM_{10} and lower visibility levels. Sources of VOCs include combustion engines, and evaporative emissions associated with fuel, paints and solvents, asphalt paving, and the use of household consumer products such as aerosols. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOC. Some hydrocarbon components classified as VOC emissions are hazardous air pollutants. Benzene, for example, is a hydrocarbon component of VOC emissions that are known to be a human carcinogen. The term reactive organic gases (ROG) are often used interchangeably with VOC.

- **Toxic Air Contaminants (TACs)** are defined as air pollutants that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health (Health & Safety Code §39655). Unlike criteria pollutants, which have concentration-based standards, TACs generally do not have identified safe exposure levels. Per Cal. Code Regs., tit. 17, §93000, the California Air Resources Board (CARB) lists

substances designated as TACs and specifies "None identified" for threshold levels when there is insufficient scientific evidence to establish a concentration below which adverse health effects are not expected to occur. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most common being diesel particulate matter (DPM) from diesel engine exhaust. In addition to DPM, benzene and 1,3-butadiene are also significant contributors to overall ambient public health risk in California.

2.2 Federal and State Ambient Air Quality Standards

The Federal Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) for criteria pollutants considered harmful to public health and the environment. The State of California has also established additional and more stringent California Ambient Air Quality Standards (CAAQS) in addition to the seven criteria pollutants designated by the federal government.

AAQS are designed to protect the health and welfare of the populace with a reasonable margin of safety. The standards are divided into two categories, primary standards and secondary standards. Primary standards are implemented to provide protection for the "sensitive" populations such as those with asthma, or the children and elderly. Secondary standards are to provide protection against visible pollution as well as damage to the surrounding environment, including animals, crops, and buildings.

Table 2-1 shows the Federal and State Ambient Air Quality Standards.

Table 2-1 | Federal and State Ambient Air Quality Standards (AAQS)[1]

Air Pollutant	Averaging Time[2]	Federal Standard (NAAQS)[2]	California Standard (CAAQS)[2]
Ozone	1 Hour	--	0.09 ppm
	8 Hour	0.07 ppm	0.07 ppm
Carbon Monoxide (CO)	1 Hour	35 ppm	20 ppm
	8 Hour	9 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 Hour	0.100 ppm	0.18 ppm
	Annual	0.053 ppm	0.030 ppm
Sulfur Dioxide (SO_2)	1 Hour	0.075 ppm	0.25 ppm
	3 Hour	0.5 ppm[3]	--
	24 Hour	0.14 ppm	0.04 ppm
Fine Particulate Matter (PM_{10})	24 Hour	150 µg/m^3	50 µg/m^3
	Annual Mean	--	20 µg/m^3
Ultra-Fine Particulate Matter ($PM_{2.5}$)	24 Hour	35 µg/m^3	--
	Annual Mean	12.0 µg/m^3	12.0 µg/m^3
Lead (Pb)	30 Day Average	--	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	--
	Rolling 3 Month Average	0.15 µg/m^3	--
Visibility Reducing Particles	8 Hour	--	0.23/km extinction coefficient (10-mile visibility standard)
Sulfates	24 Hour	--	25 µg/m^3
Hydrogen Sulfide	1 Hour	--	0.03 µg/m^3
Vinyl Chloride	24 Hour	--	0.01 ppm

[1] Source: CARB. https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf.
[2] ppm = parts per million of air by volume.
µg/m^3 = micrograms per cubic meter.
[3] Secondary standards.

Several pollutants listed in **Table 2-1** are not addressed in this analysis. Lead is not included because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be

exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because there are no project activities or processes that produce this compound. Hydrogen sulfide emissions are typically associated with petroleum refining, geothermal operations, or wastewater treatment, none of which are included in the proposed residential project.

2.3 Attainment Status

The Clean Air Act requires states to prepare a State Implementation Plan (SIP), a comprehensive regulatory framework that demonstrates how states will achieve and maintain the NAAQS. The California Air Resources Board (CARB) provides designations of attainment for air basins where AAQS are either met or exceeded. If the AAQS are met, the area is designated as being in "attainment", if the air pollutant concentrations exceed the AAQS, then the area is designated as being "nonattainment". If there is inadequate or inconclusive data to make a definitive attainment designation, the area is considered "unclassified."

National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

When a state submits a request to the EPA to re-designate a nonattainment area to attainment, the Clean Air Act (CAA) section 175A(a) requires that the state (or states, if the area is a multi-state area) submit a maintenance plan ensuring the area can maintain the air quality standard for which the area is to be re-designated for at least 10 years following the effective date of re-designation. **Table 2-2** lists the attainment status for the criteria pollutants in the South Coast Air Basin (SCAB).

Table 2-2 | South Coast Air Basin Attainment Status[1]

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment (Extreme)[2]
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Attainment (Maintenance)
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	Nonattainment (Partial)[3]

[1] Source: CARB. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.
[2] 8-Hour Ozone.
[3] Partial Nonattainment designation for Los Angeles County portion of Basin only.

2.4 South Coast Air Quality Management District (SCAQMD)

The agency responsible for air pollution control for the South Coast Air Basin (SCAB) is the South Coast Air Quality Management District (SCAQMD). SCAQMD is responsible for controlling emissions from stationary sources. SCAQMD maintains air quality monitoring stations throughout the SCAB. SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the SCAB. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air basin where one or more ambient air quality standards are exceeded. The AQMP is incorporated into the SIP.

The latest version is the 2022 AQMP, adopted in December 2022. The 2022 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. While air quality has dramatically improved over the years, the SCAB still exceeds federal public health standards for both ozone and particulate matter (PM) and experiences some of the worst air pollution in the nation. The 2022 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time.

According to the 2022 AQMP, the most significant air quality challenge in the SCAB is to reduce nitrogen oxide (NO_x) emissions sufficiently to meet the upcoming ozone standard deadlines. Based

on the inventory and modeling results, the 2022 AQMP projects that 184 tons per day (tpd) of NO_x will be emitted in the year 2037 as a result of continued implementation of already adopted regulatory actions ("baseline emissions"). The analysis suggests that in order to meet the ozone standard of 60 tpd, NO_x emissions need to be reduced about 67 percent beyond the projected 2037 baseline emissions and about 83 percent below current levels[1].

2.4.1 SCAQMD Rules and Regulations

The SCAQMD establishes a program of rules and regulations to obtain attainment of the state and federal standards in conjunction with the AQMP. Several of the rules and regulations that may be applicable to this project include, but are not limited to, the following:

- **SCAQMD Rule 402** prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

- **SCAQMD Rule 445** restricts wood burning devices from being installed into any new development and is intended to reduce the emissions of particulate matter for wood burning devices.

- **SCAQMD Rule 1113** governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of project must comply with Rule 1113.

- **SCAQMD Rule 1143** governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

[1] Source: South Coast Air Quality Management District. *2022 Air Quality Management Plan*. Adopted December 2, 2022.

- **SCAQMD Rule 1186** limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency, or special district such as water, air, sanitation, transit, or school district.

The proposed project would be required to comply with the above South Coast Air Quality Management District rules and regulations, as well as all applicable federal, state, regional, and local regulations related to air quality. In addition to SCAQMD rules and regulations, these requirements include state energy efficiency standards and local solid waste management regulations. The following list summarizes applicable regulatory compliance requirements for the project. The project actions listed below represent standard regulatory compliance obligations and are not considered mitigation measures.

1. During construction, the project will follow the SCAQMD rules and requirements for fugitive dust control, including the following:
    - Pre-water active grading or trenching areas.
    - Water all active construction areas as frequently as needed (at least twice daily) to prevent visible dust plumes from extending more than 100 feet.
    - Maintain a stabilized surface or apply dust suppressants to inactive areas, disturbed surfaces, staging areas, haul routes, and unpaved roads.
    - Limit on-site vehicle speeds to 15 mph on unpaved areas.
    - Maintain all haul trucks with covered loads and ≥6 inches of freeboard (CVC §23114).
    - Stabilize stockpiles with water or covers and restrict height if near occupied structures.
    - Use a gravel pad at egress points (minimum 30' x 50', 1" washed gravel, 6" depth), or alternatively a wheel shaker or wheel washing station.
    - Remove track-out extending ≥25 feet onto public roadways immediately and clean daily.
    - Suspend dust-generating activities and implement contingency measures during high wind events (wind gusts >25 mph).
    - Re-vegetate or stabilize disturbed areas within 21 days of inactivity.
    - Limit construction vehicle traffic to designated haul routes only.
2. The project will utilize low-VOC or zero-VOC paints, coatings, and solvents consistent with the requirements of SCAQMD Rules 1113 and 1143.

3. The project will comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:
    - Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
    - Provide the necessary infrastructure to support electric vehicle charging.
    - Provide solar installations/solar readiness zones per the prescribed Energy Design Ratings.
4. The project will participate in local waste management recycling and composting programs.

2.5 Local Climate and Meteorology

The weather station closest to the project site is the National Weather Service Cooperative – Laguna Beach, CA (044647) station. Climatological data from the National Weather Service at this station is summarized in **Table 2-3**.

Table 2-3 | Meteorological Summary[1]

Month	Temperature (°F)			Mean Precipitation (inches)
	Max.	Min.	Mean	
January	65.1	43.0	54.1	2.43
February	66.1	44.1	55.1	2.77
March	67.1	45.8	56.5	2.01
April	69.0	48.4	58.7	0.98
May	70.9	53.0	62.0	0.25
June	73.1	56.1	64.6	0.10
July	76.5	59.3	67.9	0.03
August	78.1	59.6	68.9	0.07
September	77.5	58.2	67.9	0.26
October	74.5	53.7	64.1	0.47
November	70.4	47.5	59.0	1.24
December	66.1	43.4	54.8	1.92
Annual	**71.2**	**51.0**	**61.1**	**12.52**

[1] Source: Western Regional Climate Center. Averages derived from measurements recorded between 1928 and 2016 at Laguna Beach, CA (044647).

2.6 Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin.

The SCAQMD has divided the SCAB into fourteen general forecasting areas and thirty-eight Source Receptor Areas (SRAs) for monitoring and reporting local air quality. The SCAQMD provides daily reports of the current air quality conditions in each general forecast area and SRA. The monitoring areas provide a general representation of the local meteorological, terrain, and air quality conditions within the SCAB.

The project is located within the Coastal general forecasting area and Central Orange County Coastal air monitoring area (SRA-20). The SCAQMD has not published air quality monitoring data for SRA-20. Therefore, pollutant data for the most recent three-year period is derived from the nearest adjacent stations available (i.e., Saddleback Valley/SRA-19 and Central Orange County/SRA-17). These pollutant levels were used to comprise a "background" for the project location and existing local air quality.

Table 2-4 | Local Air Quality[1]

Air Pollutant Location	Averaging Time	Item[2]	2021	2022	2023
Carbon Monoxide -- Saddleback Valley	1 Hour	Max 1-Hour (ppm)	1.0	1.2	--
		Exceeded State Standard (20 ppm)	No	No	--
		Exceeded National Standard (35 ppm)	No	No	--
	8 Hour	Max 8 Hour (ppm)	0.8	1.0	--
		Days > State Standard (9 ppm)	No	No	--
		Days >National Standard (9 ppm)	No	No	--
Ozone -- Saddleback Valley	1 Hour	Max 1-Hour (ppm)	0.105	0.110	--
		Days > State Standard (0.09 ppm)	2.0	1.0	--
	8 Hour	Max 8 Hour (ppm)	0.081	0.088	--
		Days > State Standard (0.070 ppm)	8	6	--
		Days >National Standard (0.070 ppm)	8	5	--
Nitrogen Dioxide -- Central Orange County	1 Hour	Max 1-Hour (ppm)	0.067	0.053	0.051
		Exceeded State Standard (0.18 ppm)	No	No	No
	Annual	Annual Average (ppm)	0.012	0.012	0.011
		Exceeded State Standard (0.030 ppm)	No	No	No
		Exceeded National Standard (0.053 ppm)	No	No	No
Sulfur Dioxide -- Saddleback Valley	1 Hour	Max 1 Hour (ppm)	--	0.0000	--
		Exceeded State Standard (0.25 ppm)	--	No	--
		Exceeded National Standard (0.075 ppm)	--	No	--
PM10 -- Saddleback Valley	24 Hour	Max 24-Hour (µg/m³)	35	--	--
		Days > State Standard (50 µg/m³)	0	--	--
		Days >National Standard (150 µg/m³)	0	--	--
	Annual	Annual Average (µg/m³)	15.60	--	--
		Exceeded State Standard (20 µg/m³)	No	--	--
PM2.5 -- Saddleback Valley	24 Hour	Max 24-Hour (µg/m³)	28.70	--	--
		Days >National Standard (35 µg/m³)	0	--	--
	Annual	Annual Average (µg/m³)	8.27	--	--
		Exceeded State Standard (12 µg/m³)	No	--	--
		Exceeded National Standard (15 µg/m³)	No	--	--

[1] Source: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year.

[2] ppm = parts per million.
µg/m³ = micrograms per cubic meter.

3.0 Global Climate Change Setting

Lead agencies must analyze direct and indirect GHG emissions from proposed projects. This includes emissions from construction, operations, transportation, energy use, waste, and water consumption. Lead agencies must make a good faith effort to describe, calculate, or estimate GHG emissions (CEQA Guidelines § 15064.4).

3.1 Greenhouse Gases (GHGs)

Greenhouse gases include naturally occurring compounds such as carbon dioxide (CO_2), methane (CH_4), water vapor (H_2O), and nitrous oxide (N_2O), while others are synthetic. Man-made GHGs include the chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs), as well as sulfur hexafluoride (SF_6). Different GHGs have different effects on the Earth's warming. GHGs differ from each other in their ability to absorb energy (their "radiative efficiency") and how long they stay in the atmosphere, also known as the "lifetime".

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO_2. The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases and allows policymakers to compare emissions reduction opportunities across sectors and gases.

Table 3-1 lists the 100-year GWP of GHGs from the Intergovernmental Panel on Climate Change (IPCC) fifth assessment report (AR5) and IPCC sixth (6th) assessment report (AR6).

Table 3-1 | Global Warming Potential of Greenhouse Gases[1, 2]

Gas Name	Formula	Lifetime (Years)	GWP
Carbon Dioxide	CO_2	--	1
Methane	CH_4 (Fossil Origin)	12	29.8
	CH_4 (Non-Fossil Origin)		27.2
Nitrous Oxide	N_2O	114	273
Sulphur Hexafluoride	SF_6	3200	23,500
Nitrogen Trifluoride	NF_3	740	16,100
Chlorofluorocarbon (CFC-11)	CFC-11	52	8,321
Hexafluoroethane (PFC-116)	C_2F_6	10,000	11,100
Octafluoropropane (PFC-218)	C_3F_8	2,600	8,900
Octafluorocyclobutane (PFC-318)	C_4F_8	3,200	9,540
Tetrafluoromethane (PFC-14)	CF_4	50,000	5,301
Hydrofluorocarbon 125	HFC-125	29	3,170
Hydrofluorocarbon 134a	HFC-134a	14	1,526
Hydrofluorocarbon 143a	HFC-143a	52	4,800
Hydrofluorocarbon 152a	HFC-152a	1	138
Hydrofluorocarbon 227ea	HFC-227ea	34	3,350
Hydrofluorocarbon 23	HFC-23	270	12,400
Hydrofluorocarbon 236fa	HFC-236fa	240	8,060
Hydrofluorocarbon 245fa	HFC-245fa	8	858
Hydrofluorocarbon 32	HFC-32	5	771
Hydrofluorocarbon 365mfc	HFC-365mfc	9	804
Hydrofluorocarbon 43-10mee	HFC-43-10mee	16	1,650

[1] Source: IPCC Sixth Assessment Report (AR6). https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf and https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf.

[2] GWPs are used to convert GHG emission values to "carbon dioxide equivalent" (CO_2e) units.

3.2 GHG Regulatory Setting – State of California

The State of California has been a leader in climate change legislation and has passed numerous bills to reduce greenhouse gas emissions across all sectors of the economy. Some of the key climate legislation and regulation in the State include the following:

- **Assembly Bill (AB) 32, California Global Warming Solutions Act of 2006.** AB 32 set the stage for the State's transition to a sustainable, low-carbon future. AB 32 was the first program in the country to take a comprehensive, long-term approach to addressing climate change.
- **Senate Bill (SB) 375, Sustainable Communities & Climate Protection Act of 2008.** SB 375 requires the Air Resources Board to develop regional greenhouse gas emission reduction targets for passenger vehicles GHG reduction targets for 2020 and 2035 for each region covered by the State's 18 metropolitan planning organizations.
- **Senate Bill (SB) 100, California Renewables Portfolio Standard Program.** SB 100 established a landmark policy requiring renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers by 2045.
- **California Building Standards Code – Title 24.** The California Building Standards Code Title 24 Part 6 (Energy Code) and Title 24 Part 11 (CALGreen) requires multiple building provisions to reduce energy usage and GHG emissions and is updated on a triennial basis.

3.3 GHG Emissions Inventory

Table 3-2 shows the latest GHG emission inventories at the national, state, regional, and local levels.

Table 3-2 | GHG Emissions Inventory [1]

United States (2019)[2]	State of California (2019)[3]	SCAG (2020)[4]
6,558 $MMTCO_2e$	418 $MMTCO_2e$	216.4 $MMTCO_2e$

[1] MMTCO2e = million metric tons of carbon dioxide equivalents.
[2] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.
[3] SCAG – Regional GHG Inventory and Reference Case Projections, 1990 – 2035. May 30, 2012. http://www.scag.ca.gov/programs/Pages/GreenhouseGases.aspx.

4.0 Modeling Parameters and Assumptions

The California Emissions Estimator Model Version 2022.1.1 (CalEEMod) was used to calculate criteria air pollutants and GHG emissions from the construction and operation of the project. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria air pollutant and GHG emissions.

The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from off-site energy generation, solid waste disposal, vegetation planting and/or removal, and water use. The model also identifies design standards to reduce criteria pollutant and GHG emissions. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts.

4.1 Construction Assumptions

Construction of the project is estimated to begin in the year 2026. Construction activities are expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating. The project will require the import and export of up to 35,000 total cubic yards of earthwork material for grading purposes. For the purposes of this analysis, construction phases are not expected to overlap.

The CalEEMod default construction equipment list is based on survey data and the size of the site. The parameters used to estimate construction emissions, such as the worker and vendor trips and trip lengths, utilize the CalEEMod defaults. The construction equipment list is shown in **Table 4-1**.

All mobile off-road diesel construction equipment including generators will be equipped with Tier 4 low emission "clean diesel" engines. Accordingly, the CalEEMod default construction equipment list was modified to reflect Tier 4 engines for applicable equipment.

The project will be required to comply with several standard fugitive dust control measures, per SCAQMD Rule 403. The following key inputs are utilized in CalEEMod and are based upon data provided from SCAQMD :

- Water exposed area – 61% PM10 and PM2.5 reduction.
- Water unpaved roads twice daily – 55% PM10 and PM2.5 reduction.
- Limit vehicle speeds on unpaved roads to 25 mph – 44% PM10 and PM2.5 reduction.
- Sweep paved roads once per month – 9% PM10 and PM2.5 reduction.

Table 4-1 | Construction Equipment Assumptions [1]

Phase	Equipment	Number	Hours Per Day	Soil Disturbance Rate (Acres/8-Hour Day)	Off-Road Equipment Daily Disturbance Footprint (Acres)	Total Daily Disturbance Footprint (Acres)
Demolition	Concrete/Industrial Saws	1	8	0.00	0.00	0.50
	Rubber Tired Dozers	1	8	0.50	0.50	
	Tractors/Loaders/Backhoes	3	8	0.00	0.00	
Site Preparation	Graders	1	8	0.50	0.50	1.50
	Scrapers	1	8	1.00	1.00	
	Tractors/Loaders/Backhoes	1	7	0.00	0.00	
Grading	Graders	1	8	0.50	0.50	1.00
	Rubber Tired Dozers	1	8	0.50	0.50	
	Tractors/Loaders/Backhoes	2	7	0.00	0.00	
Building Construction	Cranes	1	8	0.00	0.00	0.00
	Forklifts	2	7	0.00	0.00	
	Generator Sets	1	8	0.00	0.00	
	Tractors/Loaders/Backhoes	1	6	0.00	0.00	
	Welders	3	8	0.00	0.00	
Paving	Cement and Mortar Mixers	1	8	0.00	0.00	0.00
	Pavers	1	8	0.00	0.00	
	Paving Equipment	1	8	0.00	0.00	
	Rollers	2	8	0.00	0.00	
	Tractors/Loaders/Backhoes	1	8	0.00	0.00	
Architectural Coating	Air Compressors	1	6	0.00	0.00	0.00

[1] CalEEMod defaults.

4.2 Localized Construction Analysis Modeling Parameters

CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. This report identifies the

following parameters in the project design or applicable mitigation measures in order to compare CalEEMod reported emissions against the localized significance threshold lookup tables:

1. The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2. The maximum number of acres disturbed on the peak day.
3. Any emission control devices added onto off-road equipment.
4. Specific dust suppression techniques used on the day of construction activity with maximum emissions.

4.3 Operational Assumptions

Operational emissions occur over the life of the project and are considered "long-term" sources of emissions. Operational emissions include both direct and indirect sources. This section briefly describes the operational sources of emissions analyzed for the project.

4.3.1 Mobile Source Emissions

Mobile source emissions would be the largest source of long-term air pollutants from the proposed operation of the project. Mobile sources are direct sources of project emissions that are primarily attributed to tailpipe exhaust and road dust (tire, brake, clutch, and road surface wear) from motor vehicles traveling to and from the site.

Estimates of mobile source emissions require information on four parameters: trip generation, trip length, vehicle/fleet mix, and emission factors (quantity of emission for each mile traveled or time spent idling by each vehicle).

The trip generation rates used for this analysis are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The proposed project consists of constructing 36 townhome dwelling units. As such, ITE Land Use 215: Single-Family Attached Housing accurately reflect the proposed project land use. For trip lengths, the CalEEMod defaults are used.

The Emission Factors (EMFAC2021) 2021 model and off-model adjustments factors to account for the SAFE Vehicle Rule is used to estimate the mobile source emissions are embedded in the CalEEMod emissions model. No adjustments have been made to default emission factors.

The project's total vehicle miles traveled is shown in **Table 4-2**.

Table 4-2 | Operational Vehicle Miles Traveled [1]

Land Use	Annual Home-Based Vehicle Miles Traveled (VMT)
Condo/Townhouse	905,531

[1] CalEEMod defaults.

To be conservative, this analysis has assumed that 2% of the total trips associated with the project will be heavy trucks with a gross vehicle weight rating (GVWR) of 10,000 pounds or greater. This includes LHD2, MHD, HHD, OBUS, UBUS, and SBUS vehicles. This is conservative, as in practice, residential land uses such as the one proposed by the project typically generate very few heavy truck trips, generally less than 1% of total traffic. Using 2% therefore overestimates the proportion of heavy trucks associated with the project. The adjusted vehicle mix is proportioned according to the default CalEEMod vehicle mix.

Table 4-3 summarizes the adjusted vehicle mix used for the project.

Table 4-3 | Operational Vehicle Mix [1]

Vehicle Type	Vehicle Mix
Light Duty Automobile (LDA)	50.42%
Light Duty Truck (LDTI)	4.13%
Light Duty Truck (LDT2)	23.72%
Medium Duty Truck (MDV)	14.70%
Light Heavy Truck (LHD1)	2.80%
Light Heavy Truck (LHD2)	0.42%
Medium Heavy Truck (MHD)	0.90%
Heavy Heavy Truck (HHD)	0.33%
Other Bus (OBUS)	0.04%
Urban Bus (UBUS)	0.04%
Motorcycle (MCY)	2.23%
School Bus (SBUS)	0.06%
Motor Home (MH)	0.22%
Total	**100.00%**

[1] Adjusted fleet mix to include 2% total trucks over 10,000 lbs. GVWR (LHD2, MHD, HHD, OBUS, UBUS, SBUS, MH).

4.3.2 Energy Source Emissions

Energy usage includes both direct and indirect sources of emissions. Direct sources of emissions include on-site energy usage, while indirect emissions include electricity generated by offsite power plants. The proposed project will be powered exclusively by electricity, with no use of natural gas. As a result, this analysis evaluates all project-related energy consumption solely in terms of electricity usage.

CalEEMod divides building electricity use into uses that are subject to Title 24 standards and those that are not. Lighting electricity usage is also calculated as a separate category in CalEEMod. For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24, such as space heating, space cooling, water heating, and ventilation. Non-Title 24 uses include all other end uses, such as appliances, electronics, and other miscellaneous plug-in uses. Because some lighting is not considered as part of the building envelope energy budget, and since a separate mitigation measure is applicable to this end use, CalEEMod makes lighting a separate category.

The baseline values are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

The project will be required to provide on-site renewable energy photovoltaic installations (solar panels), as prescribed by the 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings.

In order to assess the potential project's future energy usage, RK has performed a quantitative energy impact analysis using CEQA energy impact criteria. The energy impact analysis is provided in Section 8.0 of this report.

4.3.3 Area Source Emissions

Area source emissions are direct sources of emissions that fall under four categories: hearths, consumer products, architectural coatings, and landscaping equipment. Per SCAQMD Rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project.

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries.

4.3.4 Other Sources of Operational Emissions

- **Water.** Greenhouse gas emissions are generated from the upstream energy required to supply and treat the water used on the project site. Indirect emissions from water usage are counted as part of the project's overall impact.

- **Waste.** CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) data for individual land uses. The program quantifies the GHG emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon.

The project's estimated water usage and waste generation is reported in **Table 4-4**.

Table 4-4 | Operational Water Usage and Waste Generation [1]

Land Use	Water Usage (gallons/yr)			Waste Generation (tons/yr)
	Indoor	Outdoor	Total	
Condo/Townhouse	1,350,923.40	475,213.66	1,826,137.06	26.55
Parking Lot	--	--	--	--
Total	**1,350,923.40**	**475,213.66**	**1,826,137.06**	**26.55**

[1] CalEEMod defaults.

5.0 Significance Thresholds

5.1 Air Quality Regional Significance Thresholds

The SCAQMD has established air quality emissions thresholds for criteria air pollutants for the purposes of determining whether a project may have a significant effect on the environment per Section 15002(g) of the Guidelines for implementing CEQA. By complying with the thresholds of significance, the project would be in compliance with the SCAQMD Air Quality Management Plan (AQMP) and the federal and state air quality standards.

Table 5-1 lists the air quality significance thresholds for the six air pollutants analyzed in this report. Lead is not included as part of this analysis as the project is not expected to emit lead in any significant measurable quantity.

Table 5-1 | SCAQMD Regional Significance Thresholds[1]

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550

[1] Source: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

5.2 Air Quality Localized Significance Thresholds

Air quality emissions were analyzed using the SCAQMD's Mass Rate Localized Significance Threshold (LST) Look-up Tables.

Table 5-2 lists the Localized Significance Thresholds (LST) used to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptors in the project vicinity. LSTs are developed based on the ambient concentrations of four applicable air pollutants for SRA-20 (Central Orange County Coastal).

The nearest existing sensitive receptors are located to the west of the project site, less than 25 meters from potential areas of on-site construction and operational activity. Although receptors are located

closer than 25 meters to the site, SCAQMD LST methodology states that projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.

The disturbance area for applying SCAQMD LST thresholds is based on the maximum area of active ground disturbance that could occur at one time during construction, as this represents the largest potential source area for localized emissions. As shown in **Table 4-1**, the daily disturbance area is calculated to be 1.5 acres, however LST thresholds are only based on 1, 2, and 5-acre sites. To be conservative, a linear trend was used to estimate the construction thresholds for 1.5-acre sites based on the established LST thresholds.

Table 5-2 | SCAQMD Localized Significance Thresholds (LSTs)[1]

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NO_X	110.5	110.5
CO	800.7	800.7
PM_{10}	5.5	1.5
$PM_{2.5}$	4.0	1.4

[1] Source: SCAQMD Mass Rate Localized Significance Thresholds for 1.5 acres/day in SRA-20 at 25 meters.

5.3 GHG Significance Thresholds

5.3.1 SCAQMD GHG Interim Significance Thresholds

The SCAQMD has published the Interim CEQA Greenhouse Gas (GHG) Significance Thresholds, December 2008, to assist local agencies with determining the impact of a project's GHG emissions. SCAQMD's objective in providing the GHG guidelines is to establish a performance standard that will ultimately contribute to reducing GHG emissions below 1990 levels, and thus achieve the requirements of the California Global Warming Solutions Act (AB 32). The SCAQMD's GHG thresholds were upheld in *Upland Community First v. City of Upland* (2024) 105 Cal. App. 5th 1, 20.

In the absence of a formal threshold established by the State, SCAQMD's interim GHG threshold has been established for use by lead agencies in determining significance of GHG emissions in CEQA. SCAQMD guidance describes a five-tiered approach for determining significance. Tier 3 is the primary method used for development projects of this size and is the approach used in this analysis. The Tier 3 approach limits the amount of GHG emissions from residential and commercial development projects to 3,000 metric tons of CO2 equivalents per year (MTCO2e/yr).

If the project exceeds 3,000 MTCO2e/yr, then the impact is considered significant, and mitigation measures would be required to reduce emissions below the threshold.

6.0 Air Quality Impact Analysis

6.1 Short-Term Air Quality Impacts – Construction

6.1.1 Regional Emissions – Construction

Regional air quality emissions include both on-site and off-site emissions associated with construction of the project. As shown in **Table 6-1**, the project's potential regional daily emissions of criteria pollutants are expected to be below the allowable thresholds of significance.

CalEEMod emissions outputs are provided in **Appendix A**.

Table 6-1 | Regional Construction Emissions

Activity	Maximum Daily Emissions (lbs./day)[1]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	0.48	6.95	17.08	0.05	4.02	0.84
Site Preparation	0.28	1.36	15.39	0.03	0.77	0.14
Grading	0.97	63.00	41.32	0.36	16.90	5.77
Building Construction	0.33	3.96	14.19	0.02	0.41	0.13
Paving	0.47	2.23	9.28	0.01	0.23	0.08
Architectural Coating	46.58	0.85	1.35	0.00	0.09	0.03
Maximum[1]	**46.58**	**63.00**	**41.32**	**0.36**	**16.90**	**5.77**
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.

The project must follow mandatory SCAQMD rules and requirements with regards to fugitive dust control, as described in **Section 6.1.3**.

Table 6-1 shows that the project's potential daily construction emissions would be below the applicable SCAQMD air quality standards and thresholds of significance. As a result, the project would not contribute substantially to an existing or projected air quality violation.

Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Therefore, the project's short-term construction impact on regional air resources will be less than significant.

6.1.2 Localized Emissions – Construction

Table 6-2 illustrates the construction-related localized emissions and compares the results to SCAQMD LST thresholds. As shown in **Table 6-2**, the emissions will be below the SCAQMD thresholds of significance for localized construction emissions. The project must follow all standard SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3.

Therefore, the project's short-term construction impact on localized air quality would be less than significant.

Table 6-2 | Localized Construction Emissions

Activity	Maximum Daily Emissions (lbs./day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Onsite Emissions	3.74	15.05	2.93	1.40
SCAQMD Localized Threshold[2]	110.5	800.7	5.5	4.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

[1] Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.
[2] Source: SCAQMD Mass Rate Localized Significance Thresholds for 1.5 acres/day in SRA-20 at 25 meters.

6.1.3 Fugitive Dust – Construction

The Project is required to comply with standard SCAQMD rules that assist in reducing short-term air pollutant emissions associated with suspended particulate matter, also known as fugitive dust. Fugitive dust emissions are commonly associated with land clearing activities, cut-and-fill grading operations, and exposure of soils to the air and wind. SCAQMD Rule 403 requires that fugitive dust is controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rules 402 and 403 require implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

6.1.4 Odors – Construction

Heavy-duty equipment in the project area during construction will emit odors; however, the construction activity would cease to occur after individual construction is completed. The project is required to comply with Rule 402 during construction, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which

endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. No other sources of objectionable odors have been identified for the proposed Project.

Therefore, the project impact from odor emissions would be less than significant.

6.1.5 Asbestos – Construction

Asbestos is a carcinogen and is categorized as a hazardous air pollutant by the Environmental Protection Agency (EPA) and regulated through the National Emissions Standards for Hazardous Air Pollutants (NESHAP). Asbestos fibers embedded within construction materials become a health hazard once they are disturbed and rendered airborne, such as through physical contact like building renovation and demolition activities.

SCAQMD is the local enforcement authority for asbestos. SCAQMD Rule 1403 establishes the survey requirements, notification, and work practices to prevent asbestos emissions from emanating during building renovation and demolition activities. The project proposes to demolish the existing building and hardscape on the project site during construction. Compliance with Rule 1403 will ensure that the project does not result in asbestos emissions that would adversely affect a substantial number of people.

Asbestos also occurs naturally in serpentine and ultramafic rock. Based on the California Division of Mines and Geology General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, naturally occurring asbestos has not been shown to occur within in the vicinity of the project site. Therefore, the potential risk for naturally occurring asbestos (NOA) during project construction is small. However, in the event NOA is found on the site, the project will be required to comply with SCAQMD and NESHAP standards.

By following the SCAQMD's required asbestos abatement protocols, the project impact would be less than significant.

6.1.6 Diesel Particulate Matter – Construction

The project will generate diesel particulate matter (DPM) during construction from off-road diesel equipment and trucks. The California Office of Environmental Health Hazard Assessment (OEHHA) adopted the Guidance Manual for Preparation of Health Risk Assessments (HRA Guidelines) to provide procedures for use in the Air Toxics Hot Spots Program or for the permitting of existing, new, or modified stationary sources[2].

[2] OEHHA. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance for Preparation of Health Risk Assessments. February 2015.

To evaluate potential cancer and non-cancer health risks associated with DPM emissions during project construction, RK prepared the *Toll Brothers Laguna Hills Townhome Project Construction Health Risk Assessment* (HRA). Construction-related PM_{10} exhaust emissions were quantified using the CalEEMod outputs provided in **Appendix A** and used as a surrogate for modeling DPM emissions. The HRA indicates that the project will not exceed the applicable cancer and non-cancer health risk thresholds established by the SCAQMD.

As a result, the project's short-term construction health risk impact would be less than significant.

6.2 Long-Term Air Quality Impacts – Operation

6.2.1 Regional Emissions – Operation

Long-term unmitigated operational air pollutant impacts from the project are shown in **Table 6-3**. CalEEMod emissions outputs are provided in **Appendix A**.

The project's daily unmitigated operational emissions will be below the applicable SCAQMD regional air quality standards and thresholds of significance, and the project would not contribute substantially to an existing or projected air quality violation. Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Therefore, the project's long-term regional air quality impacts would be less than significant.

Table 6-3 | Regional Operational Emissions

Activity	Maximum Daily Emissions (lbs./day)[1]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile Sources	0.97	0.71	8.49	0.02	2.08	0.54
Area Sources	1.86	0.02	2.04	0.00	0.00	0.00
Energy Sources	0.01	0.22	0.09	0.00	0.02	0.02
Total	**2.84**	**0.95**	**10.62**	**0.02**	**2.10**	**0.55**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Maximum daily emissions during summer or winter; includes both onsite and offsite project emissions.

6.2.2 Localized Emissions – Operations

Table 6-4 shows the localized operational emissions and compares the results to SCAQMD LST thresholds of significance. As shown in **Table 6-4**, the emissions will be below the SCAQMD thresholds of significance for localized operational emissions.

Therefore, the project's long-term localized air quality impacts would be less than significant.

Table 6-4 | Localized Operational Emissions

Activity	Maximum Daily Emissions (lbs./day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Onsite Emissions	0.27	2.56	0.12	0.05
SCAQMD Localized Threshold[2]	110.5	800.7	1.5	1.4
Exceeds Threshold?	**No**	**No**	**No**	**No**

[1] Maximum daily emissions during summer or winter.
[2] Source: SCAQMD Mass Rate Localized Significance Thresholds for 1.5 acres/day in SRA-20 at 25 meters.

6.2.3 Odors – Operation

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants. The proposed residential project does not contain land uses that would typically be associated with significant odor emissions.

The project will be required to comply with standard building code requirements related to exhaust ventilation, as well as comply with SCAQMD Rule 402. Rule 402 requires that a person may not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Project related odors would not create a nuisance.

Therefore, the project's operation would result in less than significant odor impacts.

6.2.4 Toxic Air Contaminants – Operations

The proposed project consists of residential land use and does not include major sources of toxic air contaminants (TAC) emissions that would result in significant exposure of sensitive receptors to substantial pollutant concentrations. Examples of land uses that are major sources of TACs include distribution centers with heavy truck traffic, rail yards, ports, refineries, chrome plating facilities, dry

cleaners, and gasoline dispensing stations. The project does not include any of these uses, **hence the project's potential impact is considered less than significant.**

7.0 Greenhouse Gas Impact Analysis

7.1 Greenhouse Gas Emissions – Construction

Greenhouse gas emissions are estimated for on-site and off-site construction activity using CalEEMod. **Table 7-1** shows the construction greenhouse gas emissions, including equipment and worker vehicle emissions for all phases of construction.

CalEEMod GHG output calculations are provided in **Appendix A**.

Table 7-1 | Construction Greenhouse Gas Emissions

Activity	Emissions ($MTCO_2e$)[1]		
	Onsite	Offsite	Total
Demolition	22.70	34.67	57.37
Site Preparation	3.71	0.13	3.84
Grading	6.70	143.15	149.85
Building Construction	221.10	45.60	266.71
Paving	5.66	0.85	6.51
Architectural Coating	0.61	0.29	0.90
Total	**260.48**	**224.69**	**485.18**
Amortized Over 30 Years[2]	**8.68**	**7.49**	**16.17**

[1] $MTCO_2e$ = metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, nitrous oxide, and/or hydrofluorocarbons).

[2] The emissions are amortized over 30 years and added to the operational emissions, pursuant to SCAQMD recommendations.

Because impacts from construction activities occur over a relatively short period of time, they contribute a relatively small portion of the overall lifetime project GHG emissions. Therefore, the SCAQMD recommends amortizing construction GHG emissions over a 30-year project lifetime and adding them to the overall project operational emissions. Pursuant to SCAQMD recommendations, this study assesses construction related GHG emissions along with the project's operational emissions, as further discussed in the section below.

7.2 Greenhouse Gas Emissions – Operations

Greenhouse gas emissions are estimated for on-site and off-site operational activity using CalEEMod. **Table 7-2** shows the project's operational greenhouse gas emissions, along with the project's amortized construction emissions.

Appendix A provides the CalEEMod emissions outputs for this study.

Table 7-2 | Operational Greenhouse Gas Emissions

Emission Source	Unmitigated GHG Emissions ($MTCO_2e/yr.$)[1]
Mobile Sources	297.27
Area Sources	2.98
Energy Sources	94.58
Water	4.68
Waste	8.29
Refrigerant	0.09
Construction (30-Year Amortization)	16.17
Total Annual Emissions	**424.06**
SCAQMD Tier 3 Significance Threshold	3,000.00
Exceeds Threshold?	**No**

[1] $MTCO_2e/yr.$ = metric tons of carbon dioxide equivalents per year.

As shown in **Table 7-2**, the proposed project's GHG emissions are not expected to exceed the SCAQMD GHG emissions threshold of 3,000 $MTCO_2e$.

Therefore, the proposed project's impact from GHG emissions would be less than significant.

8.0 Energy Impact Analysis

8.1 Study Objectives

The purpose of this energy conservation analysis is to review the energy implications of the proposed project and provide recommendations to reduce wasteful, inefficient, and unnecessary consumption of energy during the operation of the project. This analysis has been prepared within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.).

CEQA Guidelines, Appendix F, Energy Conservation, describes the framework within which energy conservation should be analyzed. Conserving energy implies the wise and efficient use of energy through decreasing overall per capita energy consumption, decreasing reliance on fossil fuels (such as coal, natural gas, and oil), and increasing reliance on renewable energy sources.

8.2 Utility Providers

The proposed project would be served by the utility providers shown in **Table 8-1** below.

Table 8-1 | Utility Providers

Utility	Provider
Electricity	Southern California Edison
Natural Gas	Southern California Gas Company

8.3 Project Energy Consumption

The three (3) main types of energy expected to be consumed by the project include electricity, natural gas, and petroleum products in the form of gasoline and diesel fuel. CalEEMod is used to calculate energy usage associated with the construction and operation of the project.

The CalEEMod calculation sheets for the project are provided in **Appendix A**. The EMFAC2021 vehicle fuel consumption data used for this analysis is provided in **Appendix B**.

8.3.1 Electricity Consumption

The project will use electricity for operational activities including, but not limited to, building heating and cooling, lighting, appliances, electronics, mechanical equipment, and parking lot lighting. Indirect electricity usage will also be required to supply, distribute, and treat water and wastewater. Electricity will be provided to the site by Southern California Edison.

Temporary electricity usage for construction activities may include lighting, electric equipment, and mobile office uses. However, CalEEMod does not calculate electricity usage during construction. Electricity usage during construction is expected to be short-term and relatively minor compared to the operational demand.

Table 8-2 shows the project's estimated operational electricity consumption in kilowatt-hours per year (kWh/yr) and millions of BTU per year (MMBTU/yr).

Table 8-2 | Project Electricity Consumption[1]

Land Use/Activity	Electricity Consumption	
	(KWh/yr.)[2]	(MMBTU/yr.)[2]
Condo/Townhouse	167,260.09	570.69
Parking Lot	35,105.88	119.78
Water Supply and Treatment	12,430.51	42.41
Total	**214,796.48**	**732.88**

[1] CalEEMod defaults.
[2] KWHr/yr. = kilowatt hours per year.
MMBTU/yr. = million British Thermal Units per year.

8.3.2 Natural Gas Consumption

The proposed project will be powered exclusively by electricity, with no use of natural gas. As a result, all project-related energy usage is accounted for in the projected electricity consumption shown in **Table 8-2**.

8.3.3 Petroleum Consumption

The project's energy consumption from petroleum products is primarily associated with transportation-related activities. This includes gasoline and diesel fuel usage for auto and truck trips during construction and operation and off-road equipment usage during construction.

8.3.3.1 Petroleum Consumption – Construction

Construction of the project is expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating phases. Construction activities will consume energy in the form of motor vehicle fuel (gasoline and diesel) for off-road construction equipment and on-road vehicle trips. Vehicle trips include workers and vendors traveling to and from the project site.

Table 8-3 and **Table 8-4** show the project's energy consumption for all off-road and on-road equipment during construction, respectively. For the purposes of this analysis, all off-road equipment is assumed to run on diesel fuel.

Table 8-3 | Construction Off-Road Equipment Energy Consumption

Phase[1]	Phase Duration (Days)[1]	Equipment[1]	Amount[1]	Hrs./Day[1]	Horsepower (HP)[1]	Load Factor[1]	HP-hrs.[2]	Fuel Consumption Rate (HP-hrs./gal.)[3]	Diesel Fuel Consumption (Gal.)	Diesel Fuel Consumption by Phase (Gal.)	MMBTU[4]
Demolition	20	Concrete/Industrial Saws	1	8	33	0.73	3,854.40	18.50	208.35	2,284.37	313.83
		Rubber Tired Dozers	1	8	367	0.40	23,488.00		1,269.62		
		Tractors/Loaders/Backhoes	3	8	84	0.37	14,918.40		806.40		
Site Preparation	3	Graders	1	8	148	0.41	1,456.32		78.72	377.40	51.85
		Scrapers	1	8	423	0.48	4,872.96		263.40		
		Tractors/Loaders/Backhoes	1	7	84	0.37	652.68		35.28		
Grading	6	Graders	1	8	148	0.41	2,912.64		157.44	679.45	93.34
		Rubber Tired Dozers	1	8	367	0.40	7,046.40		380.89		
		Tractors/Loaders/Backhoes	2	7	84	0.37	2,610.72		141.12		
Building Construction	220	Cranes	1	8	367	0.29	187,316.80		10,125.23	21,966.70	3,017.81
		Forklifts	2	7	82	0.20	50,512.00		2,730.38		
		Generator Sets	1	8	14	0.74	18,233.60		985.60		
		Tractors/Loaders/Backhoes	1	6	84	0.37	41,025.60		2,217.60		
		Welders	3	8	46	0.45	109,296.00		5,907.89		
Paving	10	Cement and Mortar Mixers	1	8	10	0.56	448.00		24.22	562.59	77.29
		Pavers	1	8	81	0.42	2,721.60		147.11		
		Paving Equipment	1	8	89	0.36	2,563.20		138.55		
		Rollers	2	8	36	0.38	2,188.80		118.31		
		Tractors/Loaders/Backhoes	1	8	84	0.37	2,486.40		134.40		
Architectural Coating	10	Air Compressors	1	6	37	0.48	1,065.60		57.60	57.60	7.91
								Total Energy Requirements		**25,928.11**	**3,562.03**

[1] CalEEMod defaults.
[2] HP-hrs. = Horsepower hours.
[3] Source: Carl Moyer Program Guidelines. 2017 Revisions. Table D-21. https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.
[4] MMBTU = Millions of BTU, assuming 1 gallon of diesel fuel = 137,381 BTU.

Table 8-4 | Construction On-Road Equipment Energy Consumption

Phase[1]	Phase Duration (Days)[1]	Trips per Day[1]	Trip Length	Phase VMT	Vehicle Class[1]	Vehicle Mix[1]	Average Fuel Economy (MPG)[2]	Gasoline			Diesel			Total MMBTU[3]
								Fuel Split[2]	Fuel Consumption by Vehicle Class (Gal.)	Fuel Consumption by Phase (Gal.)	Fuel Split[2]	Fuel Consumption by Vehicle Class (Gal.)	Fuel Consumption by Phase (Gal.)	
Worker Trips														
Demolition	20	13	18.5	4,810	LDA	0.50	29.94	0.9986	80.20	177.28	0.0014	0.11	0.25	21.38
					LDT1	0.25	24.89	0.9998	48.31		0.0002	0.01		
					LDT2	0.25	24.59	0.9974	48.76		0.0026	0.13		
Site Preparation	3	8	18.5	444	LDA	0.50	29.94	0.9986	7.40	16.36	0.0014	0.01	0.02	1.97
					LDT1	0.25	24.89	0.9998	4.46		0.0002	0.00		
					LDT2	0.25	24.59	0.9974	4.50		0.0026	0.01		
Grading	6	10	18.5	1,110	LDA	0.50	29.94	0.9986	18.51	40.91	0.0014	0.03	0.06	4.93
					LDT1	0.25	24.89	0.9998	11.15		0.0002	0.00		
					LDT2	0.25	24.59	0.9974	11.25		0.0026	0.03		
Building Construction	220	26	18.5	105,820	LDA	0.50	29.94	0.9986	1,764.46	3,900.15	0.0014	2.46	5.51	470.45
					LDT1	0.25	24.89	0.9998	1,062.88		0.0002	0.19		
					LDT2	0.25	24.59	0.9974	1,072.81		0.0026	2.85		
Paving	10	15	18.5	2,775	LDA	0.50	29.94	0.9986	46.27	102.28	0.0014	0.06	0.14	12.34
					LDT1	0.25	24.89	0.9998	27.87		0.0002	0.01		
					LDT2	0.25	24.59	0.9974	28.13		0.0026	0.07		
Architectural Coating	10	5	18.5	925	LDA	0.50	29.94	0.9986	15.42	34.09	0.0014	0.02	0.05	4.11
					LDT1	0.25	24.89	0.9998	9.29		0.0002	0.00		
					LDT2	0.25	24.59	0.9974	9.38		0.0026	0.02		
Subtotal Worker Trips Energy Consumption								*Gasoline (Gal.)*		*4,271.07*	*Diesel (Gal.)*		*6.03*	*515.19*
Vendor Trips														
Building Construction	220	4	10.2	8,976	MHDT	0.50	7.79	0.3129	180.24	180.57	0.6871	395.77	1,126.54	176.51
					HHDT	0.50	6.14	0.0005	0.33		0.9995	730.76		
Subtotal Vendor Trips Energy Consumption								*Gasoline (Gal.)*		*180.57*	*Diesel (Gal.)*		*1,126.54*	*176.51*
Hauling Trips														
Demolition	20	51	20.0	20,400	HHDT	1.00	6.14	0.0005	1.50	1.50	0.9995	3,321.65	3,321.65	456.51
Grading	6	729	20.0	87,480	HHDT	1.00	6.14	0.0005	6.44	6.44	0.9995	14,244.04	14,244.04	1,957.64
Subtotal Hauling Trips Energy Consumption								*Gasoline (Gal.)*		*7.94*	*Diesel (Gal.)*		*17,565.69*	*2,414.15*
Total On-Road Construction Trips Energy Consumption								**Gasoline (Gal.)**		**4,459.57**	**Diesel (Gal.)**		**18,698.26**	**3,105.85**

[1] CalEEMod defaults.
[2] HP-hrs. = Horsepower hours.
[3] Source: Carl Moyer Program Guidelines. 2017 Revisions. Table D-21. https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.
[4] MMBTU = Millions of BTU, assuming 1 gallon of diesel fuel = 137,381 BTU.

8.3.3.2 Petroleum Consumption – Operation

The project is expected to consume energy from auto and truck trips generated by the proposed land uses. Operational vehicle trips are associated with workers, customers, and vendors/non-workers (i.e., delivery, service, maintenance vehicles, etc.) traveling to and from the site. EMFAC2021 vehicle fuel consumption data is provided in **Appendix B**.

Table 8-5 shows the project's petroleum energy consumption for all operational trips generated by the project on an annual basis.

Table 8-5 | Operational Trips Energy Consumption - Annual

Vehicle Class	Vehicle Mix	Average Fuel Economy (MPG)	Annual VMT	Gasoline		Diesel		MMBTU/yr.
				Fuel Split	Fuel Consumption (Gal.)	Fuel Split	Fuel Consumption (Gal.)	
LDA	50.42%	29.94	905,531	0.9986	15,226.61	0.0014	21.27	1,836.65
LDT1	4.13%	24.89		0.9998	1,501.66	0.0002	0.27	180.88
LDT2	23.72%	24.59		0.9974	8,709.95	0.0026	23.11	1,052.11
MDV	14.70%	20.00		0.9896	6,584.21	0.0104	69.46	802.47
LHD1	2.80%	15.84		0.7199	1,152.41	0.2801	448.44	200.39
LHD2	0.42%	15.05		0.4505	113.76	0.5495	138.73	32.76
MHD	0.90%	7.79		0.3129	328.91	0.6871	722.23	138.83
HHD	0.33%	6.14		0.0005	0.22	0.9995	488.32	67.11
OBUS	0.04%	6.01		0.5471	29.15	0.4529	24.13	6.83
UBUS	0.04%	7.01		0.9852	46.79	0.0148	0.70	5.73
MCY	2.23%	41.68		1.0000	485.18	0.0000	0.00	58.43
SBUS	0.06%	8.34		0.6144	37.78	0.3856	23.71	7.81
MH	0.22%	5.77		0.8268	280.21	0.1732	58.69	41.81
Total Operational Trips Energy Usage				**Gasoline Consumption (Gal.)**	**34,496.84**	**Diesel Consumption (Gal.)**	**2,019.06**	**4,431.81**

8.4 Summary of Project Energy Consumption

Table 8-6 provides a summary of the project's annual operational energy consumption.

Table 8-6 | Total Annual Energy Consumption

Activity	Energy Consumption (MMBTU/yr.)[1]
Operational Electricity	732.88
Operational Natural Gas	--
Operational Petroleum	4,431.81
Total	**5,164.69**

[1] MBTU/yr. = Million British Thermal Units per year.

8.5 Energy Impacts

This analysis has been prepared within the context of the CEQA Guidelines, Appendix F, Energy Conservation, and Appendix G, Environmental Checklist Form. According to CEQA, the goal of conserving energy implies the wise and efficient use of energy through decreasing overall per capita energy consumption, decreasing reliance on fossil fuels (such as coal, natural gas, and oil), and increasing reliance on renewable energy sources (CEQA Guidelines, Appendix F).

A significant environmental impact would result if the project would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

8.5.1 Energy Impact – A

Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The project will implement the mandatory requirements of California's Building Efficiency Standards (Title 24, Part 6) to reduce operational energy consumption. California's building standards are some of the strictest in the nation and the project's compliance with the Building Code will ensure that wasteful, inefficient or unnecessary consumption of energy is minimized. The California Building Code is designed to reduce the amount of energy needed to heat or cool a building, reduce energy usage for lighting and appliances and promote usage of energy from renewable sources.

In particular, the project is expected to comply with Section 110.10 of the building code regarding mandatory requirements for solar readiness and provide a rooftop solar zone.

Hence, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and the impact is considered less than significant.

8.5.2 Energy Impact – B

Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project is not expected to conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The project will purchase electricity through Southern California Edison which is subject to the requirements of California Senate Bill 100 (SB 100). SB 100 is the most stringent and current energy legislation in California; requiring that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.[3]

In addition, the project will include onsite solar photovoltaic energy generation in compliance with the California Title 24 Building Energy Efficiency Standards. Title 24 requires new multifamily developments to incorporate solar PV systems sized to serve onsite electricity demand, thereby directly supporting state renewable energy and energy efficiency policies.

The project will also comply with the mandatory requirements of California's Green Building and Building Energy Efficiency standards that promote renewable energy and energy efficiency.

Hence, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact is considered less than significant.

[3] SB-100 California Renewables Portfolio Standard Program.
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

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CalEEMod Emissions Outputs

Toll Brothers Laguna Hills Townhomes Custom Report

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4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

8.1. Justifications

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Toll Brothers Laguna Hills Townhomes
Construction Start Date	2/1/2026
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	6.0
Location	23161 Mill Creek Dr, Laguna Hills, CA 92653, USA
County	Orange
City	Laguna Hills
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5929
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.35

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	36	Dwelling Unit	1.5	72,432	30,000	0.00	107	—

Parking Lot	0.92	Acre	0.92	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	47	47	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.3	1.3	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.24	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.1	0.97	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
2027	47	47	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,635	2,635	0.10	0.05	0.03	2,652
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.32	0.23	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792
2027	1.3	1.3	0.22	0.78	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	138	138	0.01	< 0.005	0.03	138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.04	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462
2027	0.24	0.24	0.04	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23	23	< 0.005	< 0.005	< 0.005	23

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.1	0.97	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
2027	47	47	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,635	2,635	0.10	0.05	0.03	2,652
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.32	0.23	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792

2027	1.3	1.3	0.22	0.78	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	138	138	0.01	< 0.005	0.03	138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.04	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462
2027	0.24	0.24	0.04	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23	23	< 0.005	< 0.005	< 0.005	23

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.0	2.8	0.89	11	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,954	2,971	1.8	0.08	8.1	3,050
Mit.	2.9	2.8	0.67	11	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,680	2,697	1.8	0.08	8.1	2,775
% Reduced	1%	< 0.5%	25%	1%	6%	57%	—	1%	59%	—	3%	—	9%	9%	1%	—	—	9%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.8	2.7	0.93	8.0	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,862	2,879	1.8	0.09	0.71	2,952
Mit.	2.7	2.6	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,587	2,604	1.8	0.09	0.71	2,677
% Reduced	1%	< 0.5%	24%	1%	6%	59%	—	1%	61%	—	3%	—	10%	10%	1%	—	—	9%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.7	2.6	0.84	8.3	0.02	0.03	1.7	1.8	0.03	0.44	0.47	17	2,376	2,392	1.8	0.07	3.3	2,464
Mit.	2.7	2.6	0.62	8.2	0.02	0.01	1.7	1.8	0.01	0.44	0.45	17	2,101	2,118	1.8	0.07	3.3	2,188
% Reduced	1%	< 0.5%	26%	1%	7%	62%	—	1%	64%	—	4%	—	12%	11%	1%	—	—	11%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.50	0.48	0.15	1.5	< 0.005	0.01	0.32	0.32	0.01	0.08	0.09	2.8	393	396	0.30	0.01	0.54	408

Mit.	0.49	0.48	0.11	1.5	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	2.8	348	351	0.30	0.01	0.54	362
% Reduced	1%	< 0.5%	26%	1%	7%	62%	—	1%	64%	—	4%	—	12%	11%	1%	1%	—	11%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Area	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	3.0	2.8	0.89	11	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,954	2,971	1.8	0.08	8.1	3,050
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Area	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.8	2.7	0.93	8.0	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,862	2,879	1.8	0.09	0.71	2,952
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.88	0.81	0.61	6.8	0.02	0.01	1.7	1.8	0.01	0.44	0.45	—	1,771	1,771	0.08	0.07	2.8	1,796

Area	1.8	1.8	0.01	1.4	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18	18	< 0.005	< 0.005	—	18
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.84	8.3	0.02	0.03	1.7	1.8	0.03	0.44	0.47	17	2,376	2,392	1.8	0.07	3.3	2,464
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Area	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0
Energy	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94	94	0.01	< 0.005	—	95
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Waste	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.50	0.48	0.15	1.5	< 0.005	0.01	0.32	0.32	0.01	0.08	0.09	2.8	393	396	0.30	0.01	0.54	408

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Area	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.9	2.8	0.67	11	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,680	2,697	1.8	0.08	8.1	2,775

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Area	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,587	2,604	1.8	0.09	0.71	2,677
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.88	0.81	0.61	6.8	0.02	0.01	1.7	1.8	0.01	0.44	0.45	—	1,771	1,771	0.08	0.07	2.8	1,796
Area	1.8	1.8	0.01	1.4	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18	18	< 0.005	< 0.005	—	18
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.62	8.2	0.02	0.01	1.7	1.8	0.01	0.44	0.45	17	2,101	2,118	1.8	0.07	3.3	2,188
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Area	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	49	49	< 0.005	< 0.005	—	49
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Waste	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.49	0.48	0.11	1.5	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	2.8	348	351	0.30	0.01	0.54	362

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.39	2.6	15	0.02	0.08	—	0.08	0.08	—	0.08	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	2.8	2.8	—	0.43	0.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.80	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Demolition	—	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23	23	< 0.005	< 0.005	—	23
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.57	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.01	157
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.34	0.05	4.3	1.9	0.02	0.04	0.92	0.97	0.04	0.26	0.30	—	3,489	3,489	0.26	0.55	0.18	3,661
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.6	8.6	< 0.005	< 0.005	0.01	8.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.24	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	191	191	0.01	0.03	0.17	201
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.4	1.4	< 0.005	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32	32	< 0.005	0.01	0.03	33

3.2. Demolition (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.42	0.39	2.6	15	0.02	0.08	—	0.08	0.08	—	0.08	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	2.8	2.8	—	0.43	0.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.80	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Demolition	—	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23	23	< 0.005	< 0.005	—	23
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.57	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.01	157
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.34	0.05	4.3	1.9	0.02	0.04	0.92	0.97	0.04	0.26	0.30	—	3,489	3,489	0.26	0.55	0.18	3,661

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.6	8.6	< 0.005	< 0.005	0.01	8.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.24	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	191	191	0.01	0.03	0.17	201
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.4	1.4	< 0.005	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32	32	< 0.005	0.01	0.03	33

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	1.3	15	0.03	0.05	—	0.05	0.05	—	0.05	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22	22	< 0.005	< 0.005	—	22
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93	93	< 0.005	< 0.005	0.01	94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	1.3	15	0.03	0.05	—	0.05	0.05	—	0.05	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22	22	< 0.005	< 0.005	—	22
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93	93	< 0.005	< 0.005	0.01	94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.2	14	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.9	2.9	—	1.4	1.4	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40	40	< 0.005	< 0.005	—	40
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.7	6.7	< 0.005	< 0.005	—	6.7
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	124	124	< 0.005	< 0.005	0.01	125
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.8	0.71	62	27	0.34	0.64	13	14	0.64	3.7	4.3	—	49,985	49,985	3.8	7.9	2.6	52,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.1	2.1	< 0.005	< 0.005	< 0.005	2.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.01	1.0	0.44	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	822	822	0.06	0.13	0.72	863
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.19	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.12	143

3.6. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.2	14	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.9	2.9	—	1.4	1.4	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40	40	< 0.005	< 0.005	—	40
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.7	6.7	< 0.005	< 0.005	—	6.7

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	124	124	< 0.005	< 0.005	0.01	125
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.8	0.71	62	27	0.34	0.64	13	14	0.64	3.7	4.3	—	49,985	49,985	3.8	7.9	2.6	52,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.1	2.1	< 0.005	< 0.005	< 0.005	2.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.01	1.0	0.44	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	822	822	0.06	0.13	0.72	863
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.19	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.12	143

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	2.1	7.3	0.01	0.02	—	0.02	0.02	—	0.02	—	1,253	1,253	0.05	0.01	—	1,258
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.3	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	208	208	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.08	1.4	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	338	338	< 0.005	0.01	1.2	342
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.31	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	1.2	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	321	321	< 0.005	0.01	0.03	325
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.01	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.70	0.00	0.00	0.19	0.19	0.00	0.05	0.05	—	185	185	< 0.005	0.01	0.29	188
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69	69	< 0.005	0.01	0.08	72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	31	31	< 0.005	< 0.005	0.05	31
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.01	12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	2.1	7.3	0.01	0.02	—	0.02	0.02	—	0.02	—	1,253	1,253	0.05	0.01	—	1,258
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.3	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	208	208	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.4	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	338	338	< 0.005	0.01	1.2	342
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.31	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.09	1.2	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	321	321	< 0.005	0.01	0.03	325
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.01	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.70	0.00	0.00	0.19	0.19	0.00	0.05	0.05	—	185	185	< 0.005	0.01	0.29	188
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69	69	< 0.005	0.01	0.08	72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	31	31	< 0.005	< 0.005	0.05	31
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.01	12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.01	0.01	0.13	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78	78	< 0.005	< 0.005	—	78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.08	1.1	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	< 0.005	0.01	0.03	320
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	119	119	0.01	0.02	0.01	124
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.02	11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.2	4.2	< 0.005	< 0.005	< 0.005	4.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.9	1.9	< 0.005	< 0.005	< 0.005	1.9
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78	78	< 0.005	< 0.005	—	78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.08	1.1	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	< 0.005	0.01	0.03	320
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	119	119	0.01	0.02	0.01	124
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.02	11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.2	4.2	< 0.005	< 0.005	< 0.005	4.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.9	1.9	< 0.005	< 0.005	< 0.005	1.9
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	2.2	8.6	0.01	0.04	—	0.04	0.04	—	0.04	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34	34	< 0.005	< 0.005	—	34
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.6	5.6	< 0.005	< 0.005	—	5.7
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.64	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	183	183	< 0.005	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.1	5.1	< 0.005	< 0.005	0.01	5.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	2.2	8.6	0.01	0.04	—	0.04	0.04	—	0.04	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34	34	< 0.005	< 0.005	—	34
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.6	5.6	< 0.005	< 0.005	—	5.7
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.64	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	183	183	< 0.005	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.1	5.1	< 0.005	< 0.005	0.01	5.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	46	46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Architectural Coatings	1.3	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63	63	< 0.005	< 0.005	0.01	64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.8	1.8	< 0.005	< 0.005	< 0.005	1.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.14	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	46	46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Architectural Coatings	1.3	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63	63	< 0.005	< 0.005	0.01	64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.8	1.8	< 0.005	< 0.005	< 0.005	1.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	241	241	0.01	< 0.005	—	242
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	241	241	0.01	< 0.005	—	242

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	40	40	< 0.005	< 0.005	—	40
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.5	8.5	< 0.005	< 0.005	—	8.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	48	48	< 0.005	< 0.005	—	49

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	244	244	0.02	< 0.005	—	245
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	295	295	0.02	< 0.005	—	296
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	244	244	0.02	< 0.005	—	245
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	295	295	0.02	< 0.005	—	296
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	40	40	< 0.005	< 0.005	—	41
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.5	8.5	< 0.005	< 0.005	—	8.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	49	49	< 0.005	< 0.005	—	49

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46	46	< 0.005	< 0.005	—	46
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46	46	< 0.005	< 0.005	—	46

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.18	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.5	5.5	< 0.005	< 0.005	—	5.5
Total	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	2.4	2.4	< 0.005	< 0.005	—	2.4

Consumer Product	0.28	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.62	0.62	< 0.005	< 0.005	—	0.62
Total	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.18	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.5	5.5	< 0.005	< 0.005	—	5.5
Total	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	2.4	2.4	< 0.005	< 0.005	—	2.4
Consumer Products	0.28	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.62	0.62	< 0.005	< 0.005	—	0.62
Total	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhou	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	2/1/2026	3/1/2026	5.0	20	—
Site Preparation	Site Preparation	3/2/2026	3/6/2026	5.0	3.0	—
Grading	Grading	3/7/2026	3/15/2026	5.0	6.0	—
Building Construction	Building Construction	3/16/2026	1/18/2027	5.0	220	—
Paving	Paving	1/19/2027	2/2/2027	5.0	10.0	—
Architectural Coating	Architectural Coating	2/3/2027	2/17/2027	5.0	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.0	8.0	84	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.0	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.0	7.0	82	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.0	8.0	84	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.0	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.0	7.0	82	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	51	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	729	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	26	19	LDA,LDT1,LDT2
Building Construction	Vendor	3.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	5.2	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	51	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	729	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	26	19	LDA,LDT1,LDT2
Building Construction	Vendor	3.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	5.2	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	146,675	48,892	0.00	0.00	2,405

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,072	0.00
Site Preparation	0.00	0.00	4.5	0.00	0.00
Grading	0.00	35,000	6.0	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.92

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt

Paving	Condo/Townhouse	—	0%
Paving	Parking Lot	0.92	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	259	315	258	97,480	2,408	2,930	2,398	905,531
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	259	315	258	97,480	2,408	2,930	2,398	905,531
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Condo/Townhouse	Wood Fireplaces	0	0
Condo/Townhouse	Gas Fireplaces	0	0

Condo/Townhouse	Propane Fireplaces	0	0
Condo/Townhouse	Electric Fireplaces	36	36
Condo/Townhouse	No Fireplaces	0	0
Condo/Townhouse	Conventional Wood Stoves	0	0
Condo/Townhouse	Catalytic Wood Stoves	0	0
Condo/Townhouse	Non-Catalytic Wood Stoves	0	0
Condo/Townhouse	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

—	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
undefined	146,675	48,892	0.00	0.00	2,405

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	165,318	532	0.0330	0.0040	865,093
Parking Lot	35,106	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	167,260	532	0.0330	0.0040	0.00
Parking Lot	35,106	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,350,923	475,214
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,350,923	475,214

Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	27	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	27	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Project consists of 36 townhome dwelling units, approximately 40,000 SF of paved surfaces, and approximately 30,000 SF of landscaped area on a site totaling approximately 2.43 acres.
Construction: Off-Road Equipment	Diesel construction equipment will be equipped with Tier 4 low emission “clean diesel” engines (OEM or retrofit) that include diesel oxidation catalysts and diesel particulate filters that meet the latest CARB best available control technology, to the extent feasible.
Operations: Vehicle Data	Trip generation rates are adjusted based on the ITE Trip Generation Manual, 11th Edition.
Operations: Fleet Mix	Fleet mix is adjusted to reflect a total of 2% heavy trucks (GVWR > 10,000 lbs.).
Operations: Hearths	Per SCAQMD Rule 445, no woodburning devices shall be allowed. No gas hookups are proposed for the site.

Appendix B
EMFAC2021 Vehicle Fuel Consumption Data

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	Total VMT	Fuel Consu	Fuel Split	MPG,	MPG,
South Coas	2025	HHDT	Aggregate	Aggregate	Gasoline	56.72119	4109.856	1.00199	0.000452	4.101694	6.138742
South Coas	2025	HHDT	Aggregate	Aggregate	Diesel	104913.1	13605802	2216.05	0.999548	6.139663	
South Coas	2025	LDA	Aggregate	Aggregate	Gasoline	5388809	2.15E+08	7191.774	0.998605	29.92833	29.94472
South Coas	2025	LDA	Aggregate	Aggregate	Diesel	13906.68	418696.8	10.0457	0.001395	41.6792	
South Coas	2025	LDT1	Aggregate	Aggregate	Gasoline	497455.9	17999149	723.2745	0.999817	24.88564	24.88537
South Coas	2025	LDT1	Aggregate	Aggregate	Diesel	167.6467	3101.137	0.132443	0.000183	23.41482	
South Coas	2025	LDT2	Aggregate	Aggregate	Gasoline	2603678	1.07E+08	4374.284	0.997354	24.5731	24.59427
South Coas	2025	LDT2	Aggregate	Aggregate	Diesel	8796.37	378041	11.60574	0.002646	32.57362	
South Coas	2025	LHDT1	Aggregate	Aggregate	Gasoline	205266.9	8110009	580.7083	0.719875	13.96572	15.83978
South Coas	2025	LHDT1	Aggregate	Aggregate	Diesel	111060.2	4667620	225.9715	0.280125	20.65579	
South Coas	2025	LHDT2	Aggregate	Aggregate	Gasoline	31970.23	1183187	97.13095	0.450539	12.18135	15.05322
South Coas	2025	LHDT2	Aggregate	Aggregate	Diesel	49620.94	2062111	118.4572	0.549461	17.40806	
South Coas	2025	MCY	Aggregate	Aggregate	Gasoline	252661.4	1614784	38.74127	1	41.68124	41.68124
South Coas	2025	MDV	Aggregate	Aggregate	Gasoline	1634952	63253755	3169.302	0.989561	19.95826	20.00212
South Coas	2025	MDV	Aggregate	Aggregate	Diesel	20570.99	807748.5	33.43349	0.010439	24.15986	
South Coas	2025	MH	Aggregate	Aggregate	Gasoline	29165.48	280201.3	57.65573	0.82681	4.859904	5.768027
South Coas	2025	MH	Aggregate	Aggregate	Diesel	12429.91	122019.2	12.07704	0.17319	10.1034	
South Coas	2025	MHDT	Aggregate	Aggregate	Gasoline	24929.99	1334681	255.9905	0.312907	5.21379	7.791513
South Coas	2025	MHDT	Aggregate	Aggregate	Diesel	119577.2	5039597	562.1147	0.687093	8.965424	
South Coas	2025	OBUS	Aggregate	Aggregate	Gasoline	5258.137	208336.2	40.66862	0.54713	5.122775	6.007104
South Coas	2025	OBUS	Aggregate	Aggregate	Diesel	3132.978	238176.9	33.66222	0.45287	7.075494	
South Coas	2025	SBUS	Aggregate	Aggregate	Gasoline	2910.898	130742.1	14.58637	0.614391	8.963306	8.344243
South Coas	2025	SBUS	Aggregate	Aggregate	Diesel	3330.728	67359.96	9.154797	0.385609	7.357888	
South Coas	2025	UBUS	Aggregate	Aggregate	Gasoline	892.0637	96751.77	13.80115	0.985191	7.010415	7.00775
South Coas	2025	UBUS	Aggregate	Aggregate	Diesel	11.1976	1417.051	0.20746	0.014809	6.830476	

Toll Brothers Laguna Hills Townhome Project
Construction Health Risk Assessment

City of Laguna Hills, California
January 28, 2026

rkengineer.com

RK ENGINEERING GROUP INC.

Toll Brothers Laguna Hills Townhome Project Construction Health Risk Assessment

City of Laguna Hills, California

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this Health Risk Assessment (HRA) is to evaluate the potential health risks generated from the construction of the Toll Brothers Laguna Hills Townhome Project (hereinafter referred to as "project").

This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the State of California Office of Environmental Health Hazard Assessment (OEHHA), California Air Resources Board (CARB), and the Southern California Air Quality Management District (SCAQMD) recommendations for quantification of emissions and evaluation of potential impacts.

1.2 Site Location & Project Description

The proposed project site will be constructed on the 2.43-acre parcel at 23161 Mill Creek Drive (APN 588-142-07) in the City of Laguna Hills, Orange County, California (Project Site). The project site is located on the west side of Mill Creek Drive, approximately 0.27 miles south of the Lake Forest Drive, Mill Creek Drive, and Scientific Intersection. The project site is currently developed with a two-story office building, surface parking lot, and associated landscaping and pavement. **Exhibit A** shows the location map of the proposed project.

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family-attached condominium residential units, parking, roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income.

Construction activities are expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating. During construction, the project would demolish approximately 34,200 square feet of building area, 29,461 square feet of asphalt, and 5,000 square feet of hardscape. The project would require the import/export of up to approximately 35,000 cubic yards of earthwork material for grading purposes. All mobile off-road diesel construction equipment including generators will be equipped with Tier 4 low emission "clean diesel" engines.

Exhibit B shows the proposed site plan used for this analysis.

1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases.

For CEQA purposes, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours or longer, such as residences, hospitals, and schools (etc.), as described in the Localized Significance Threshold Methodology (SCAQMD 2008a, page 3-2). The sensitive receptors near the project site are listed below.

A project site location map, including sensitive receptor locations, is provided in **Exhibit A**.

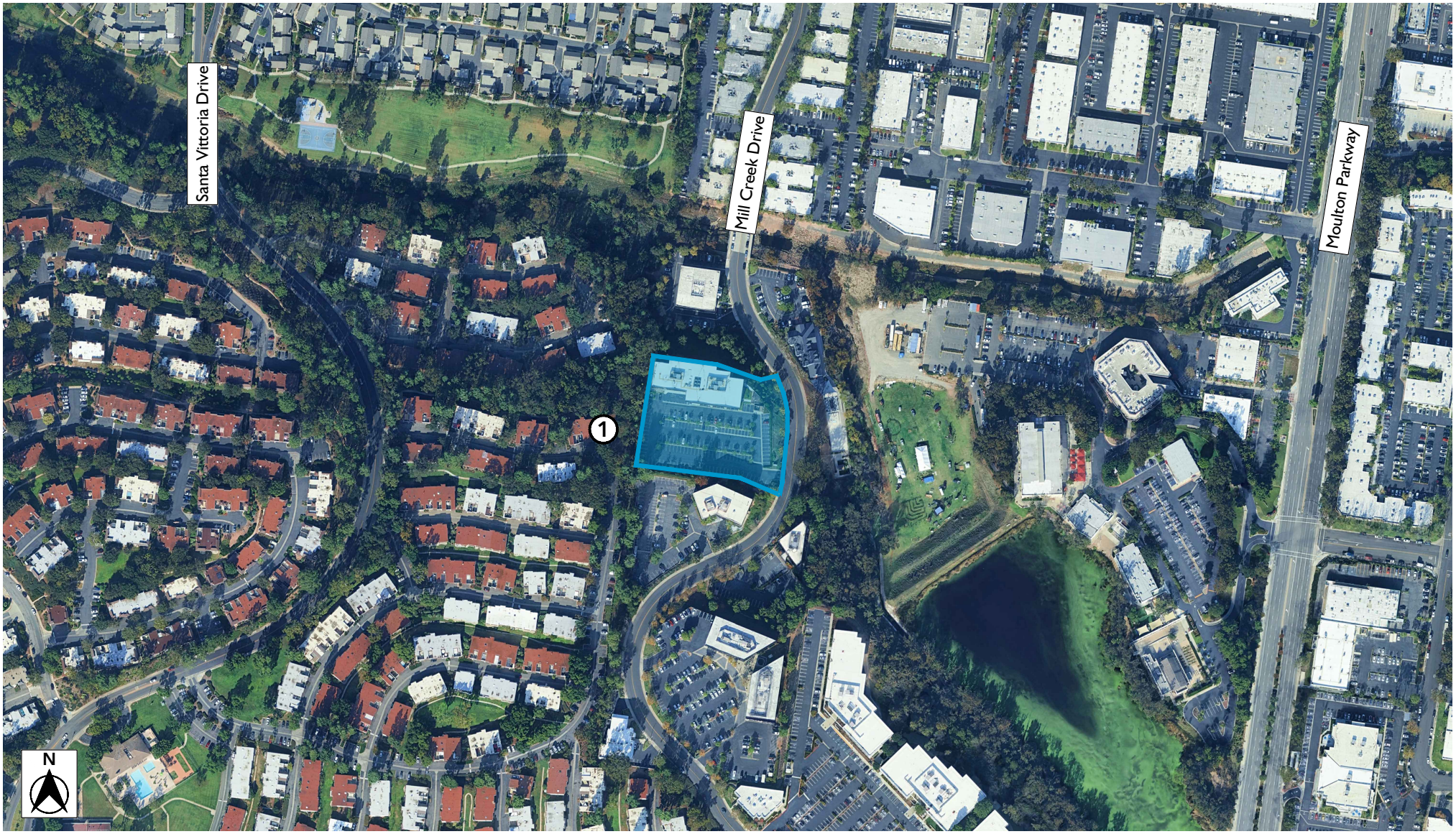
Receptor-1 Existing residential land uses located to the west of the proposed project site. The nearest residential home located at Receptor-1 (marked as circle "1" on **Exhibit A**) is located approximately 80 feet (~24 meters) west of the project site's western boundary.

1.4 Summary of Analysis Results

The analysis results indicate that the maximum estimated unmitigated construction-related cancer risk is approximately 2.6625 in one million, which is well below the SCAQMD significance threshold of 10. Therefore, **construction-related cancer risk impacts would be less than significant.**

The maximum estimated unmitigated non-cancer chronic hazard index at this location is approximately 0.0039, which is well below the SCAQMD significance threshold of 1.0. Therefore, **construction-related non-cancer health risk impacts would be less than significant**.

Finally, the unmitigated construction-related cancer burden at this location is approximately 0.0014, which does not exceed the SCAQMD significance threshold of 0.5. Therefore, **unmitigated construction-related cancer burden impacts would be less than significant**.



Legend

1 = Sensitive Receptor Location

= Project Site Boundary

Exhibit A

Location Map

N

Exhibit B

Site Plan

2.0 Regulatory Setting

The following section provides background information on toxic air contaminants (TACs) and the applicable federal, state, and local regulations for controlling them.

2.1 Description of Toxic Air Contaminants (TACs)

The following section describes the toxic air contaminants (TACs) of concern related to the project. The California Health and Safety Code (California State Assembly, 1983) defines a TAC as an air pollutant that can cause or contribute to increased mortality or serious illness or pose a present or potential hazard to human health. Under federal law, any substance listed as a hazardous air pollutant under Section 112(b) of the Clean Air Act (42 U.S.C. Section 7412[b]) is also considered a TAC. In California, the California Environmental Protection Agency (Cal/EPA), through the California Air Resources Board (CARB), may identify a substance as a TAC if it determines that the substance may cause or contribute to serious health effects.

To date, CARB has identified over 200 compounds as TACs, several of which are subject to control measures due to their elevated health risks and potential for effective regulation. Unlike criteria air pollutants, which have established ambient air quality standards and defined threshold levels, there is no safe level of exposure for many carcinogenic TACs. Even low concentrations may pose health risks, particularly for long-term exposures.

The majority of estimated health risk from TACs is attributed to a small number of compounds, with diesel particulate matter (DPM) representing the most significant contributor statewide. DPM consists of fine carbon particles coated with toxic organic compounds, and its small size allows it to penetrate deep into the lungs. In 1998, CARB identified DPM as a TAC based on evidence linking diesel exhaust exposure to lung cancer and other adverse health outcomes. In 2012, the World Health Organization's International Agency for Research on Cancer (IARC) classified diesel engine exhaust as "carcinogenic to humans," reinforcing CARB's earlier determination.

In addition to DPM, other TACs that contribute to overall health risk in California include benzene, 1,3-butadiene, and formaldehyde. These pollutants, while typically present at low ambient concentrations, are associated with increased cancer risk. CARB and the South Coast Air Quality Management District (SCAQMD) maintain air monitoring networks throughout the South Coast Air Basin (SCAB) to assess ambient TAC concentrations and evaluate potential health risks. DPM is not directly measured in ambient air but is estimated using fine particulate matter data and source apportionment studies. According to CARB, diesel engine emissions are estimated to account for approximately 70 percent of the known statewide cancer risk attributable to TAC exposure.

2.2 Federal Regulation of TACs

At the federal level, toxic air contaminants—referred to as hazardous air pollutants (HAPs)—are regulated under the Clean Air Act (CAA), primarily through Section 112. The U.S. Environmental

Protection Agency (EPA) has identified 188 HAPs known or suspected to cause cancer or other serious health effects. To control emissions of these pollutants, the EPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs), which apply to specific industrial source categories. These standards mandate the implementation of Maximum Achievable Control Technology (MACT) to reduce emissions effectively.

The EPA regularly reviews and updates NESHAPs to incorporate advancements in emission control technologies and to address residual risks. Compliance with these federal regulations is enforced through permitting processes and regular inspections, ensuring that facilities adhere to established emission limits and implement necessary control technologies.

2.3 State Regulation of TACs

The State of California's regulatory authority is distributed across several agencies and legislative programs that support health risk evaluations and emissions control, as discussed in the following sections.

2.3.1 State Agencies and Guidance Documents

2.3.1.1 California Air Resources Board (CARB)

The California Air Resources Board (CARB) is a department within the California Environmental Protection Agency that oversees State of California air quality programs. CARB's responsibilities include setting the State's air quality standards, identifying pollutants that pose the greatest health risks, measuring pollution reduction progress, researching causes, effects, and potential solutions of air pollution problems, and determining the costs and benefits of pollution controls.

CARB is also responsible for identifying TACs under the Toxic Air Contaminant Identification and Control Act (AB 1807, 1983) and establishing Airborne Toxic Control Measures (ATCMs) to reduce emissions.

CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook, 2005) and the *Technical Advisory: Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (2017) to serve as reference guides for assessing and mitigating potential air pollution impacts from new projects in the land use decision making process. Per the CARB Handbook, both respiratory and other non-cancer health effects have been linked to high-traffic roadways. Furthermore, research indicates that diesel exhaust and other carcinogenic chemicals from vehicles significantly contribute to the overall cancer risk from airborne toxins in California. The CARB Handbook advises planning agencies to consider how the layout of new developments can minimize population exposure and risk. For instance, avoiding the placement of new sensitive land uses within 500 feet of freeways, urban roads with 100,000 or more vehicles per day, or rural roads with 50,000 or more vehicles per day can help reduce exposure and risk.

2.3.1.2 Office of Environmental Health Hazard Assessment (OEHHA)

OEHHA is the lead agency for developing health-based guidance values used in risk assessments, including Reference Exposure Levels (RELs) for non-cancer effects and Cancer Potency Factors (CPFs) for carcinogens. These values are central to evaluating TAC risks in both regulatory and CEQA contexts.

In partnership with CARB, OEHHA developed the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (2015). This manual aids in implementing the Air Toxics Hot Spots Program (Health and Safety Code Section 44360). It details health effect values, exposure pathways (such as breathing rates), and a tiered approach for conducting HRAs based on the latest scientific and policy insights. The manual's goals include addressing children's health concerns, updating risk assessment practices, and standardizing risk assessment procedures.

2.3.1.3 California Air Pollution Control Officers Association (CAPCOA)

In 2009, CAPCOA released guidelines on evaluating health risks associated with proposed land use projects. These guidelines focus on the acute, chronic, and cancer impacts of sources regulated by the California Environmental Quality Act (CEQA). They provide recommendations on when a project should undergo further risk evaluation, how to perform Health Risk Assessments (HRAs), how to involve the public, what to do with the HRA results, and what mitigation measures might be suitable for different land use projects.

2.3.2 Legislative Framework for TAC and Risk Programs

2.3.2.1 Toxic Air Contaminant Identification and Control Act (AB 1807)

California's Air Toxics Program, established under the Toxic Air Contaminant Identification and Control Act (AB 1807), aims to reduce public exposure to harmful airborne substances through a two-step process: risk identification and risk management. In the first step, CARB and OEHHA assess the health risks and exposure potential of candidate substances to determine if they should be classified as Toxic Air Contaminants (TACs), with public input and scientific review playing key roles. If a substance is designated as a TAC, CARB then collaborates with local air districts, industry, and the public to develop appropriate control measures based on emissions data, exposure levels, health risks, and control technology feasibility. As of now, CARB has identified around 200 TACs and implemented 26 control measures targeting both mobile and stationary sources.

2.3.2.2 Air Toxics Hot Spots Act (AB 2588)

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588), enacted in 1987, mandates that stationary sources report the types and quantities of specific air pollutants they routinely emit. Its primary objectives are to gather emissions data, identify facilities with localized air quality impacts, assess associated health risks, notify nearby residents of significant risks, and ensure those risks are mitigated to acceptable levels.

2.3.2.3 Community Air Protection Program (AB 617)

AB 617 (2017) mandates annual emissions reporting for certain stationary sources and directs CARB to develop community-scale air monitoring in high priority locations. In response to AB 617, CARB established the Community Air Protection Program. The focus of the Program is to reduce exposure to communities most impacted by air pollution. The program focuses on both criteria air pollutants and TACs, with real-time data made available to the public.

2.4 Regional Regulation of TACs

2.4.1 South Coast Air Quality Management District (SCAQMD)

The South Coast Air Quality Management District (SCAQMD) is the regional agency responsible for regulating air quality in the South Coast Air Basin, encompassing Orange County and the non-desert regions of Los Angeles, Riverside, and San Bernardino counties. SCAQMD develops and enforces rules to reduce emissions from stationary sources, administers permitting programs, and implements air quality management plans to achieve compliance with federal and state air quality standards.

2.4.1.1 SCAQMD Health Risk Assessment (HRA) Procedures

The SCAQMD published the most recent version of their *South Coast Air Quality Management District Risk Assessment Procedures for Rules 1401, 1401.1, and 212* (SCAQMD Guidelines) in October 2024. These guidelines describe the Risk Assessment Procedures, pursuant to Rule 1401(e)(1), for preparing HRAs. The SCAQMD Guidelines are intended to be a "living" document and contain required assumptions, incorporating OEHHA guidance, for risk assessment calculations.

2.4.1.2 Relevant SCAQMD Rules and Regulations

The SCAQMD Rules applicable to TAC emissions include, but are not limited to, the following:

- **Rule 1401 – New Source Review of Toxic Air Contaminants.** Rule 1401 sets risk-based thresholds for new, relocated, or modified equipment that emits TACs. It aims to limit maximum individual cancer risk (MICR), cancer burden, and noncancer hazard indices (acute and chronic) from these sources. The rule applies to permit applications submitted on or after June 1, 1990, including previously unpermitted equipment if the permit to operate was filed after that date. It also covers certain equipment exempt from written permits under Rule 219 if associated health risks exceed specified levels.

- **Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools.** Rule 1401.1 provides enhanced health protections for children by regulating toxic air emissions from new or relocated facilities near schools or schools under construction. It does not apply to existing facilities. Permit applications for such facilities are evaluated based on this rule, the toxic air contaminant list in Rule 1401, and current risk assessment procedures at the time the application is deemed complete.

- **Rule 1402 – Control of Toxic Air Contaminants from Existing Sources.** Rule 1402 aims to reduce health risks from toxic air emissions at existing facilities by establishing limits for maximum individual cancer risk (MICR), cancer burden, and noncancer hazard indices (acute and chronic). Facilities exceeding specified risk levels must prepare Risk Reduction Plans to comply with health thresholds. The rule requires submission of Air Toxics Inventory Reports, Health Risk Assessments, and public notifications, and applies to facilities identified under the Hot Spots Act or those with emissions potentially exceeding the Notification Risk Level.

- **Rule 212 – Standards for Approving Permits and Issuing Public Notice.** Rule 212 outlines the criteria under which the Executive Officer may approve or deny permits for equipment that emits or controls air contaminants. Permits are denied if equipment is not expected to comply with air quality rules or is not constructed as approved. Public notification is required at least 30 days in advance for certain new or modified projects, especially those near schools (within 1,000 feet), or those with emission increases exceeding specified thresholds or toxic risk levels. The rule also details procedures for public notification distribution, appeal timelines, and responsibilities of applicants in informing the community. It applies retroactively to unpermitted equipment and facilities with emissions triggering risk-based thresholds.

3.0 Environmental Setting

The following section provides background information on the existing location and environmental setting in the vicinity of the proposed project site.

3.1 South Coast Air Basin (SCAB)

The proposed project site is located in the City of Laguna Hills, California, within the South Coast Air Basin (SCAB), which falls under the jurisdiction of the SCAQMD. The SCAB includes all of Orange County and parts of Los Angeles, Riverside, and San Bernardino counties. Air quality in the basin is influenced by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

3.2 Local Climate and Meteorology

Dominant airflows are the primary mechanism for the transport and dispersion of air pollution within the SCAB. The San Gabriel, San Bernardino, and San Jacinto Mountains border the northern and eastern extents of the air basin and provide a natural barrier to the dispersion of air contaminants.

The SCAQMD maintains 26 meteorological data collection stations throughout the District's jurisdiction. Meteorological data from the 5 most recent years that meet the established completeness criteria is processed by the SCAQMD for use in dispersion modeling. Other information provided includes station details, surface characteristics, and temperature ranges.

The nearest meteorological data collection station to the proposed project site is the Mission Viejo (MSVJ) station. For the purposes of this analysis, meteorological data for the MSVJ station collected in the years 2017 through 2021 are used to represent local weather conditions and prevailing winds. **Exhibit C** shows the wind rose from data measured at this station and the wind patterns for the project area.

In addition to the above-mentioned SCAQMD meteorological data stations, the Western Regional Climate Center (WRCC) maintains weather monitoring stations throughout Southern California and parts of Arizona and Nevada. The nearest WRCC weather station to the proposed project site is the Laguna Beach, CA (044647) station. Climatological data from this station is summarized in **Table 3-1**.

Table 3-1 | Meteorological Summary[1]

Month	Temperature (°F)			Mean Precipitation (inches)
	Max.	Min.	Mean	
January	65.1	43.0	54.1	2.43
February	66.1	44.1	55.1	2.77
March	67.1	45.8	56.5	2.01
April	69.0	48.4	58.7	0.98
May	70.9	53.0	62.0	0.25
June	73.1	56.1	64.6	0.10
July	76.5	59.3	67.9	0.03
August	78.1	59.6	68.9	0.07
September	77.5	58.2	67.9	0.26
October	74.5	53.7	64.1	0.47
November	70.4	47.5	59.0	1.24
December	66.1	43.4	54.8	1.92
Annual	**71.2**	**51.0**	**61.1**	**12.52**

[1] Source: Western Regional Climate Center. Averages derived from measurements recorded between 1928 and 2016 at Laguna Beach, CA (044647).

3.3 Local Background Health Risks

The project site is located within a region that has been characterized for existing ambient health risks as part of the SCAQMD's Multiple Air Toxics Exposure Study V (MATES-V). MATES-V is the latest iteration of the SCAQMD's monitoring and modeling effort conducted to assess long-term population exposure to air toxics in the SCAB. The study evaluates both cancer and non-cancer health risks based on regional ambient air quality data and dispersion modeling.

Table 3-2 below shows the regional lifetime cancer risk and non-cancer chronic hazard index reported by MATES-V for the project site area. These values are compared to the corresponding figures for the County of Orange as a whole. The values shown in **Table 3-2** reflect continuous exposure over a 70-year lifetime to existing background levels of TACs in their respective regions.

As shown in the table below, the lifetime cancer risk in the project area is approximately 325 per one million, and the non-cancer chronic hazard index is approximately 4.5. In comparison, the average lifetime cancer risk for Orange County is reported at approximately 390 per one million.

Table 3-2 | Regional Health Risk Estimates

Region/Area	Lifetime Cancer Risk (per one million)	Chronic Non-Cancer Hazard Index
Project Vicinity[1]	325	4.5
Orange County[2]	390	Not Reported

[1] Source: MATES-V Online Data Visualization Tool. MATES Data Visualization.

[2] Source: SCAQMD. Multiple Toxics Exposure Study in the South Coast AQMD Final Report, Table 4-8: County-Wide Population-Weighted Air Toxics Cancer Risk for Inhalation-Only and for Multiple-Pathway Factors (August 2021).

It should be noted that the previous MATES-IV version of the study, released in 2015, estimated a higher cancer risk of approximately 555.85 per one million for the project site vicinity. The reduction between MATES-IV and MATES-V is largely attributed to mobile source regulations, cleaner technology adoption, and fleet turnover.

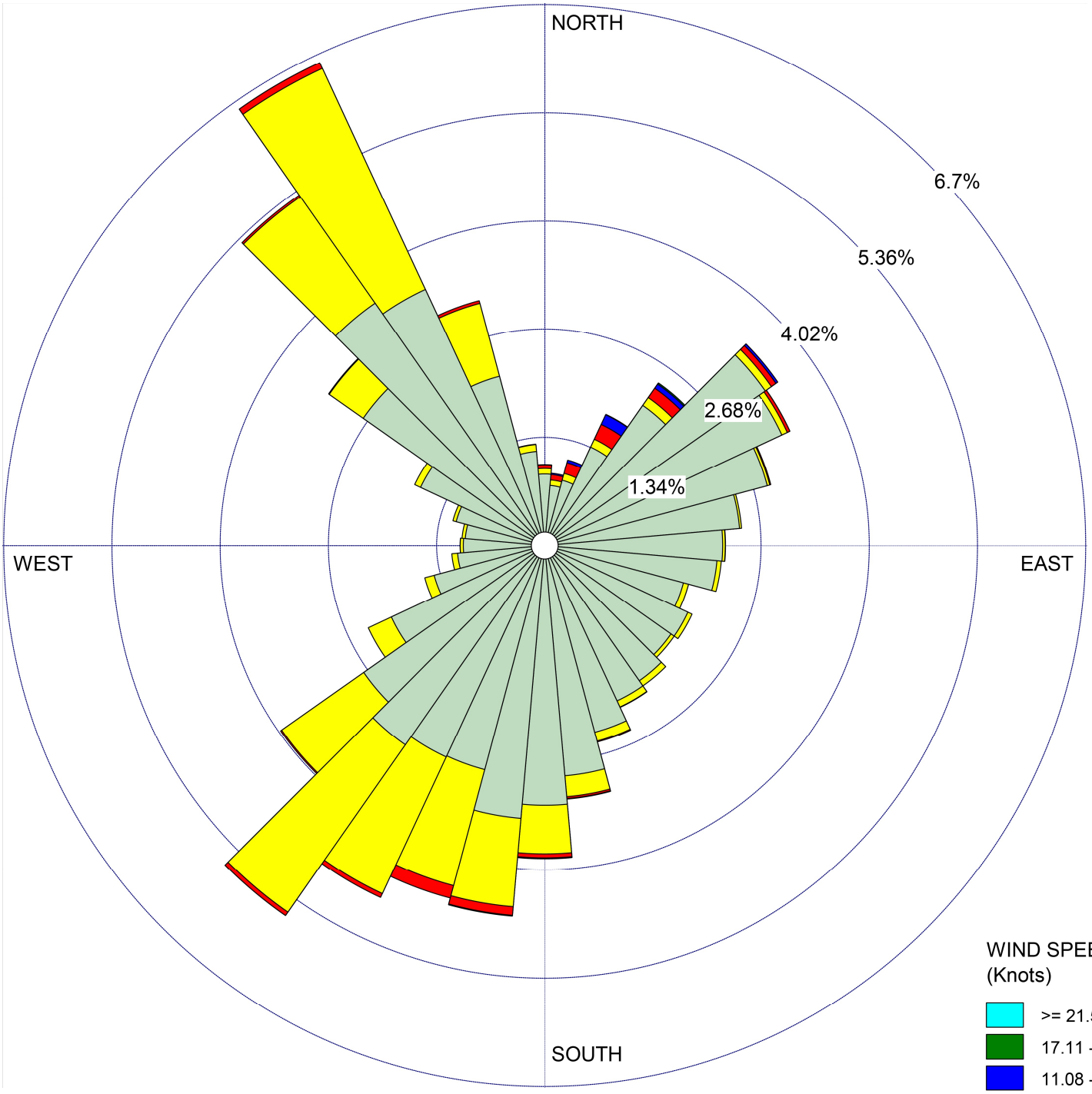


Exhibit C

Wind Rose Plot - Mission Viejo (MSVJ) Station

4.0 Modeling Parameters and Assumptions

The AERMOD Gaussian Plume Air Dispersion Model Version 13.0.0 (AERMOD) was used to calculate TAC emissions from the construction of the project. AERMOD is a regulatory air quality dispersion model developed by the American Meteorological Society and the Environmental Protection Agency (EPA). It is used to estimate the dispersion of air pollutants from stationary and mobile sources, taking into account various factors such as terrain, meteorology, and the nature of the pollutant sources. The assumptions and modeling parameters used for this analysis are described below.

For this analysis, emissions rates input into AERMOD were derived from the California Emissions Estimator Model (CalEEMod). CalEEMod is the state-approved tool for estimating criteria pollutant and TAC emissions from construction and operational activities, based on activity type, equipment fleet, and duration of use. Exhaust PM_{10} emissions reported by CalEEMod were used as a surrogate for diesel particulate matter (DPM). These modeled emission rates served as inputs to AERMOD, which then calculated dispersion and receptor-specific concentrations for the health risk assessment.

CalEEMod emissions outputs are provided in **Appendix A**.

4.1 Construction Assumptions

Construction activities are expected to consist of demolition, site preparation, grading, building construction, paving, and architectural coating. During construction, the project would demolish approximately 34,200 square feet of building area, 29,461 square feet of asphalt, and 5,000 square feet of hardscape. The project would require the import/export of up to approximately 35,000 cubic yards of earthwork material for grading purposes. All mobile off-road diesel construction equipment including generators will be equipped with Tier 4 low emission "clean diesel" engines.

Diesel particulate matter (DPM) emissions will be generated from onsite construction equipment throughout all phases of construction. In addition, offsite DPM emissions will result from haul truck trips associated with demolition and grading activities. The methodology used to estimate both onsite and offsite construction-related DPM emissions is described below.

4.1.1 Offroad Equipment Emissions Assumptions

Weighted annual average DPM emission rates were developed from CalEEMod outputs for each year of construction. The project's construction schedule and estimated DPM emissions are based on the *Toll Brothers Laguna Hills Townhome Project Air Quality, Greenhouse Gas, and Energy Impact Study, Laguna Hills, California*, Appendix A – CalEEMod Emissions Calculations Outputs. The PM_{10} exhaust emissions reported in the Air Quality Study were utilized to calculate weighted averages for each year of construction. These weighted averages were applied as surrogates for DPM emissions within the air dispersion model.

Table 4-1 summarizes the weighted average PM_{10} exhaust emission factors by construction year.

Because project construction is anticipated to occur for less than three years in total, only impacts to the most sensitive receptor groups, including third trimester and infants, were evaluated. Exposure frequency and duration were adjusted as appropriate to reflect the expected number of construction days and the overall construction schedule.

Table 4-1 | Annual Construction Emissions Factors by Phase

Exposure Period	Year of Construction	Annual Offroad DPM Emissions (tons/year)
Third Trimester	1	0.0036203
Infant	1-2	0.0029623

The emissions shown in **Table 4-1** above are represented in the model as an area source equal to the size of the project's construction area within the air dispersion model. A representative release height of 3 meters was assumed to reflect the average exhaust elevation of typical construction equipment.

The locations of modeled construction-related emissions during the Third Trimester and Infant exposure scenarios are shown in **Exhibits D** and **E**, respectively. Emission factor calculation worksheets are provided in **Appendix B**.

4.1.2 Offsite Motor Vehicle Emissions Assumptions

During construction, the project would demolish approximately 34,200 square feet of building area, 29,461 square feet of asphalt, and 5,000 square feet of hardscape. In addition, the project would require the import/export of up to approximately 35,000 cubic yards of earthwork material for grading purposes.

Offsite vehicle source emissions were calculated using the following key inputs:

- Daily Truck Trips – the number of hauling trips per day;
- Vehicle Fleet Mix – the percentage breakdown of vehicle types (i.e., trucks by axle number); and
- Emission Factors – the amount of emissions generated as a function of vehicle type, vehicle speed, and pollutant for a given time or distance.

The CalEEMod default estimates for daily hauling trips associated with demolition and grading are 51 trips per day and 729 trips per day, respectively. To be conservative, offsite motor vehicle emissions were modeled based on 729 trips per day.

Consistent with default CalEEMod vehicle fleet mix assumptions, it is assumed that all hauling trips associated with project construction will consist of heavy-heavy duty (HHDT) vehicles. **Exhibit D** shows the locations of modeled operational roadway emissions sources.

Because offsite demolition and grading hauling activities would occur only during the first month of construction, associated emissions were modeled exclusively for the third trimester (0.25 year) exposure scenario. These emissions were not included in the infant (1-2 year) exposure scenario, as construction-related hauling would not occur during subsequent phases.

4.2 Air Dispersion Model Assumptions

Health risk impacts from DPM emissions were estimated using the AERMOD dispersion model. The results of the air dispersion model are provided in **Appendix C**.

4.2.1 Model Assumptions

The general model assumptions utilized for this analysis are shown in **Table 4-2**.

Table 4-2 | Dispersion Model Assumptions

Feature	Operation
Terrain Processing	Elevated terrain
Regulatory Dispersion Options	Default assumptions used
Land Use	Urban
Coordinate System	UTM
Building Downwash	Not included in calculations[1]
Receptor Height	0 meters

[1] Building downwash effects in AERMOD are only applicable to point source emissions. Since the construction phase does not include any point sources, building downwash is not considered in this analysis.

4.2.2 Emission Source Assumptions

Each emission source requires project-specific assumptions for use in AERMOD. **Table 4-3** summarizes the assumptions used to configure the emissions sources assessed in this analysis. For the purposes of this analysis, emission sources are sorted into two categories:

- Area Source: Represents emissions distributed over a specific area rather than a single point. The emissions are characterized by parameters such as the emission rate per unit area, the dimensions of the area, and the release height. For this analysis, area sources are utilized to represent onsite construction-related emissions.

- Line Source: Represents emissions distributed along a linear path, such as a roadway or railway. The emissions are characterized by parameters such as the emission rate per unit length, the length of the line, and the release height. For this analysis, line sources are utilized to represent the study roadways and areas of onsite vehicle travel.

Table 4-3 | Dispersion Model Source Configurations

Emission Source Type	Configuration	Relevant Assumptions
Onsite Construction Activity	Area Sources	• Source height: 3 meters (~9.84 feet)
Offsite Vehicle Traffic[1]	Line Sources	• 729 daily hauling trips • Stack release height: 3.5 meters (~11.48 feet) • Vehicle speeds: 25 m.p.h. along Mill Creek Drive • Vehicle Types: HHDT • Emission Factors: CARB EMFAC2025

[1] Emissions associated with offsite vehicle traffic are modeled during the third trimester (0.25 year) exposure scenario only, as hauling activity is expected to occur only during the demolition and grading phases of construction.

4.2.3 Meteorological Data

Meteorological data recorded over hourly intervals are also utilized within AERMOD to determine the direction and rate of dispersion of emissions released into the atmosphere. The SCAQMD maintains 26 meteorological data collection stations throughout the District's jurisdiction. Meteorological data from the 5 most recent years that meet the established completeness criteria is processed by the SCAQMD for use in dispersion modeling. Other information provided includes station details, surface characteristics, and temperature ranges.

The nearest meteorological data collection station to the proposed project site is the Mission Viejo (MSVJ) station. For the purposes of this analysis, meteorological data for the MSVJ station collected in 2017 through 2021 are used to represent local weather conditions and prevailing winds.

4.2.4 Modeled Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Individuals who may be more sensitive to toxic exposures than the general population are distributed throughout the total population. Sensitive populations may include young children and chronically ill individuals.

For the purposes of this analysis, receptors were modeled at the first row of sensitive structures facing the project site within each sensitive receptor group identified in **Section 1.3** of this report. In addition, the identified sensitive receptor locations were supplemented by the specification of a modeling grid

that extended around the proposed project and study area to identify other potential locations of impact.

Exhibit F shows the locations of each receptor placed in the air dispersion model.

4.3 Risk Assessment Methodology

DPM emissions sources associated with project construction include onsite construction activity and offsite hauling trips. The calculations used to calculate cancer risk are based on the methodology published by the SCAQMD and OEHHA.

For the purposes of this analysis, potential health risks to the adjacent receptors are expressed in terms of increased cancer and non-cancer health risks as a result of exposure to DPM emissions.

4.3.1 Cancer Health Risk Assessment Methodology

The cancer risk resulting from DPM emissions is calculated by multiplying the annual average DPM concentrations calculated using the AERMOD model at each receptor location and an inhalation exposure factor, as shown in the equation below.

$$Cancer\ Risk_{\text{DPM}} = Dose_{\text{air}}\ x\ CPF\ x\ ASF\ x\ \frac{ED}{AT}$$

Where:

- $Dose_{air}$ = dose by inhalation (mg/kg/day), per age group;
- CPF = cancer potency factor, chemical specific (mg/kg/day);
- ASF = age sensitivity factor, per age group;
- ED = exposure duration (years); and
- AT = averaging time period over which exposure duration is averaged (70 years).

The dose by inhalation utilized for each age group was determined using the following equation.

$$Dose_{\text{air, per age group}} = (C_{\text{air}}\ x\ EF\ x\ BR\ x\ A\ x\ CF)$$

Where:

- C_{air} = concentration of contaminant in air (µg/m^3);
- EF = exposure frequency (number of days per 365 days);
- BR = breathing rate per age group;

- A = inhalation absorption factor (default = 1); and
- CF = conversion factor ($1x10^{-6}$, µg to mg, L to m^3).

Table 4-3 shows the assumptions and values utilized in the above equations to calculate the cancer risk resulting from DPM exposure at each onsite receptor location.

It should be noted that, consistent with OEHHA and SCAQMD guidance, health risk assessments for construction-related DPM typically evaluate potential exposures for third trimester, infant, child, and adult receptors. However, because construction of the proposed project would occur over a relatively short duration of approximately six years, a full 30-year adult exposure scenario is not applicable. Accordingly, this analysis evaluates third trimester (0.25-year), infant (0-2 years), and child (2-16 years) exposure scenarios, which together represent the most sensitive potential life stages during the construction period. Excluding the adult exposure scenario is appropriate in this case, as no long-term operational source of DPM emissions would remain after construction is complete.

Cancer risk calculation worksheets are provided in **Appendix D**.

Table 4-4 | Cancer Risk Calculation Values for DPM Exposure

Receptor Category	Age Range (years)	CPF[1] (mg/kg/day)	ASF[2]	ED[3] (Years)	EF[4] (days/year)	BR[5] (L/kg per 8 hours)
3rd Trimester	0.25	1.1	10	0.25	350	361
Infant	0-2		10	2		1,090

[1] Inhalation cancer potency factor for Diesel Particulate Matter, per the OEHHA/ARB Approved Risk Assessment Health Values. https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable01072025v2.pdf.

[2] Age sensitivity factor, per the OEHHA Air Toxics Hot Spots Program Guidance Manual, Table 8.3: Age Sensitivity Factors by Age Group for Cancer Risk Assessment.

[3] ED = Exposure Duration.

[4] EF = Exposure frequency (number of days per 365 days). Per the OEHHA Air Toxics Hot Spots Program Guidance Manual, the recommended default exposure frequency is 350 days for residential receptors.

[5] Eight-hour breathing rate, per the OEHHA Air Toxics Hot Spots Program Guidance Manual, Table 5.6: Point Estimates of Residential Daily Breathing Rates for 3rd trimester, 0<2, 2<9, 2<16< 16<30 and 16-70 years (L/kg BW-day).

4.3.2 Non-Cancer Health Risk Characterization

Exposure to TACs can also cause non-cancer illnesses to individuals' reproductive, respiratory, eye, kidney, blood, and nervous systems (etc.). Risk characterization for non-cancer health risks from TAC exposure is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of TACs to a concentration considered acceptable to public health professionals, termed the Reference Exposure Level (REL). The following equation is used to calculate the HI.

$$HI = C_{\text{air}}/REL$$

Where:

- HI = chronic hazard quotient for DPM;
- C_{air} = annual average concentration of DPM (µg/m^3); and
- REL = chronic reference exposure level for DPM (5 µg/m^3).

It should be noted that no acute hazard index was calculated for project-related DPM, as no acute reference exposure level is established for diesel particulate matter.

Non-cancer chronic hazard index calculation worksheets are provided in **Appendix D**.

Legend

= Construction Emissions Area Source

= Study Area Boundary

= Roadway Emissions Source Locations

Exhibit D

Construction Emissions Source Locations
3rd Trimester Exposure Scenario

TOLL BROTHERS LAGUNA HILLS TOWNHOME PROJECT // CITY OF LAGUNA HILLS

3075-2025-69

Legend

= Construction Emissions Area Source

= Study Area Boundary

Exhibit E

Construction Emissions Source Locations
Infant Exposure Scenario

TOLL BROTHERS LAGUNA HILLS TOWNHOME PROJECT // CITY OF LAGUNA HILLS
3075-2025-69

Legend

= Project Site Boundary

= Study Area Boundary

= Receptor Location

Exhibit F

Modeled Receptor Locations

5.0 Significance Thresholds

The SCAQMD has established thresholds for the purpose of determining whether pollutant emissions may have a significant effect on the environment per Section 15002(g) of the Guidelines for implementing CEQA. For TACs, the SCAQMD has established thresholds in terms of the maximum individual cancer risk (MICR) and the non-cancer hazard index (HI).

Table 5-1 lists the MICR and HI significance thresholds for the TACs analyzed in this report. These thresholds are applicable to the project's potential incremental contribution to health risk and do not apply to existing ambient background risk levels.

Table 5-1 | SCAQMD Health Risk Assessment Significance Thresholds[1]

Category	Risk Threshold
Maximum Incremental Cancer Risk	≥ 10 in one million
Cancer Burden	> 0.5 excess cancer cases (in areas ≥ 1 in one million)
Chronic & Acute Hazard Index	≥ 1 (project increment)

[1] Source: SCAQMD Air Quality Significance Thresholds. https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

6.0 Health Risk Assessment Results

6.1 Unmitigated Health Risk Assessment Results

Table 6-1 shows the project's construction health risk results at each of the modeled sensitive receptor locations. The cancer health risks shown in **Table 6-1** represent the total cumulative risk, which is calculated by summing across all age-specific exposure periods. The hazard indices are reported as the highest hazard index from any single exposure period at each receptor.

The cancer and non-cancer health risk calculation worksheets for the project are provided in **Appendix D**. **Exhibits G** and **H** show the emissions concentrations contour maps for the Third Trimester and Infant exposure scenarios, respectively.

As shown in **Table 6-1** below, the maximum construction cancer health risk and non-cancer hazard index are approximately 2.6625 and 0.0039, respectively.

As a result, DPM emissions associated with project construction are not expected to result in cancer or non-cancer health risks that exceed the applicable thresholds of significance established by the SCAQMD.

Table 6-1 | Unmitigated Construction Health Risk Levels

Sensitive Receptor	AERMOD Receptor ID	Cancer Risk (per one million)	Hazard Index
1	1	0.3498	0.0006
	2	0.3308	0.0012
	3	0.8681	0.0039
	4	2.3000	0.0027
	5	2.6625	0.0032
	6	1.3925	0.0017
	7	0.7525	0.0009
	8	0.5747	0.0034
	9	0.3306	0.0021
	10	0.1506	0.0008
	11	0.0972	0.0002
Maximum Risk		**2.6625**	**0.0039**
SCAQMD Threshold		10	1
Exceeds Threshold?		**No**	**No**

In addition to the above assessment of maximum incremental cancer and non-cancer risk at the adjacent receptors, SCAQMD requires an assessment of cancer burden. Cancer burden is defined as the estimated number of excess cancer cases in the exposed population over a 70-year lifetime. It is calculated by multiplying the maximum incremental cancer risk (expressed per one million) by the estimated exposed population and then dividing by one million, to convert the rate to the expected number of cases.

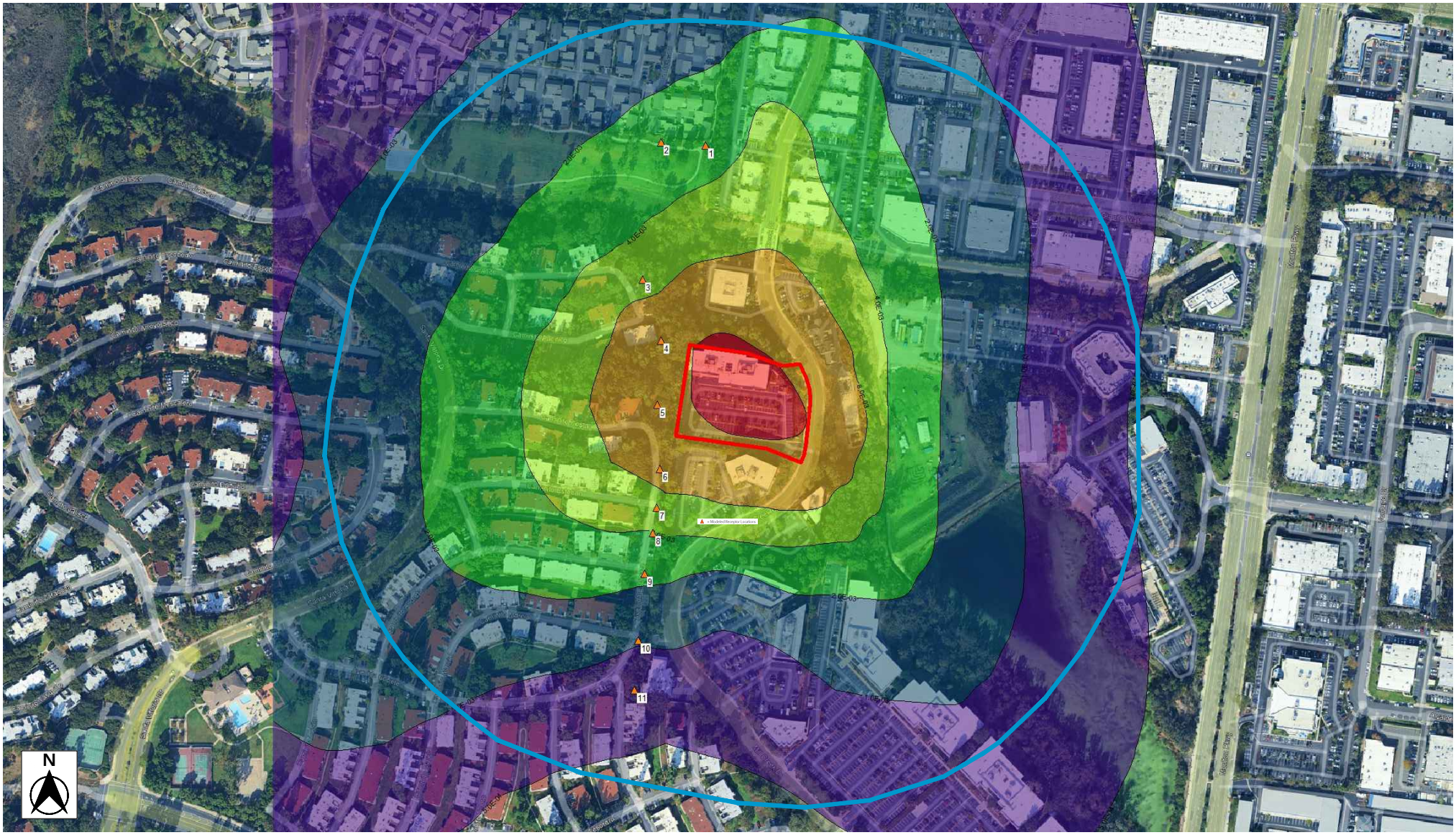
Based on aerial imagery and parcel counts, there are a maximum of approximately 175 households located within the study area. Per the City of Laguna Hills General Plan 2021-2029 Housing Element Update, the City had an average household size of 2.9 persons per household in the 2014-2018 period. Applying the average household size to the estimated 175 households in the study area, the estimated exposed population is approximately 508 residents.

Table 6-2 summarizes the cancer burden calculations for the construction of the project. As shown in the table below, the estimated total cancer burden is well below the SCAQMD significance threshold of 0.5 excess cancer cases under CEQA.

Table 6-2 | Unmitigated Estimated Cancer Burden

Maximum Incremental Cancer Risk (per one million)	Estimated Exposed Population	Estimated Cancer Burden
2.6625	508	0.0014
SCAQMD Cancer Burden Threshold		0.5
Exceeds Threshold?		**No**

Based on this analysis, the construction of the proposed project is not expected to result in a cancer health risk, non-cancer hazard index, or cancer burden which exceeds the applicable SCAQMD thresholds. **As a result, the project impact from construction-related DPM emissions would be less than significant.**



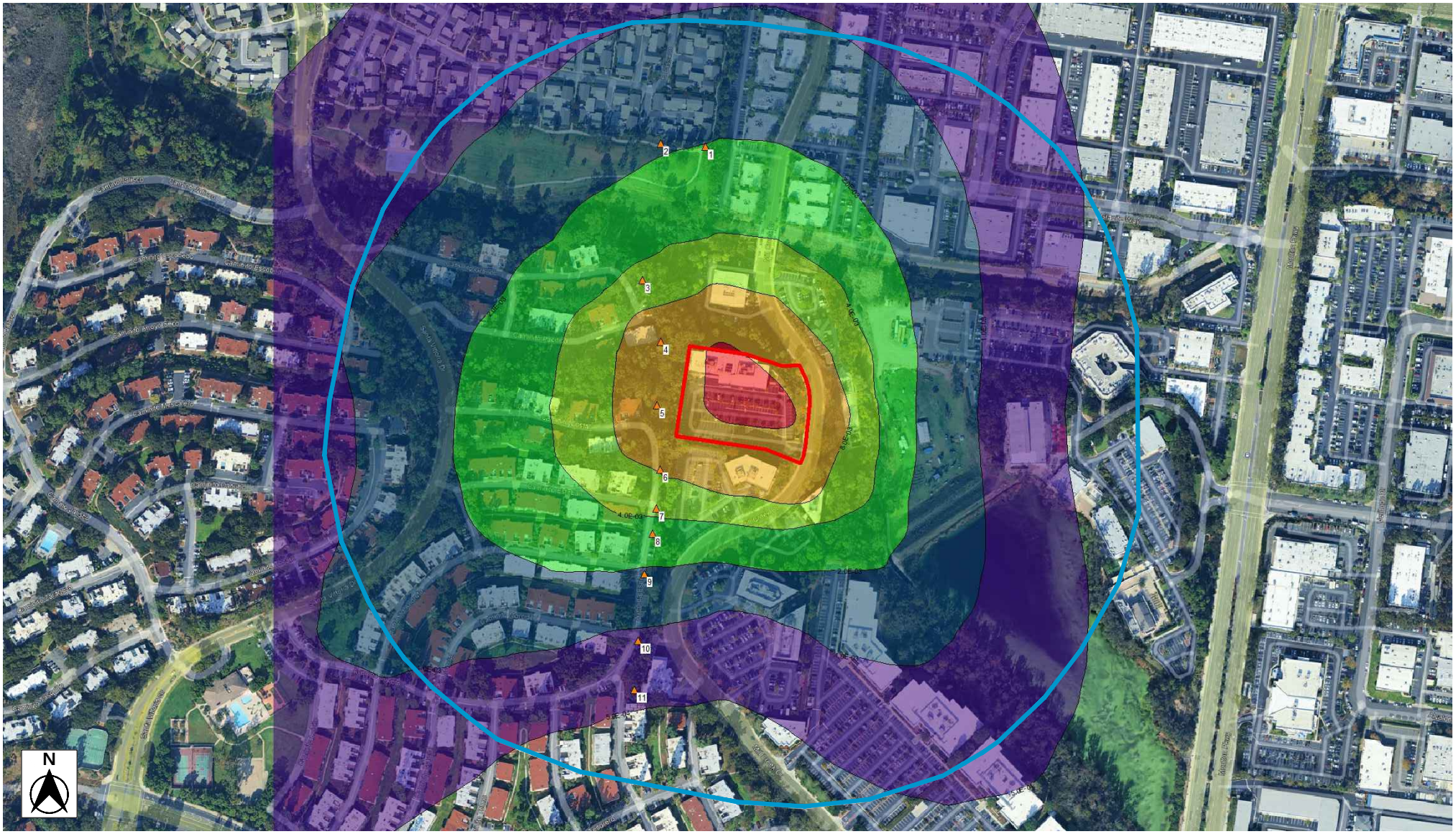
Legend

- = Study Area Boundary
- = 0.0005 - 0.001
- = 0.001 - 0.002
- = 0.002 - 0.004
- = 0.004 - 0.008
- = 0.008 - 0.040
- = 0.040 and above
- = Modeled Receptor Locations

Exhibit G

Contour Map - Construction Emissions Concentrations (µg/m³)
Third Trimester Exposure Scenario

TOLL BROTHERS LAGUNA HILLS TOWNHOME PROJECT // CITY OF LAGUNA HILLS
3075-2025-69



Legend

- = Study Area Boundary
- = 0.0005 - 0.001
- = 0.001 - 0.002
- = 0.002 - 0.004
- = 0.004 - 0.008
- = 0.008 - 0.040
- = 0.040 and above
- = Modeled Receptor Locations

Exhibit H

Contour Map - Construction Emissions Concentrations (µg/m³)
Infant Exposure Scenario

TOLL BROTHERS LAGUNA HILLS TOWNHOME PROJECT // CITY OF LAGUNA HILLS
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Appendices

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CalEEMod Emissions Outputs

Toll Brothers Laguna Hills Townhomes Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Toll Brothers Laguna Hills Townhomes
Construction Start Date	2/1/2026
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	6.0
Location	23161 Mill Creek Dr, Laguna Hills, CA 92653, USA
County	Orange
City	Laguna Hills
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5929
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.35

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	36	Dwelling Unit	1.5	72,432	30,000	0.00	107	—

Parking Lot	0.92	Acre	0.92	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	47	47	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.3	1.3	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.24	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.1	0.97	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
2027	47	47	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,635	2,635	0.10	0.05	0.03	2,652
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.32	0.23	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792
2027	1.3	1.3	0.22	0.78	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	138	138	0.01	< 0.005	0.03	138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.04	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462
2027	0.24	0.24	0.04	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23	23	< 0.005	< 0.005	< 0.005	23

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.34	0.33	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,659	2,659	0.10	0.05	1.5	2,677
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.1	0.97	63	41	0.36	0.69	16	17	0.69	5.1	5.8	—	52,564	52,564	3.9	7.9	2.6	55,028
2027	47	47	3.9	14	0.02	0.04	0.37	0.41	0.04	0.09	0.13	—	2,635	2,635	0.10	0.05	0.03	2,652
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.32	0.23	3.7	9.7	0.02	0.04	0.70	0.74	0.04	0.17	0.21	—	2,731	2,731	0.14	0.19	1.3	2,792

2027	1.3	1.3	0.22	0.78	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	138	138	0.01	< 0.005	0.03	138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.04	0.67	1.8	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	452	452	0.02	0.03	0.21	462
2027	0.24	0.24	0.04	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23	23	< 0.005	< 0.005	< 0.005	23

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.0	2.8	0.89	11	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,954	2,971	1.8	0.08	8.1	3,050
Mit.	2.9	2.8	0.67	11	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,680	2,697	1.8	0.08	8.1	2,775
% Reduced	1%	< 0.5%	25%	1%	6%	57%	—	1%	59%	—	3%	—	9%	9%	1%	—	—	9%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.8	2.7	0.93	8.0	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,862	2,879	1.8	0.09	0.71	2,952
Mit.	2.7	2.6	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,587	2,604	1.8	0.09	0.71	2,677
% Reduced	1%	< 0.5%	24%	1%	6%	59%	—	1%	61%	—	3%	—	10%	10%	1%	—	—	9%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.7	2.6	0.84	8.3	0.02	0.03	1.7	1.8	0.03	0.44	0.47	17	2,376	2,392	1.8	0.07	3.3	2,464
Mit.	2.7	2.6	0.62	8.2	0.02	0.01	1.7	1.8	0.01	0.44	0.45	17	2,101	2,118	1.8	0.07	3.3	2,188
% Reduced	1%	< 0.5%	26%	1%	7%	62%	—	1%	64%	—	4%	—	12%	11%	1%	—	—	11%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.50	0.48	0.15	1.5	< 0.005	0.01	0.32	0.32	0.01	0.08	0.09	2.8	393	396	0.30	0.01	0.54	408

Mit.	0.49	0.48	0.11	1.5	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	2.8	348	351	0.30	0.01	0.54	362
% Reduced	1%	< 0.5%	26%	1%	7%	62%	—	1%	64%	—	4%	—	12%	11%	1%	1%	—	11%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Area	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	3.0	2.8	0.89	11	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,954	2,971	1.8	0.08	8.1	3,050
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Area	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.8	2.7	0.93	8.0	0.02	0.03	2.1	2.1	0.03	0.52	0.55	17	2,862	2,879	1.8	0.09	0.71	2,952
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.88	0.81	0.61	6.8	0.02	0.01	1.7	1.8	0.01	0.44	0.45	—	1,771	1,771	0.08	0.07	2.8	1,796

Area	1.8	1.8	0.01	1.4	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18	18	< 0.005	< 0.005	—	18
Energy	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	569	569	0.04	< 0.005	—	571
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.84	8.3	0.02	0.03	1.7	1.8	0.03	0.44	0.47	17	2,376	2,392	1.8	0.07	3.3	2,464
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Area	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0
Energy	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94	94	0.01	< 0.005	—	95
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Waste	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.50	0.48	0.15	1.5	< 0.005	0.01	0.32	0.32	0.01	0.08	0.09	2.8	393	396	0.30	0.01	0.54	408

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Area	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.9	2.8	0.67	11	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,680	2,697	1.8	0.08	8.1	2,775

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Area	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	17	2,587	2,604	1.8	0.09	0.71	2,677
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.88	0.81	0.61	6.8	0.02	0.01	1.7	1.8	0.01	0.44	0.45	—	1,771	1,771	0.08	0.07	2.8	1,796
Area	1.8	1.8	0.01	1.4	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18	18	< 0.005	< 0.005	—	18
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	295	295	0.02	< 0.005	—	296
Water	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Waste	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	2.7	2.6	0.62	8.2	0.02	0.01	1.7	1.8	0.01	0.44	0.45	17	2,101	2,118	1.8	0.07	3.3	2,188
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Area	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	49	49	< 0.005	< 0.005	—	49
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Waste	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.49	0.48	0.11	1.5	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	2.8	348	351	0.30	0.01	0.54	362

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.39	2.6	15	0.02	0.08	—	0.08	0.08	—	0.08	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	2.8	2.8	—	0.43	0.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.80	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Demolition	—	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23	23	< 0.005	< 0.005	—	23
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.57	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.01	157
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.34	0.05	4.3	1.9	0.02	0.04	0.92	0.97	0.04	0.26	0.30	—	3,489	3,489	0.26	0.55	0.18	3,661
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.6	8.6	< 0.005	< 0.005	0.01	8.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.24	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	191	191	0.01	0.03	0.17	201
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.4	1.4	< 0.005	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32	32	< 0.005	0.01	0.03	33

3.2. Demolition (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.42	0.39	2.6	15	0.02	0.08	—	0.08	0.08	—	0.08	—	2,494	2,494	0.10	0.02	—	2,503
Demoliti on	—	—	—	—	—	—	2.8	2.8	—	0.43	0.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02	0.02	0.14	0.80	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Demoliti on	—	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23	23	< 0.005	< 0.005	—	23
Demoliti on	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.57	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.01	157
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.34	0.05	4.3	1.9	0.02	0.04	0.92	0.97	0.04	0.26	0.30	—	3,489	3,489	0.26	0.55	0.18	3,661

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.6	8.6	< 0.005	< 0.005	0.01	8.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.24	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	191	191	0.01	0.03	0.17	201
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.4	1.4	< 0.005	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32	32	< 0.005	0.01	0.03	33

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	1.3	15	0.03	0.05	—	0.05	0.05	—	0.05	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22	22	< 0.005	< 0.005	—	22
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93	93	< 0.005	< 0.005	0.01	94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	1.3	15	0.03	0.05	—	0.05	0.05	—	0.05	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22	22	< 0.005	< 0.005	—	22
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93	93	< 0.005	< 0.005	0.01	94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.2	14	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.9	2.9	—	1.4	1.4	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40	40	< 0.005	< 0.005	—	40
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.7	6.7	< 0.005	< 0.005	—	6.7
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	124	124	< 0.005	< 0.005	0.01	125
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.8	0.71	62	27	0.34	0.64	13	14	0.64	3.7	4.3	—	49,985	49,985	3.8	7.9	2.6	52,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.1	2.1	< 0.005	< 0.005	< 0.005	2.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.01	1.0	0.44	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	822	822	0.06	0.13	0.72	863
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.19	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.12	143

3.6. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.2	14	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.9	2.9	—	1.4	1.4	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40	40	< 0.005	< 0.005	—	40
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.7	6.7	< 0.005	< 0.005	—	6.7

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	124	124	< 0.005	< 0.005	0.01	125
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.8	0.71	62	27	0.34	0.64	13	14	0.64	3.7	4.3	—	49,985	49,985	3.8	7.9	2.6	52,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.1	2.1	< 0.005	< 0.005	< 0.005	2.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.01	1.0	0.44	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	822	822	0.06	0.13	0.72	863
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.19	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.12	143

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	2.1	7.3	0.01	0.02	—	0.02	0.02	—	0.02	—	1,253	1,253	0.05	0.01	—	1,258
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.3	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	208	208	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.08	1.4	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	338	338	< 0.005	0.01	1.2	342
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.31	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	1.2	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	321	321	< 0.005	0.01	0.03	325
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.01	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.70	0.00	0.00	0.19	0.19	0.00	0.05	0.05	—	185	185	< 0.005	0.01	0.29	188
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69	69	< 0.005	0.01	0.08	72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	31	31	< 0.005	< 0.005	0.05	31
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.01	12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.14	2.1	7.3	0.01	0.02	—	0.02	0.02	—	0.02	—	1,253	1,253	0.05	0.01	—	1,258
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.3	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	208	208	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.4	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	338	338	< 0.005	0.01	1.2	342
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.31	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.09	1.2	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	321	321	< 0.005	0.01	0.03	325
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.01	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.70	0.00	0.00	0.19	0.19	0.00	0.05	0.05	—	185	185	< 0.005	0.01	0.29	188
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69	69	< 0.005	0.01	0.08	72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	31	31	< 0.005	< 0.005	0.05	31
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.01	12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.01	0.01	0.13	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78	78	< 0.005	< 0.005	—	78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.08	1.1	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	< 0.005	0.01	0.03	320
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	119	119	0.01	0.02	0.01	124
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.02	11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.2	4.2	< 0.005	< 0.005	< 0.005	4.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.9	1.9	< 0.005	< 0.005	< 0.005	1.9
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78	78	< 0.005	< 0.005	—	78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.08	1.1	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	< 0.005	0.01	0.03	320
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	119	119	0.01	0.02	0.01	124
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11	11	< 0.005	< 0.005	0.02	11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.2	4.2	< 0.005	< 0.005	< 0.005	4.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.9	1.9	< 0.005	< 0.005	< 0.005	1.9
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	2.2	8.6	0.01	0.04	—	0.04	0.04	—	0.04	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34	34	< 0.005	< 0.005	—	34
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.6	5.6	< 0.005	< 0.005	—	5.7
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.64	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	183	183	< 0.005	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.1	5.1	< 0.005	< 0.005	0.01	5.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	2.2	8.6	0.01	0.04	—	0.04	0.04	—	0.04	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34	34	< 0.005	< 0.005	—	34
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.6	5.6	< 0.005	< 0.005	—	5.7
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.64	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	183	183	< 0.005	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.1	5.1	< 0.005	< 0.005	0.01	5.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	46	46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Architectural Coatings	1.3	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63	63	< 0.005	< 0.005	0.01	64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.8	1.8	< 0.005	< 0.005	< 0.005	1.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.14	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	46	46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Architectural Coatings	1.3	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63	63	< 0.005	< 0.005	0.01	64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.8	1.8	< 0.005	< 0.005	< 0.005	1.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.97	0.65	8.5	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,155	2,155	0.09	0.07	7.5	2,187
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.1	0.96	0.71	7.9	0.02	0.01	2.1	2.1	0.01	0.52	0.54	—	2,068	2,068	0.10	0.08	0.20	2,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.16	0.15	0.11	1.2	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	293	293	0.01	0.01	0.46	297

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	241	241	0.01	< 0.005	—	242
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	241	241	0.01	< 0.005	—	242

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	40	40	< 0.005	< 0.005	—	40
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.5	8.5	< 0.005	< 0.005	—	8.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	48	48	< 0.005	< 0.005	—	49

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	244	244	0.02	< 0.005	—	245
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	295	295	0.02	< 0.005	—	296
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	244	244	0.02	< 0.005	—	245
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	51	51	< 0.005	< 0.005	—	51
Total	—	—	—	—	—	—	—	—	—	—	—	—	295	295	0.02	< 0.005	—	296
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	40	40	< 0.005	< 0.005	—	41
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.5	8.5	< 0.005	< 0.005	—	8.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	49	49	< 0.005	< 0.005	—	49

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.01	0.22	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277	277	0.02	< 0.005	—	278
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46	46	< 0.005	< 0.005	—	46
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46	46	< 0.005	< 0.005	—	46

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.18	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.5	5.5	< 0.005	< 0.005	—	5.5
Total	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	2.4	2.4	< 0.005	< 0.005	—	2.4

Consumer Product	0.28	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.62	0.62	< 0.005	< 0.005	—	0.62
Total	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.18	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.5	5.5	< 0.005	< 0.005	—	5.5
Total	1.9	1.9	0.02	2.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	213	213	0.01	< 0.005	—	214
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Consumer Products	1.6	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.7	1.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	207	207	0.01	< 0.005	—	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	2.4	2.4	< 0.005	< 0.005	—	2.4
Consumer Products	0.28	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.62	0.62	< 0.005	< 0.005	—	0.62
Total	0.33	0.33	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.0	3.0	< 0.005	< 0.005	—	3.0

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.6	17	20	0.27	0.01	—	28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	2.8	3.3	0.04	< 0.005	—	4.7

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhou	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.4	0.00	2.4	0.24	0.00	—	8.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	2/1/2026	3/1/2026	5.0	20	—
Site Preparation	Site Preparation	3/2/2026	3/6/2026	5.0	3.0	—
Grading	Grading	3/7/2026	3/15/2026	5.0	6.0	—
Building Construction	Building Construction	3/16/2026	1/18/2027	5.0	220	—
Paving	Paving	1/19/2027	2/2/2027	5.0	10.0	—
Architectural Coating	Architectural Coating	2/3/2027	2/17/2027	5.0	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.0	8.0	84	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.0	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.0	7.0	82	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.0	8.0	84	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.0	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.0	7.0	82	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	51	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	729	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	26	19	LDA,LDT1,LDT2
Building Construction	Vendor	3.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	5.2	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	51	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	729	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	26	19	LDA,LDT1,LDT2
Building Construction	Vendor	3.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	5.2	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	146,675	48,892	0.00	0.00	2,405

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,072	0.00
Site Preparation	0.00	0.00	4.5	0.00	0.00
Grading	0.00	35,000	6.0	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.92

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt

Paving	Condo/Townhouse	—	0%
Paving	Parking Lot	0.92	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	259	315	258	97,480	2,408	2,930	2,398	905,531
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	259	315	258	97,480	2,408	2,930	2,398	905,531
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Condo/Townhouse	Wood Fireplaces	0	0
Condo/Townhouse	Gas Fireplaces	0	0

Condo/Townhouse	Propane Fireplaces	0	0
Condo/Townhouse	Electric Fireplaces	36	36
Condo/Townhouse	No Fireplaces	0	0
Condo/Townhouse	Conventional Wood Stoves	0	0
Condo/Townhouse	Catalytic Wood Stoves	0	0
Condo/Townhouse	Non-Catalytic Wood Stoves	0	0
Condo/Townhouse	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

—	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
undefined	146,675	48,892	0.00	0.00	2,405

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	165,318	532	0.0330	0.0040	865,093
Parking Lot	35,106	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	167,260	532	0.0330	0.0040	0.00
Parking Lot	35,106	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,350,923	475,214
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,350,923	475,214

Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	27	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	27	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Project consists of 36 townhome dwelling units, approximately 40,000 SF of paved surfaces, and approximately 30,000 SF of landscaped area on a site totaling approximately 2.43 acres.
Construction: Off-Road Equipment	Diesel construction equipment will be equipped with Tier 4 low emission “clean diesel” engines (OEM or retrofit) that include diesel oxidation catalysts and diesel particulate filters that meet the latest CARB best available control technology, to the extent feasible.
Operations: Vehicle Data	Trip generation rates are adjusted based on the ITE Trip Generation Manual, 11th Edition.
Operations: Fleet Mix	Fleet mix is adjusted to reflect a total of 2% heavy trucks (GVWR > 10,000 lbs.).
Operations: Hearths	Per SCAQMD Rule 445, no woodburning devices shall be allowed. No gas hookups are proposed for the site.

Appendix B
Emission Factor Calculations

ENGINEERING GROUP INC.

Average Annual Emissions of Construction DPM - Third Trimester Exposure Scenario

Project:	Toll Brothers Laguna Hills Townhome Project	**Engineer:**	B. Morrison	**Date:**	1/6/2026
				JN:	3075-2025-69

Estimated Annual Average Construction DPM Emissions (As PM_{10} Exhaust)		
Total Annual PM10 Exhaust Emissions During Construction[1]:	0.0036203	tons/year
Average Emissions:	0.0001042	grams/second
Total size of the emission source[2]:	9054.4	square meters
Average Area Source Emission:	1.151E-08	grams/m^2-second

[1] Annual PM_{10} exhaust emissions during construction are estimated based on a weighted average of emissions reported in the CalEEMod model outputs

[2] Source: AERMOD dispersion model outputs.

Average Annual Emissions of Construction DPM - Infant Exposure Scenario

Project:	Toll Brothers Laguna Hills Townhome Project	**Engineer:**	B. Morrison	**Date:**	1/6/2026
				JN:	3075-2025-69

Estimated Annual Average Construction DPM Emissions (As PM_{10} Exhaust)		
Total Annual PM10 Exhaust Emissions During Construction[1]:	0.0029623	tons/year
Average Emissions:	8.529E-05	grams/second
Total size of the emission source[2]:	9054.4	square meters
Average Area Source Emission:	9.42E-09	grams/m^2-second

[1] Annual PM_{10} exhaust emissions during construction are estimated based on a weighted average of emissions reported in the CalEEMod model outputs

[2] Source: AERMOD dispersion model outputs.

RK ENGINEERING GROUP INC.

Estimated Roadway DPM Emissions from Truck Hauling Trips

Project:	Toll Brothers Laguna Hills Townhome Project	**Date:**	1/6/2026
Roadway:	Mill Creek Drive (north of project driveway)	**JN:**	3075-2025-69
		Engineer:	B. Morrison

Construction Hauling Trips[1]

Roadway	Total ADT	LDA/LDT/MDT		Total Trucks		2 Axle		3 Axle		4+ Axle	
		Number	% of Total ADT	Number	% of Total ADT	Number	% of Total Trucks	Number	% of Total Trucks	Number	% of Total Trucks
Mill Creek Dr. North of project	730	0	0.00%	730	100.00%	0	0.00%	0	0.00%	730	100.00%

[1] Project-generated trips are estimated based on *Toll Brothers Laguna Hills Townhome Project Air Quality, Greenhouse Gas, and Energy Impact Study, Laguna Hills, California* , Appendix A - CalEEMod Emissions Outputs.

Diesel Vehicle Distribution

Truck Type	2 Axle Trucks		3 Axle Trucks	4+ Axle Trucks
EMFAC Category	LHDT1	LHDT2	MHDT	HHDT

Fleet Mix

Vehicle Type	CalEEMod Default Fleet Mix (%)	Adjusted Fleet Mix	Daily Trips
HHDT			
HHDT	100.00	100.00%	730
Total	100.00	100.00%	730
All Vehicles			
Total			730

Diesel Vehicle Distribution

EMFAC Vehicle Class	% Diesel[1]	Daily Diesel Vehicles
HHDT	100.00%	730

[1] For the purposes of a conservative analysis, all project trucks are assumed to run on diesel fuel.

1-Year (2026) Average DPM Emission Factor by Vehicle Speed[1]

EMFAC Vehicle Class	Speed (m.p.h.)	Emission Factor (g./mile)
HHDT	25	0.0038

[1] Emission factors are based on EMFAC2025 emissions data in Orange County for year 2026.

Vehicle Emissions Assumptions

Vehicle Emissions = Emission Factor (g./mi.) x Mile/Trip x Trips/Day

Length of Roadway Segment: 393.3 meters, or 0.2444375 miles

*Over an annual period, traffic is assumed to be uniformly distributed during the day.

Project Vehicle Emissions

EMFAC Vehicle Class	Daily Emissions (g./day)	Hourly Emissions (g./sec.)
HHDT	0.6851	7.9294E-06
Total	**0.6851**	**7.9294E-06**
Eastbound		*3.9647E-06*
Westbound		*3.9647E-06*

Appendix C
AERMOD Output Sheets

Third Trimester Exposure Scenario

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**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 13.0.0
** Lakes Environmental Software Inc.
** Date: 1/7/2026
** File: C:\HRA\30752430_AERMOD\Model_3rd Trimester_Unmit\Model_3rd Trimester_Unmit.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
  TITLEONE C:\HRA\30752430_AERMOD\Model_3rd Trimester_Unmit\Model_3rd Trimester
  MODELOPT DFAULT CONC
  AVERTIME PERIOD
  URBANOPT 3135755
  POLLUTID DPM
  RUNORNOT RUN
  ERRORFIL "Model_3rd Trimester_Unmit.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1      AREAPOLY   431730.257  3720987.442      87.090
** DESCRSRC Onsite Construction
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Hauling Trips
** PREFIX
** Length of Side = 8.59
```

** Configuration = Adjacent
** Emission Rate = 7.9294E-06
** Elevated
** Vertical Dimension = 6.99
** SZINIT = 1.62
** Nodes = 18
** 431837.882, 3720893.381, 89.82, 3.49, 4.00
** 431841.651, 3720931.244, 86.12, 3.49, 4.00
** 431841.830, 3720943.985, 84.86, 3.49, 4.00
** 431838.600, 3720961.571, 82.99, 3.49, 4.00
** 431827.833, 3720982.028, 81.36, 3.49, 4.00
** 431816.729, 3720996.931, 80.12, 3.49, 4.00
** 431807.466, 3721009.876, 79.32, 3.49, 4.00
** 431800.488, 3721022.190, 78.76, 3.49, 4.00
** 431796.384, 3721039.840, 78.54, 3.49, 4.00
** 431796.384, 3721055.027, 78.01, 3.49, 4.00
** 431799.667, 3721080.475, 74.58, 3.49, 4.00
** 431803.362, 3721114.953, 77.94, 3.49, 4.00
** 431808.287, 3721151.894, 78.12, 3.49, 4.00
** 431813.212, 3721166.260, 78.26, 3.49, 4.00
** 431821.422, 3721186.783, 78.52, 3.49, 4.00
** 431840.302, 3721229.059, 78.99, 3.49, 4.00
** 431845.638, 3721245.478, 79.23, 3.49, 4.00
** 431848.512, 3721266.411, 79.43, 3.49, 4.00
** ----------
LOCATION L0000001 VOLUME 431838.308 3720897.655 89.40
LOCATION L0000002 VOLUME 431839.159 3720906.203 88.57
LOCATION L0000003 VOLUME 431840.009 3720914.751 87.73
LOCATION L0000004 VOLUME 431840.860 3720923.298 86.90
LOCATION L0000005 VOLUME 431841.659 3720931.849 86.06
LOCATION L0000006 VOLUME 431841.780 3720940.438 85.21
LOCATION L0000007 VOLUME 431840.919 3720948.945 84.33
LOCATION L0000008 VOLUME 431839.367 3720957.393 83.43
LOCATION L0000009 VOLUME 431836.578 3720965.414 82.68
LOCATION L0000010 VOLUME 431832.577 3720973.015 82.08
LOCATION L0000011 VOLUME 431828.576 3720980.617 81.47
LOCATION L0000012 VOLUME 431823.654 3720987.637 80.89
LOCATION L0000013 VOLUME 431818.521 3720994.526 80.32
LOCATION L0000014 VOLUME 431813.476 3721001.477 79.84
LOCATION L0000015 VOLUME 431808.477 3721008.463 79.41
LOCATION L0000016 VOLUME 431804.088 3721015.838 79.05
LOCATION L0000017 VOLUME 431800.196 3721023.445 78.74
LOCATION L0000018 VOLUME 431798.251 3721031.812 78.64

```
  LOCATION L0000019    VOLUME   431796.384 3721040.188 78.53
  LOCATION L0000020    VOLUME   431796.384 3721048.778 78.23
  LOCATION L0000021    VOLUME   431796.683 3721057.349 77.70
  LOCATION L0000022    VOLUME   431797.783 3721065.868 76.55
  LOCATION L0000023    VOLUME   431798.882 3721074.387 75.40
  LOCATION L0000024    VOLUME   431799.929 3721082.913 74.82
  LOCATION L0000025    VOLUME   431800.844 3721091.454 75.65
  LOCATION L0000026    VOLUME   431801.759 3721099.995 76.48
  LOCATION L0000027    VOLUME   431802.674 3721108.536 77.31
  LOCATION L0000028    VOLUME   431803.644 3721117.071 77.95
  LOCATION L0000029    VOLUME   431804.779 3721125.585 77.99
  LOCATION L0000030    VOLUME   431805.914 3721134.100 78.03
  LOCATION L0000031    VOLUME   431807.050 3721142.615 78.07
  LOCATION L0000032    VOLUME   431808.185 3721151.129 78.12
  LOCATION L0000033    VOLUME   431810.823 3721159.290 78.19
  LOCATION L0000034    VOLUME   431813.666 3721167.394 78.27
  LOCATION L0000035    VOLUME   431816.856 3721175.370 78.38
  LOCATION L0000036    VOLUME   431820.047 3721183.346 78.48
  LOCATION L0000037    VOLUME   431823.415 3721191.246 78.57
  LOCATION L0000038    VOLUME   431826.918 3721199.089 78.66
  LOCATION L0000039    VOLUME   431830.421 3721206.933 78.74
  LOCATION L0000040    VOLUME   431833.923 3721214.776 78.83
  LOCATION L0000041    VOLUME   431837.426 3721222.619 78.92
  LOCATION L0000042    VOLUME   431840.777 3721230.521 79.01
  LOCATION L0000043    VOLUME   431843.433 3721238.690 79.13
  LOCATION L0000044    VOLUME   431845.836 3721246.917 79.24
  LOCATION L0000045    VOLUME   431847.004 3721255.428 79.33
  LOCATION L0000046    VOLUME   431848.172 3721263.938 79.41
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
  SRCPARAM PAREA1     1.1512E-08   3.000      12
  AREAVERT PAREA1     431730.257 3720987.442 431717.767 3720906.824
  AREAVERT PAREA1     431797.817 3720895.091 431828.475 3720882.979
  AREAVERT PAREA1     431831.692 3720889.981 431833.206 3720899.633
  AREAVERT PAREA1     431837.369 3720938.428 431835.855 3720949.025
  AREAVERT PAREA1     431833.206 3720958.866 431827.528 3720970.599
  AREAVERT PAREA1     431812.957 3720969.274 431780.407 3720980.250
** LINE VOLUME Source ID = SLINE1
  SRCPARAM L0000001    0.0000001724    3.49    4.00    1.62
  SRCPARAM L0000002    0.0000001724    3.49    4.00    1.62
  SRCPARAM L0000003    0.0000001724    3.49    4.00    1.62
  SRCPARAM L0000004    0.0000001724    3.49    4.00    1.62
  SRCPARAM L0000005    0.0000001724    3.49    4.00    1.62
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  SRCPARAM L0000006   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000007   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000008   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000009   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000010   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000011   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000012   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000013   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000014   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000015   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000016   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000017   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000018   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000019   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000020   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000021   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000022   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000023   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000024   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000025   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000026   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000027   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000028   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000029   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000030   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000031   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000032   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000033   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000034   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000035   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000036   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000037   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000038   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000039   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000040   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000041   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000042   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000043   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000044   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000045   0.0000001724   3.49   4.00   1.62
  SRCPARAM L0000046   0.0000001724   3.49   4.00   1.62
** ------------------------------------------------------------------------
  URBANSRC ALL
```

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  SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
  INCLUDED "Model_3rd Trimester_Unmit.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
  SURFFILE "O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V11_trimmed.sfc"
  PROFFILE "O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V11_trimmed.pfl"
  SURFDATA 93184 2017
  UAIRDATA 3190 2017
  SITEDATA 60592022 2017
  PROFBASE 168.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
  PLOTFILE PERIOD ALL "MODEL_3RD TRIMESTER_UNMIT.AD\PE00GALL.PLT" 31
  SUMMFILE "Model_3rd Trimester_Unmit.sum"
OU FINISHED


 *** Message Summary For AERMOD Model Setup ***

 --------- Summary of Total Messages --------

 A Total of          0 Fatal Error Message(s)
```

A Total of 2 Warning Message(s)
A Total of 0 Informational Message(s)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 197 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 197 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** SETUP Finishes Successfully ***
****

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

** Model Options Selected:
* Model Uses Regulatory DEFAULT Options
* Model Is Setup For Calculation of Average CONCentration Values.
* NO GAS DEPOSITION Data Provided.
* NO PARTICLE DEPOSITION Data Provided.
* Model Uses NO DRY DEPLETION. DDPLETE = F
* Model Uses NO WET DEPLETION. WETDPLT = F
* Stack-tip Downwash.
* Model Accounts for ELEVated Terrain Effects.
* Use Calms Processing Routine.
* Use Missing Data Processing Routine.
* No Exponential Decay.
* Model Uses URBAN Dispersion Algorithm for the SBL for 47 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 3135755.0 ; Urban Roughness Length = 1.000 m
* Urban Roughness Length of 1.0 Meter Used.
* ADJ_U* - Use ADJ_U* option for SBL in AERMET
* CCVR_Sub - Meteorological data includes CCVR substitutions
* TEMP_Sub - Meteorological data includes TEMP substitutions
* Model Assumes No FLAGPOLE Receptor Heights.
* The User Specified a Pollutant Type of: DPM

**Model Calculates PERIOD Averages Only

**This Run Includes: 47 Source(s); 1 Source Group(s); and 300 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 46 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)
and: 0 SWPOINT source(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 22112

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 168.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: Model_3rd Trimester_Unmit.err
**File for Summary of Results: Model_3rd Trimester_Unmit.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000001	0	0.17240E-06	431838.3	3720897.7	89.4	3.49	4.00	1.62	YES		NO
L0000002	0	0.17240E-06	431839.2	3720906.2	88.6	3.49	4.00	1.62	YES		NO
L0000003	0	0.17240E-06	431840.0	3720914.8	87.7	3.49	4.00	1.62	YES		NO
L0000004	0	0.17240E-06	431840.9	3720923.3	86.9	3.49	4.00	1.62	YES		NO
L0000005	0	0.17240E-06	431841.7	3720931.8	86.1	3.49	4.00	1.62	YES		NO
L0000006	0	0.17240E-06	431841.8	3720940.4	85.2	3.49	4.00	1.62	YES		NO
L0000007	0	0.17240E-06	431840.9	3720948.9	84.3	3.49	4.00	1.62	YES		NO
L0000008	0	0.17240E-06	431839.4	3720957.4	83.4	3.49	4.00	1.62	YES		NO
L0000009	0	0.17240E-06	431836.6	3720965.4	82.7	3.49	4.00	1.62	YES		NO
L0000010	0	0.17240E-06	431832.6	3720973.0	82.1	3.49	4.00	1.62	YES		NO
L0000011	0	0.17240E-06	431828.6	3720980.6	81.5	3.49	4.00	1.62	YES		NO
L0000012	0	0.17240E-06	431823.7	3720987.6	80.9	3.49	4.00	1.62	YES		NO
L0000013	0	0.17240E-06	431818.5	3720994.5	80.3	3.49	4.00	1.62	YES		NO
L0000014	0	0.17240E-06	431813.5	3721001.5	79.8	3.49	4.00	1.62	YES		NO
L0000015	0	0.17240E-06	431808.5	3721008.5	79.4	3.49	4.00	1.62	YES		NO
L0000016	0	0.17240E-06	431804.1	3721015.8	79.0	3.49	4.00	1.62	YES		NO
L0000017	0	0.17240E-06	431800.2	3721023.4	78.7	3.49	4.00	1.62	YES		NO
L0000018	0	0.17240E-06	431798.3	3721031.8	78.6	3.49	4.00	1.62	YES		NO
L0000019	0	0.17240E-06	431796.4	3721040.2	78.5	3.49	4.00	1.62	YES		NO
L0000020	0	0.17240E-06	431796.4	3721048.8	78.2	3.49	4.00	1.62	YES		NO
L0000021	0	0.17240E-06	431796.7	3721057.3	77.7	3.49	4.00	1.62	YES		NO
L0000022	0	0.17240E-06	431797.8	3721065.9	76.5	3.49	4.00	1.62	YES		NO
L0000023	0	0.17240E-06	431798.9	3721074.4	75.4	3.49	4.00	1.62	YES		NO
L0000024	0	0.17240E-06	431799.9	3721082.9	74.8	3.49	4.00	1.62	YES		NO
L0000025	0	0.17240E-06	431800.8	3721091.5	75.6	3.49	4.00	1.62	YES		NO
L0000026	0	0.17240E-06	431801.8	3721100.0	76.5	3.49	4.00	1.62	YES		NO
L0000027	0	0.17240E-06	431802.7	3721108.5	77.3	3.49	4.00	1.62	YES		NO
L0000028	0	0.17240E-06	431803.6	3721117.1	78.0	3.49	4.00	1.62	YES		NO
L0000029	0	0.17240E-06	431804.8	3721125.6	78.0	3.49	4.00	1.62	YES		NO
L0000030	0	0.17240E-06	431805.9	3721134.1	78.0	3.49	4.00	1.62	YES		NO

L0000031	0	0.17240E-06	431807.0	3721142.6	78.1	3.49	4.00	1.62	YES	NO
L0000032	0	0.17240E-06	431808.2	3721151.1	78.1	3.49	4.00	1.62	YES	NO
L0000033	0	0.17240E-06	431810.8	3721159.3	78.2	3.49	4.00	1.62	YES	NO
L0000034	0	0.17240E-06	431813.7	3721167.4	78.3	3.49	4.00	1.62	YES	NO
L0000035	0	0.17240E-06	431816.9	3721175.4	78.4	3.49	4.00	1.62	YES	NO
L0000036	0	0.17240E-06	431820.0	3721183.3	78.5	3.49	4.00	1.62	YES	NO
L0000037	0	0.17240E-06	431823.4	3721191.2	78.6	3.49	4.00	1.62	YES	NO
L0000038	0	0.17240E-06	431826.9	3721199.1	78.7	3.49	4.00	1.62	YES	NO
L0000039	0	0.17240E-06	431830.4	3721206.9	78.7	3.49	4.00	1.62	YES	NO
L0000040	0	0.17240E-06	431833.9	3721214.8	78.8	3.49	4.00	1.62	YES	NO

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000041	0	0.17240E-06	431837.4	3721222.6	78.9	3.49	4.00	1.62	YES		NO
L0000042	0	0.17240E-06	431840.8	3721230.5	79.0	3.49	4.00	1.62	YES		NO
L0000043	0	0.17240E-06	431843.4	3721238.7	79.1	3.49	4.00	1.62	YES		NO
L0000044	0	0.17240E-06	431845.8	3721246.9	79.2	3.49	4.00	1.62	YES		NO
L0000045	0	0.17240E-06	431847.0	3721255.4	79.3	3.49	4.00	1.62	YES		NO
L0000046	0	0.17240E-06	431848.2	3721263.9	79.4	3.49	4.00	1.62	YES		NO

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
PAREA1	0	0.11512E-07	431730.3	3720987.4	87.1	3.00	12	0.00	YES	NO	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 , L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 ,
	L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 ,
	L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,
	L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 ,
	L0000032 , L0000033 , L0000034 , L0000035 , L0000036 , L0000037 , L0000038 , L0000039 ,
	L0000040 , L0000041 , L0000042 , L0000043 , L0000044 , L0000045 , L0000046 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
3135755.	PAREA1	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 ,
		L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 ,
		L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,
		L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 ,
		L0000032 , L0000033 , L0000034 , L0000035 , L0000036 , L0000037 , L0000038 , L0000039 ,
		L0000040 , L0000041 , L0000042 , L0000043 , L0000044 , L0000045 , L0000046 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

431358.3, 431408.3, 431458.3, 431508.3, 431558.3, 431608.3, 431658.3, 431708.3, 431758.3, 431808.3,
431858.3, 431908.3, 431958.3, 432008.3, 432058.3, 432108.3, 432158.3,

*** Y-COORDINATES OF GRID ***
(METERS)

3720532.6, 3720582.6, 3720632.6, 3720682.6, 3720732.6, 3720782.6, 3720832.6, 3720882.6, 3720932.6, 3720982.6,
3721032.6, 3721082.6, 3721132.6, 3721182.6, 3721232.6, 3721282.6, 3721332.6,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	74.30	74.60	74.20	74.40	74.20	74.30	74.60	75.30	75.80
3721282.58	74.00	74.30	74.00	74.40	74.50	74.60	74.70	75.10	75.80
3721232.58	74.20	75.10	74.90	74.60	74.40	74.50	74.80	75.00	75.90
3721182.58	74.00	75.80	76.20	76.00	75.20	75.10	75.20	75.50	76.80
3721132.58	78.40	73.90	74.00	74.90	75.30	75.30	75.70	76.90	78.60
3721082.58	84.60	79.50	80.20	77.20	76.40	76.30	75.20	74.00	73.80
3721032.58	95.00	93.10	85.20	83.30	81.00	81.00	82.00	79.40	79.00
3720982.58	99.40	98.30	96.70	89.80	86.10	85.90	86.80	89.90	90.50
3720932.58	109.70	108.60	107.10	94.80	96.40	95.20	95.20	96.70	92.40
3720882.58	112.90	113.30	109.80	99.00	100.30	100.00	99.90	100.50	99.00
3720832.58	113.10	112.40	109.10	103.00	105.20	105.00	104.80	103.10	99.70
3720782.58	108.40	107.70	105.00	108.20	110.10	110.10	109.60	107.10	108.30
3720732.58	102.90	104.40	109.40	113.40	115.70	115.20	114.50	109.50	110.20
3720682.58	102.90	103.90	109.60	115.30	119.50	120.30	117.10	111.10	110.30
3720632.58	102.80	104.80	109.70	115.60	121.20	121.10	115.40	111.50	108.20
3720582.58	102.30	106.40	111.50	116.80	121.70	121.10	116.20	111.50	107.30
3720532.58	106.40	108.00	113.90	119.20	123.40	123.70	119.70	114.90	108.80

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	80.80	80.00	81.10	79.40	79.90	80.30	80.60	80.90
3721282.58	80.10	79.80	79.70	78.60	78.40	79.30	79.30	79.30
3721232.58	80.10	80.20	78.70	78.20	77.90	79.10	79.10	79.00
3721182.58	79.00	79.70	78.50	77.90	77.90	78.60	79.00	79.00
3721132.58	78.00	79.00	77.90	77.60	77.90	78.30	78.30	78.60
3721082.58	75.40	78.20	77.80	77.40	77.60	77.50	77.70	78.30
3721032.58	78.50	76.40	76.40	76.20	75.90	75.60	76.50	75.90
3720982.58	82.40	78.70	78.10	79.30	81.60	80.80	81.40	80.10
3720932.58	91.70	82.50	77.20	78.10	89.10	88.10	83.30	82.70
3720882.58	94.00	86.30	77.90	78.20	87.40	88.00	87.90	87.70
3720832.58	96.20	92.60	79.50	84.40	86.30	87.00	89.70	88.90
3720782.58	101.70	104.90	86.60	86.20	86.20	86.20	88.40	89.70
3720732.58	110.10	105.10	100.30	86.80	86.20	86.20	88.70	88.80
3720682.58	110.30	104.70	105.10	98.60	87.30	86.20	86.30	87.80
3720632.58	108.10	105.60	104.30	104.90	97.70	86.40	86.20	87.50
3720582.58	105.50	105.50	104.20	102.80	103.30	95.80	86.30	86.70
3720532.58	104.00	101.80	101.40	102.00	101.40	100.90	87.80	87.70

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	74.30	74.60	74.20	74.40	74.20	74.30	74.60	75.30	80.90
3721282.58	115.50	109.90	74.00	74.40	74.50	74.60	74.70	75.10	80.40
3721232.58	115.50	115.50	115.50	115.50	115.50	74.50	74.80	75.00	80.30
3721182.58	159.50	115.50	115.50	115.50	115.50	115.50	115.40	75.50	78.70
3721132.58	115.50	115.50	118.20	118.20	118.20	120.40	117.40	96.40	78.60
3721082.58	115.50	115.50	115.50	123.90	123.90	123.90	123.90	123.90	123.90
3721032.58	115.50	115.50	115.50	123.90	123.90	123.90	123.90	123.90	123.90
3720982.58	115.50	115.50	115.50	118.20	123.90	123.90	123.90	109.30	92.60
3720932.58	109.90	115.50	115.40	118.20	117.40	120.40	114.60	96.70	114.20
3720882.58	115.40	115.50	115.40	118.20	118.20	120.40	117.60	100.50	99.00
3720832.58	115.20	115.40	115.40	123.90	118.20	120.40	117.50	117.30	117.50
3720782.58	115.30	115.40	123.90	120.60	118.20	120.40	117.40	117.30	109.80
3720732.58	115.40	123.90	118.00	118.00	118.10	120.40	116.70	120.10	110.20
3720682.58	102.90	123.90	123.90	123.90	120.60	120.30	117.10	123.90	110.30
3720632.58	102.80	125.90	125.90	123.90	123.90	123.90	123.90	123.90	109.60
3720582.58	125.90	125.90	125.90	125.90	123.50	123.70	126.30	127.10	127.10
3720532.58	119.90	126.00	125.90	125.90	125.90	126.30	126.60	127.10	127.10

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	80.80	80.00	81.10	79.40	79.90	80.30	80.60	80.90
3721282.58	80.10	79.80	79.70	78.60	78.40	79.30	79.30	79.30
3721232.58	80.10	80.20	79.40	78.20	77.90	79.10	79.10	79.00
3721182.58	79.00	79.70	78.50	77.90	77.90	78.60	79.00	79.00
3721132.58	78.00	79.00	77.90	77.60	77.90	78.30	78.30	78.60
3721082.58	120.40	92.50	77.80	77.40	77.60	77.50	77.70	78.30
3721032.58	123.90	123.90	110.40	110.40	110.40	90.00	90.00	78.70
3720982.58	123.90	123.90	120.10	110.40	109.90	90.00	89.90	87.60
3720932.58	110.40	123.90	123.90	117.90	90.00	89.90	89.90	88.20
3720882.58	110.60	123.90	126.30	123.90	110.40	88.00	87.90	87.70
3720832.58	117.50	117.30	127.10	115.60	110.40	88.50	89.70	88.90
3720782.58	110.40	110.40	123.90	110.90	110.90	110.40	89.70	89.90
3720732.58	110.10	110.40	110.40	116.40	110.90	110.40	88.70	88.80
3720682.58	110.30	110.90	105.10	105.30	110.90	110.60	104.90	87.80
3720632.58	110.90	110.80	104.30	104.90	104.90	110.60	104.90	103.40
3720582.58	105.50	105.50	104.20	102.80	103.30	103.40	104.90	103.40
3720532.58	127.10	127.10	101.40	102.00	103.10	100.90	104.50	103.40

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(431744.4, 3721165.3, 75.8, 78.5, 0.0);	(431704.3, 3721167.9, 75.8, 77.6, 0.0);
(431688.2, 3721046.3, 79.9, 123.9, 0.0);	(431704.3, 3720991.5, 87.8, 120.4, 0.0);
(431701.0, 3720934.7, 96.7, 96.7, 0.0);	(431703.6, 3720877.2, 100.9, 100.9, 0.0);
(431700.3, 3720842.4, 103.8, 103.8, 0.0);	(431696.9, 3720819.7, 105.5, 114.0, 0.0);
(431689.6, 3720783.6, 109.1, 109.1, 0.0);	(431684.2, 3720724.8, 113.9, 113.9, 0.0);
(431680.9, 3720680.7, 114.2, 121.0, 0.0);	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000024	431808.3	3721082.6	-0.20
L0000029	431808.3	3721132.6	-0.76
L0000030	431808.3	3721132.6	-5.75

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V1 Met Version: 22112
Profile file: O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V1
Surface format: FREE
Profile format: FREE
Surface station no.: 93184 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-3.5	0.085	-9.000	-9.000	-999.	59.	15.7	0.20	1.20	1.00	0.86	69.	10.0	280.0	9.0
17	01	01	1	02	-3.7	0.087	-9.000	-9.000	-999.	62.	15.9	0.20	1.20	1.00	0.90	61.	10.0	279.7	9.0
17	01	01	1	03	-8.0	0.126	-9.000	-9.000	-999.	107.	22.3	0.20	1.20	1.00	1.34	69.	10.0	280.4	9.0
17	01	01	1	04	-3.1	0.081	-9.000	-9.000	-999.	56.	15.5	0.20	1.20	1.00	0.80	67.	10.0	279.9	9.0
17	01	01	1	05	-3.0	0.080	-9.000	-9.000	-999.	54.	14.8	0.15	1.20	1.00	0.86	113.	10.0	279.8	9.0
17	01	01	1	06	-6.1	0.109	-9.000	-9.000	-999.	86.	18.7	0.15	1.20	1.00	1.26	92.	10.0	279.9	9.0
17	01	01	1	07	-5.8	0.107	-9.000	-9.000	-999.	84.	18.8	0.20	1.20	1.00	1.14	86.	10.0	279.8	9.0
17	01	01	1	08	-3.2	0.087	-9.000	-9.000	-999.	61.	18.2	0.15	1.20	0.53	1.00	98.	10.0	280.2	9.0
17	01	01	1	09	36.6	0.148	0.553	0.005	163.	136.	-7.8	0.15	1.20	0.31	1.12	106.	10.0	283.2	9.0
17	01	01	1	10	89.0	0.203	1.161	0.005	624.	219.	-8.3	0.19	1.20	0.24	1.45	159.	10.0	285.0	9.0
17	01	01	1	11	102.2	0.298	1.444	0.005	1044.	390.	-22.9	0.25	1.20	0.21	2.23	183.	10.0	285.5	9.0
17	01	01	1	12	116.1	0.262	1.560	0.005	1160.	323.	-13.7	0.25	1.20	0.20	1.83	200.	10.0	286.2	9.0
17	01	01	1	13	114.8	0.302	1.599	0.005	1265.	399.	-21.4	0.17	1.20	0.20	2.51	225.	10.0	286.6	9.0
17	01	01	1	14	98.2	0.415	1.544	0.005	1330.	641.	-64.5	0.25	1.20	0.21	3.44	205.	10.0	286.5	9.0
17	01	01	1	15	79.0	0.324	1.451	0.005	1370.	448.	-38.2	0.25	1.20	0.25	2.57	199.	10.0	286.4	9.0
17	01	01	1	16	26.2	0.313	1.007	0.005	1383.	420.	-103.7	0.25	1.20	0.33	2.68	195.	10.0	286.5	9.0
17	01	01	1	17	-20.5	0.246	-9.000	-9.000	-999.	295.	66.8	0.25	1.20	0.61	2.33	190.	10.0	285.5	9.0
17	01	01	1	18	-7.1	0.119	-9.000	-9.000	-999.	109.	21.0	0.19	1.20	1.00	1.29	162.	10.0	284.2	9.0
17	01	01	1	19	-6.0	0.108	-9.000	-9.000	-999.	86.	18.7	0.15	1.20	1.00	1.25	117.	10.0	283.5	9.0
17	01	01	1	20	-8.2	0.127	-9.000	-9.000	-999.	108.	22.1	0.15	1.20	1.00	1.46	104.	10.0	283.4	9.0
17	01	01	1	21	-8.0	0.125	-9.000	-9.000	-999.	106.	21.8	0.15	1.20	1.00	1.44	120.	10.0	284.0	9.0
17	01	01	1	22	-7.3	0.120	-9.000	-9.000	-999.	100.	21.1	0.17	1.20	1.00	1.34	127.	10.0	284.3	9.0
17	01	01	1	23	-5.7	0.106	-9.000	-9.000	-999.	83.	18.6	0.17	1.20	1.00	1.19	128.	10.0	284.0	9.0
17	01	01	1	24	-9.5	0.137	-9.000	-9.000	-999.	122.	24.2	0.17	1.20	1.00	1.52	129.	10.0	283.9	9.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	9.0	0	-999.	-99.00	280.0	99.0	-99.00	-99.00
17	01	01	01	10.0	1	69.	0.86	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 , L0000004 ,
L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 ,
L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 ,
L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	0.00051	0.00057	0.00064	0.00072	0.00082	0.00092	0.00103	0.00112	0.00119
3721282.58	0.00056	0.00063	0.00072	0.00083	0.00095	0.00110	0.00125	0.00140	0.00154
3721232.58	0.00062	0.00071	0.00082	0.00095	0.00112	0.00133	0.00156	0.00180	0.00207
3721182.58	0.00069	0.00080	0.00094	0.00111	0.00134	0.00163	0.00199	0.00238	0.00287
3721132.58	0.00078	0.00090	0.00107	0.00130	0.00161	0.00203	0.00260	0.00331	0.00415
3721082.58	0.00087	0.00103	0.00126	0.00155	0.00196	0.00259	0.00351	0.00473	0.00603
3721032.58	0.00093	0.00114	0.00145	0.00186	0.00247	0.00349	0.00539	0.00854	0.01206
3720982.58	0.00098	0.00121	0.00155	0.00215	0.00302	0.00462	0.00832	0.02145	0.05941
3720932.58	0.00091	0.00113	0.00145	0.00230	0.00322	0.00514	0.00958	0.02327	0.06134
3720882.58	0.00090	0.00108	0.00146	0.00234	0.00323	0.00486	0.00779	0.01170	0.01620
3720832.58	0.00094	0.00115	0.00154	0.00224	0.00284	0.00375	0.00458	0.00491	0.00524
3720782.58	0.00105	0.00129	0.00165	0.00192	0.00220	0.00244	0.00239	0.00216	0.00173
3720732.58	0.00111	0.00130	0.00143	0.00149	0.00150	0.00145	0.00125	0.00114	0.00098
3720682.58	0.00106	0.00120	0.00123	0.00114	0.00100	0.00086	0.00074	0.00071	0.00067
3720632.58	0.00096	0.00103	0.00100	0.00086	0.00068	0.00058	0.00054	0.00050	0.00053
3720582.58	0.00084	0.00084	0.00076	0.00063	0.00049	0.00042	0.00039	0.00038	0.00042
3720532.58	0.00069	0.00066	0.00057	0.00045	0.00036	0.00030	0.00028	0.00028	0.00033

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 , L0000004 ,
L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 ,
L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 ,
L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	0.00124	0.00120	0.00105	0.00087	0.00072	0.00059	0.00049	0.00041
3721282.58	0.00177	0.00199	0.00134	0.00103	0.00082	0.00065	0.00053	0.00043
3721232.58	0.00281	0.00342	0.00167	0.00121	0.00092	0.00072	0.00056	0.00045
3721182.58	0.00511	0.00308	0.00198	0.00141	0.00103	0.00077	0.00059	0.00046
3721132.58	0.00557	0.00350	0.00235	0.00161	0.00113	0.00081	0.00061	0.00047
3721082.58	0.00747	0.00456	0.00285	0.00180	0.00119	0.00082	0.00060	0.00046
3721032.58	0.01274	0.00640	0.00335	0.00189	0.00118	0.00080	0.00058	0.00044
3720982.58	0.03181	0.01026	0.00373	0.00190	0.00115	0.00077	0.00056	0.00042
3720932.58	0.06774	0.01421	0.00362	0.00179	0.00109	0.00073	0.00053	0.00040
3720882.58	0.02209	0.01047	0.00350	0.00180	0.00111	0.00074	0.00053	0.00040
3720832.58	0.00569	0.00518	0.00303	0.00184	0.00115	0.00077	0.00055	0.00041
3720782.58	0.00232	0.00228	0.00234	0.00164	0.00113	0.00079	0.00057	0.00043
3720732.58	0.00109	0.00146	0.00160	0.00136	0.00104	0.00078	0.00058	0.00045
3720682.58	0.00074	0.00101	0.00106	0.00109	0.00091	0.00072	0.00057	0.00045
3720632.58	0.00058	0.00071	0.00080	0.00080	0.00078	0.00065	0.00054	0.00044
3720582.58	0.00047	0.00054	0.00061	0.00065	0.00063	0.00059	0.00050	0.00042
3720532.58	0.00039	0.00045	0.00050	0.00053	0.00053	0.00050	0.00045	0.00039

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 , L0000004 ,
L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 ,
L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 ,
L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
431744.40	3721165.27	0.00302	431704.29	3721167.94	0.00257
431688.25	3721046.30	0.00614	431704.29	3720991.49	0.01697
431700.95	3720934.68	0.01961	431703.63	3720877.19	0.01031
431700.28	3720842.44	0.00554	431696.94	3720819.71	0.00385
431689.59	3720783.62	0.00222	431684.24	3720724.80	0.00104
431680.90	3720680.69	0.00071			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE	GRID-ID
		NETWORK	
ALL	1ST HIGHEST VALUE IS	0.06774 AT (431808.32, 3720932.58, 91.70, 110.40, 0.00) GC	UCART1
	2ND HIGHEST VALUE IS	0.06134 AT (431758.32, 3720932.58, 92.40, 114.20, 0.00) GC	UCART1
	3RD HIGHEST VALUE IS	0.05941 AT (431758.32, 3720982.58, 90.50, 92.60, 0.00) GC	UCART1
	4TH HIGHEST VALUE IS	0.03181 AT (431808.32, 3720982.58, 82.40, 123.90, 0.00) GC	UCART1
	5TH HIGHEST VALUE IS	0.02327 AT (431708.32, 3720932.58, 96.70, 96.70, 0.00) GC	UCART1
	6TH HIGHEST VALUE IS	0.02209 AT (431808.32, 3720882.58, 94.00, 110.60, 0.00) GC	UCART1
	7TH HIGHEST VALUE IS	0.02145 AT (431708.32, 3720982.58, 89.90, 109.30, 0.00) GC	UCART1
	8TH HIGHEST VALUE IS	0.01961 AT (431700.95, 3720934.68, 96.71, 96.71, 0.00) DC	
	9TH HIGHEST VALUE IS	0.01697 AT (431704.29, 3720991.49, 87.82, 120.37, 0.00) DC	
	10TH HIGHEST VALUE IS	0.01620 AT (431758.32, 3720882.58, 99.00, 99.00, 0.00) GC	UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 471 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 92 Calm Hours Identified

A Total of 379 Missing Hours Identified (0.86 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 197 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 197 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** AERMOD Finishes Successfully ***
****

Infant Exposure Scenario

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**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 13.0.0
** Lakes Environmental Software Inc.
** Date: 1/6/2026
** File: C:\HRA\30752430_AERMOD\Model_infant_Unmit\Model_infant_Unmit.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
  TITLEONE C:\HRA\30752430_AERMOD\Model_infant_Unmit\Model_infant_Unmit.isc
  MODELOPT DFAULT CONC
  AVERTIME PERIOD
  URBANOPT 3135755
  POLLUTID DPM
  RUNORNOT RUN
  ERRORFIL Model_infant_Unmit.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1      AREAPOLY   431730.257  3720987.442      87.090
** DESCRSRC Onsite Construction
** Source Parameters **
  SRCPARAM PAREA1       9.42E-09     3.000       12
  AREAVERT PAREA1      431730.257 3720987.442 431717.767 3720906.824
  AREAVERT PAREA1      431797.817 3720895.091 431828.475 3720882.979
  AREAVERT PAREA1      431831.692 3720889.981 431833.206 3720899.633
  AREAVERT PAREA1      431837.369 3720938.428 431835.855 3720949.025
```

```
  AREAVERT PAREA1      431833.206 3720958.866 431827.528 3720970.599
  AREAVERT PAREA1      431812.957 3720969.274 431780.407 3720980.250
  URBANSRC ALL
  SRCGROUP ALL
SO FINISHED
**
**********************************************
** AERMOD Receptor Pathway
**********************************************
**
**
RE STARTING
  INCLUDED Model_infant_Unmit.rou
RE FINISHED
**
**********************************************
** AERMOD Meteorology Pathway
**********************************************
**
**
ME STARTING
  SURFFILE "O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V11_trimmed.sfc"
  PROFFILE "O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V11_trimmed.pfl"
  SURFDATA 93184 2017
  UAIRDATA 3190 2017
  SITEDATA 60592022 2017
  PROFBASE 168.0 METERS
ME FINISHED
**
**********************************************
** AERMOD Output Pathway
**********************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
  PLOTFILE PERIOD ALL MODEL_INFANT_UNMIT.AD\PE00GALL.PLT 31
  SUMMFILE Model_infant_Unmit.sum
OU FINISHED


 *** Message Summary For AERMOD Model Setup ***
```

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 0 Informational Message(s)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 71 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 71 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** SETUP Finishes Successfully ***
****

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

** Model Options Selected:
* Model Uses Regulatory DEFAULT Options
* Model Is Setup For Calculation of Average CONCentration Values.
* NO GAS DEPOSITION Data Provided.
* NO PARTICLE DEPOSITION Data Provided.
* Model Uses NO DRY DEPLETION. DDPLETE = F
* Model Uses NO WET DEPLETION. WETDPLT = F
* Stack-tip Downwash.
* Model Accounts for ELEVated Terrain Effects.
* Use Calms Processing Routine.
* Use Missing Data Processing Routine.
* No Exponential Decay.
* Model Uses URBAN Dispersion Algorithm for the SBL for 1 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 3135755.0 ; Urban Roughness Length = 1.000 m
* Urban Roughness Length of 1.0 Meter Used.
* ADJ_U* - Use ADJ_U* option for SBL in AERMET
* CCVR_Sub - Meteorological data includes CCVR substitutions
* TEMP_Sub - Meteorological data includes TEMP substitutions
* Model Assumes No FLAGPOLE Receptor Heights.
* The User Specified a Pollutant Type of: DPM

**Model Calculates PERIOD Averages Only

**This Run Includes: 1 Source(s); 1 Source Group(s); and 300 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)
and: 0 SWPOINT source(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 22112

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 168.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: Model_infant_Unmit.err
**File for Summary of Results: Model_infant_Unmit.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
PAREA1	0	0.94200E-08	431730.3	3720987.4	87.1	3.00	12	0.00	YES	NO	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
3135755.	PAREA1	,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

431358.3, 431408.3, 431458.3, 431508.3, 431558.3, 431608.3, 431658.3, 431708.3, 431758.3, 431808.3,
431858.3, 431908.3, 431958.3, 432008.3, 432058.3, 432108.3, 432158.3,

*** Y-COORDINATES OF GRID ***
(METERS)

3720532.6, 3720582.6, 3720632.6, 3720682.6, 3720732.6, 3720782.6, 3720832.6, 3720882.6, 3720932.6, 3720982.6,
3721032.6, 3721082.6, 3721132.6, 3721182.6, 3721232.6, 3721282.6, 3721332.6,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	74.30	74.60	74.20	74.40	74.20	74.30	74.60	75.30	75.80
3721282.58	74.00	74.30	74.00	74.40	74.50	74.60	74.70	75.10	75.80
3721232.58	74.20	75.10	74.90	74.60	74.40	74.50	74.80	75.00	75.90
3721182.58	74.00	75.80	76.20	76.00	75.20	75.10	75.20	75.50	76.80
3721132.58	78.40	73.90	74.00	74.90	75.30	75.30	75.70	76.90	78.60
3721082.58	84.60	79.50	80.20	77.20	76.40	76.30	75.20	74.00	73.80
3721032.58	95.00	93.10	85.20	83.30	81.00	81.00	82.00	79.40	79.00
3720982.58	99.40	98.30	96.70	89.80	86.10	85.90	86.80	89.90	90.50
3720932.58	109.70	108.60	107.10	94.80	96.40	95.20	95.20	96.70	92.40
3720882.58	112.90	113.30	109.80	99.00	100.30	100.00	99.90	100.50	99.00
3720832.58	113.10	112.40	109.10	103.00	105.20	105.00	104.80	103.10	99.70
3720782.58	108.40	107.70	105.00	108.20	110.10	110.10	109.60	107.10	108.30
3720732.58	102.90	104.40	109.40	113.40	115.70	115.20	114.50	109.50	110.20
3720682.58	102.90	103.90	109.60	115.30	119.50	120.30	117.10	111.10	110.30
3720632.58	102.80	104.80	109.70	115.60	121.20	121.10	115.40	111.50	108.20
3720582.58	102.30	106.40	111.50	116.80	121.70	121.10	116.20	111.50	107.30
3720532.58	106.40	108.00	113.90	119.20	123.40	123.70	119.70	114.90	108.80

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	80.80	80.00	81.10	79.40	79.90	80.30	80.60	80.90
3721282.58	80.10	79.80	79.70	78.60	78.40	79.30	79.30	79.30
3721232.58	80.10	80.20	78.70	78.20	77.90	79.10	79.10	79.00
3721182.58	79.00	79.70	78.50	77.90	77.90	78.60	79.00	79.00
3721132.58	78.00	79.00	77.90	77.60	77.90	78.30	78.30	78.60
3721082.58	75.40	78.20	77.80	77.40	77.60	77.50	77.70	78.30
3721032.58	78.50	76.40	76.40	76.20	75.90	75.60	76.50	75.90
3720982.58	82.40	78.70	78.10	79.30	81.60	80.80	81.40	80.10
3720932.58	91.70	82.50	77.20	78.10	89.10	88.10	83.30	82.70
3720882.58	94.00	86.30	77.90	78.20	87.40	88.00	87.90	87.70
3720832.58	96.20	92.60	79.50	84.40	86.30	87.00	89.70	88.90
3720782.58	101.70	104.90	86.60	86.20	86.20	86.20	88.40	89.70
3720732.58	110.10	105.10	100.30	86.80	86.20	86.20	88.70	88.80
3720682.58	110.30	104.70	105.10	98.60	87.30	86.20	86.30	87.80
3720632.58	108.10	105.60	104.30	104.90	97.70	86.40	86.20	87.50
3720582.58	105.50	105.50	104.20	102.80	103.30	95.80	86.30	86.70
3720532.58	104.00	101.80	101.40	102.00	101.40	100.90	87.80	87.70

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	74.30	74.60	74.20	74.40	74.20	74.30	74.60	75.30	80.90
3721282.58	115.50	109.90	74.00	74.40	74.50	74.60	74.70	75.10	80.40
3721232.58	115.50	115.50	115.50	115.50	115.50	74.50	74.80	75.00	80.30
3721182.58	159.50	115.50	115.50	115.50	115.50	115.50	115.40	75.50	78.70
3721132.58	115.50	115.50	118.20	118.20	118.20	120.40	117.40	96.40	78.60
3721082.58	115.50	115.50	115.50	123.90	123.90	123.90	123.90	123.90	123.90
3721032.58	115.50	115.50	115.50	123.90	123.90	123.90	123.90	123.90	123.90
3720982.58	115.50	115.50	115.50	118.20	123.90	123.90	123.90	109.30	92.60
3720932.58	109.90	115.50	115.40	118.20	117.40	120.40	114.60	96.70	114.20
3720882.58	115.40	115.50	115.40	118.20	118.20	120.40	117.60	100.50	99.00
3720832.58	115.20	115.40	115.40	123.90	118.20	120.40	117.50	117.30	117.50
3720782.58	115.30	115.40	123.90	120.60	118.20	120.40	117.40	117.30	109.80
3720732.58	115.40	123.90	118.00	118.00	118.10	120.40	116.70	120.10	110.20
3720682.58	102.90	123.90	123.90	123.90	120.60	120.30	117.10	123.90	110.30
3720632.58	102.80	125.90	125.90	123.90	123.90	123.90	123.90	123.90	109.60
3720582.58	125.90	125.90	125.90	125.90	123.50	123.70	126.30	127.10	127.10
3720532.58	119.90	126.00	125.90	125.90	125.90	126.30	126.60	127.10	127.10

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	80.80	80.00	81.10	79.40	79.90	80.30	80.60	80.90
3721282.58	80.10	79.80	79.70	78.60	78.40	79.30	79.30	79.30
3721232.58	80.10	80.20	79.40	78.20	77.90	79.10	79.10	79.00
3721182.58	79.00	79.70	78.50	77.90	77.90	78.60	79.00	79.00
3721132.58	78.00	79.00	77.90	77.60	77.90	78.30	78.30	78.60
3721082.58	120.40	92.50	77.80	77.40	77.60	77.50	77.70	78.30
3721032.58	123.90	123.90	110.40	110.40	110.40	90.00	90.00	78.70
3720982.58	123.90	123.90	120.10	110.40	109.90	90.00	89.90	87.60
3720932.58	110.40	123.90	123.90	117.90	90.00	89.90	89.90	88.20
3720882.58	110.60	123.90	126.30	123.90	110.40	88.00	87.90	87.70
3720832.58	117.50	117.30	127.10	115.60	110.40	88.50	89.70	88.90
3720782.58	110.40	110.40	123.90	110.90	110.90	110.40	89.70	89.90
3720732.58	110.10	110.40	110.40	116.40	110.90	110.40	88.70	88.80
3720682.58	110.30	110.90	105.10	105.30	110.90	110.60	104.90	87.80
3720632.58	110.90	110.80	104.30	104.90	104.90	110.60	104.90	103.40
3720582.58	105.50	105.50	104.20	102.80	103.30	103.40	104.90	103.40
3720532.58	127.10	127.10	101.40	102.00	103.10	100.90	104.50	103.40

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(431744.4, 3721165.3, 75.8, 78.5, 0.0); (431704.3, 3721167.9, 75.8, 77.6, 0.0);
(431688.2, 3721046.3, 79.9, 123.9, 0.0); (431704.3, 3720991.5, 87.8, 120.4, 0.0);
(431701.0, 3720934.7, 96.7, 96.7, 0.0); (431703.6, 3720877.2, 100.9, 100.9, 0.0);
(431700.3, 3720842.4, 103.8, 103.8, 0.0); (431696.9, 3720819.7, 105.5, 114.0, 0.0);
(431689.6, 3720783.6, 109.1, 109.1, 0.0); (431684.2, 3720724.8, 113.9, 113.9, 0.0);
(431680.9, 3720680.7, 114.2, 121.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V1 Met Version: 22112
Profile file: O:\3000-3999\30752430\30752430_HRA\HRA_Air Quality Data\msvj_sfc_pfl (2)\MSVJ_V1
Surface format: FREE
Profile format: FREE
Surface station no.: 93184 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-3.5	0.085	-9.000	-9.000	-999.	59.	15.7	0.20	1.20	1.00	0.86	69.	10.0	280.0	9.0
17	01	01	1	02	-3.7	0.087	-9.000	-9.000	-999.	62.	15.9	0.20	1.20	1.00	0.90	61.	10.0	279.7	9.0
17	01	01	1	03	-8.0	0.126	-9.000	-9.000	-999.	107.	22.3	0.20	1.20	1.00	1.34	69.	10.0	280.4	9.0
17	01	01	1	04	-3.1	0.081	-9.000	-9.000	-999.	56.	15.5	0.20	1.20	1.00	0.80	67.	10.0	279.9	9.0
17	01	01	1	05	-3.0	0.080	-9.000	-9.000	-999.	54.	14.8	0.15	1.20	1.00	0.86	113.	10.0	279.8	9.0
17	01	01	1	06	-6.1	0.109	-9.000	-9.000	-999.	86.	18.7	0.15	1.20	1.00	1.26	92.	10.0	279.9	9.0
17	01	01	1	07	-5.8	0.107	-9.000	-9.000	-999.	84.	18.8	0.20	1.20	1.00	1.14	86.	10.0	279.8	9.0
17	01	01	1	08	-3.2	0.087	-9.000	-9.000	-999.	61.	18.2	0.15	1.20	0.53	1.00	98.	10.0	280.2	9.0
17	01	01	1	09	36.6	0.148	0.553	0.005	163.	136.	-7.8	0.15	1.20	0.31	1.12	106.	10.0	283.2	9.0
17	01	01	1	10	89.0	0.203	1.161	0.005	624.	219.	-8.3	0.19	1.20	0.24	1.45	159.	10.0	285.0	9.0
17	01	01	1	11	102.2	0.298	1.444	0.005	1044.	390.	-22.9	0.25	1.20	0.21	2.23	183.	10.0	285.5	9.0
17	01	01	1	12	116.1	0.262	1.560	0.005	1160.	323.	-13.7	0.25	1.20	0.20	1.83	200.	10.0	286.2	9.0
17	01	01	1	13	114.8	0.302	1.599	0.005	1265.	399.	-21.4	0.17	1.20	0.20	2.51	225.	10.0	286.6	9.0
17	01	01	1	14	98.2	0.415	1.544	0.005	1330.	641.	-64.5	0.25	1.20	0.21	3.44	205.	10.0	286.5	9.0
17	01	01	1	15	79.0	0.324	1.451	0.005	1370.	448.	-38.2	0.25	1.20	0.25	2.57	199.	10.0	286.4	9.0
17	01	01	1	16	26.2	0.313	1.007	0.005	1383.	420.	-103.7	0.25	1.20	0.33	2.68	195.	10.0	286.5	9.0
17	01	01	1	17	-20.5	0.246	-9.000	-9.000	-999.	295.	66.8	0.25	1.20	0.61	2.33	190.	10.0	285.5	9.0
17	01	01	1	18	-7.1	0.119	-9.000	-9.000	-999.	109.	21.0	0.19	1.20	1.00	1.29	162.	10.0	284.2	9.0
17	01	01	1	19	-6.0	0.108	-9.000	-9.000	-999.	86.	18.7	0.15	1.20	1.00	1.25	117.	10.0	283.5	9.0
17	01	01	1	20	-8.2	0.127	-9.000	-9.000	-999.	108.	22.1	0.15	1.20	1.00	1.46	104.	10.0	283.4	9.0
17	01	01	1	21	-8.0	0.125	-9.000	-9.000	-999.	106.	21.8	0.15	1.20	1.00	1.44	120.	10.0	284.0	9.0
17	01	01	1	22	-7.3	0.120	-9.000	-9.000	-999.	100.	21.1	0.17	1.20	1.00	1.34	127.	10.0	284.3	9.0
17	01	01	1	23	-5.7	0.106	-9.000	-9.000	-999.	83.	18.6	0.17	1.20	1.00	1.19	128.	10.0	284.0	9.0
17	01	01	1	24	-9.5	0.137	-9.000	-9.000	-999.	122.	24.2	0.17	1.20	1.00	1.52	129.	10.0	283.9	9.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	9.0	0	-999.	-99.00	280.0	99.0	-99.00	-99.00
17	01	01	01	10.0	1	69.	0.86	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)								
	431358.32	431408.32	431458.32	431508.32	431558.32	431608.32	431658.32	431708.32	431758.32
3721332.58	0.00039	0.00043	0.00048	0.00054	0.00061	0.00068	0.00075	0.00080	0.00083
3721282.58	0.00043	0.00048	0.00055	0.00062	0.00072	0.00082	0.00092	0.00100	0.00103
3721232.58	0.00048	0.00054	0.00062	0.00072	0.00084	0.00099	0.00114	0.00127	0.00134
3721182.58	0.00053	0.00062	0.00072	0.00085	0.00101	0.00122	0.00147	0.00170	0.00183
3721132.58	0.00060	0.00069	0.00082	0.00100	0.00123	0.00154	0.00195	0.00241	0.00272
3721082.58	0.00068	0.00080	0.00098	0.00120	0.00152	0.00200	0.00269	0.00356	0.00419
3721032.58	0.00072	0.00089	0.00114	0.00146	0.00194	0.00274	0.00423	0.00668	0.00911
3720982.58	0.00077	0.00095	0.00121	0.00170	0.00239	0.00367	0.00665	0.01732	0.04820
3720932.58	0.00071	0.00088	0.00114	0.00182	0.00256	0.00411	0.00772	0.01887	0.04990
3720882.58	0.00071	0.00085	0.00115	0.00186	0.00258	0.00390	0.00628	0.00946	0.01309
3720832.58	0.00074	0.00091	0.00122	0.00178	0.00227	0.00301	0.00368	0.00393	0.00418
3720782.58	0.00083	0.00102	0.00131	0.00153	0.00176	0.00195	0.00191	0.00171	0.00136
3720732.58	0.00088	0.00104	0.00114	0.00119	0.00119	0.00115	0.00099	0.00090	0.00076
3720682.58	0.00084	0.00095	0.00098	0.00091	0.00079	0.00068	0.00058	0.00055	0.00052
3720632.58	0.00076	0.00082	0.00080	0.00068	0.00054	0.00045	0.00042	0.00039	0.00041
3720582.58	0.00066	0.00066	0.00060	0.00050	0.00039	0.00032	0.00030	0.00030	0.00032
3720532.58	0.00054	0.00052	0.00045	0.00036	0.00028	0.00023	0.00021	0.00022	0.00025

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)							
	431808.32	431858.32	431908.32	431958.32	432008.32	432058.32	432108.32	432158.32
3721332.58	0.00082	0.00077	0.00069	0.00059	0.00050	0.00042	0.00035	0.00029
3721282.58	0.00103	0.00094	0.00082	0.00069	0.00056	0.00046	0.00037	0.00030
3721232.58	0.00133	0.00120	0.00100	0.00081	0.00063	0.00050	0.00039	0.00032
3721182.58	0.00180	0.00157	0.00125	0.00095	0.00071	0.00054	0.00041	0.00032
3721132.58	0.00259	0.00215	0.00157	0.00111	0.00078	0.00057	0.00042	0.00032
3721082.58	0.00400	0.00307	0.00199	0.00126	0.00083	0.00057	0.00042	0.00032
3721032.58	0.00778	0.00454	0.00240	0.00134	0.00083	0.00055	0.00040	0.00030
3720982.58	0.02417	0.00736	0.00268	0.00135	0.00081	0.00054	0.00038	0.00029
3720932.58	0.05471	0.01024	0.00262	0.00128	0.00078	0.00052	0.00037	0.00028
3720882.58	0.01770	0.00796	0.00261	0.00132	0.00081	0.00053	0.00037	0.00028
3720832.58	0.00450	0.00405	0.00232	0.00138	0.00085	0.00056	0.00039	0.00029
3720782.58	0.00182	0.00179	0.00181	0.00126	0.00085	0.00059	0.00042	0.00031
3720732.58	0.00085	0.00114	0.00125	0.00105	0.00079	0.00058	0.00043	0.00033
3720682.58	0.00058	0.00079	0.00083	0.00085	0.00069	0.00055	0.00043	0.00034
3720632.58	0.00045	0.00055	0.00063	0.00062	0.00061	0.00050	0.00041	0.00033
3720582.58	0.00036	0.00042	0.00048	0.00051	0.00049	0.00045	0.00038	0.00032
3720532.58	0.00030	0.00034	0.00038	0.00041	0.00041	0.00039	0.00034	0.00030

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
431744.40	3721165.27	0.00203	431704.29	3721167.94	0.00185
431688.25	3721046.30	0.00478	431704.29	3720991.49	0.01365
431700.95	3720934.68	0.01589	431703.63	3720877.19	0.00832
431700.28	3720842.44	0.00445	431696.94	3720819.71	0.00308
431689.59	3720783.62	0.00176	431684.24	3720724.80	0.00082
431680.90	3720680.69	0.00056			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
ALL	1ST HIGHEST VALUE IS	0.05471 AT (431808.32, 3720932.58, 91.70, 110.40, 0.00) GC UCART1
	2ND HIGHEST VALUE IS	0.04990 AT (431758.32, 3720932.58, 92.40, 114.20, 0.00) GC UCART1
	3RD HIGHEST VALUE IS	0.04820 AT (431758.32, 3720982.58, 90.50, 92.60, 0.00) GC UCART1
	4TH HIGHEST VALUE IS	0.02417 AT (431808.32, 3720982.58, 82.40, 123.90, 0.00) GC UCART1
	5TH HIGHEST VALUE IS	0.01887 AT (431708.32, 3720932.58, 96.70, 96.70, 0.00) GC UCART1
	6TH HIGHEST VALUE IS	0.01770 AT (431808.32, 3720882.58, 94.00, 110.60, 0.00) GC UCART1
	7TH HIGHEST VALUE IS	0.01732 AT (431708.32, 3720982.58, 89.90, 109.30, 0.00) GC UCART1
	8TH HIGHEST VALUE IS	0.01589 AT (431700.95, 3720934.68, 96.71, 96.71, 0.00) DC
	9TH HIGHEST VALUE IS	0.01365 AT (431704.29, 3720991.49, 87.82, 120.37, 0.00) DC
	10TH HIGHEST VALUE IS	0.01309 AT (431758.32, 3720882.58, 99.00, 99.00, 0.00) GC UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 471 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 92 Calm Hours Identified

A Total of 379 Missing Hours Identified (0.86 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 71 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 71 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** AERMOD Finishes Successfully ***
****

Appendix D
Health Risk Calculation Worksheets

RK ENGINEERING GROUP INC.

Construction Carcinogenic and Non-Carcinogenic Risks - 3rd Trimester Exposure Scenario (0.25-Year)

Project:	Toll Brothers Laguna Hills Townhome Project	**Engineer:**	B. Morrison	**Date:**	1/9/2026
				JN:	3075-2025-69

Exposure Factors		
Exposure Frequency[1]:	91.25	days/year
Exposure Duration:	0.25	years
Daily Breathing Rate[2]:	361	L/kg BW-day
Age Sensitivity Factor[3]:	10	
Fraction of Time at Home (FAH):	1	
Averaging Time (Cancer):	25,550	days
Averaging Time (Non-Cancer):	91.25	days

[1] Exposure frequency is based on the total number of active construction days during the first year of construction.

[2] Source: *OEHHA Air Toxics Hot Spots Program Guidance Manual* , Table 8.3: Age Sensitivity Factors by Age Group for Cancer Risk Assessment.

[3] Source: *OEHHA Air Toxics Hot Spots Program Guidance Manual* , Table 5.6: Point Estimates of Residential Daily Breathing Rates for 3rd Trimester, 0<2, 2<9, 2<16, 16<30, and 16-70 years (L/kg BW-day).

$$Cancer\ Risk = DPM\ Concentration \times CPF \times DBR \times ED \times EF \times ASF \times FAH \div 25550$$

AERMOD Receptor ID (a)	Maximum Concentration		Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards		Noncarcinogenic Hazards		
	(ug/m^3) (b)	(mg/m^3) (c)			CPF (mg/kg/day) (f)	RISK (per million) (g)	REL (ug/m^3) (h)	RfD (mg/kg/day) (i)	Index (j)
1	0.00302	3.02E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0006
2	0.00614	6.14E-06	1	DPM	1.10E+00	0.02	5.00E+00	1.43E-03	0.0012
3	0.01961	1.96E-05	1	DPM	1.10E+00	0.07	5.00E+00	1.43E-03	0.0039
4	0.00554	5.54E-06	1	DPM	1.10E+00	0.02	5.00E+00	1.43E-03	0.0011
5	0.00222	2.22E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0004
6	0.00071	7.10E-07	1	DPM	1.10E+00	0.00	5.00E+00	1.43E-03	0.0001
7	0.00257	2.57E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0005
8	0.01697	1.70E-05	1	DPM	1.10E+00	0.06	5.00E+00	1.43E-03	0.0034
9	0.01031	1.03E-05	1	DPM	1.10E+00	0.04	5.00E+00	1.43E-03	0.0021
10	0.00385	3.85E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0008
11	0.00104	1.04E-06	1	DPM	1.10E+00	0.00	5.00E+00	1.43E-03	0.0002

RK ENGINEERING GROUP INC.

Construction Carcinogenic and Non-Carcinogenic Risks - 3rd Trimester Exposure Scenario (0.25-Year)

Project:	Toll Brothers Laguna Hills Townhome Project	**Engineer:**	B. Morrison	**Date:**	1/9/2026
				JN:	3075-2025-69

Exposure Factors		
Exposure Frequency[1]:	91.25	days/year
Exposure Duration:	0.25	years
Daily Breathing Rate[2]:	361	L/kg BW-day
Age Sensitivity Factor[3]:	10	
Fraction of Time at Home (FAH):	1	
Averaging Time (Cancer):	25,550	days
Averaging Time (Non-Cancer):	91.25	days

[1] Exposure frequency is based on the total number of active construction days during the first year of construction.

[2] Source: *OEHHA Air Toxics Hot Spots Program Guidance Manual*, Table 8.3: Age Sensitivity Factors by Age Group for Cancer Risk Assessment.

[3] Source: *OEHHA Air Toxics Hot Spots Program Guidance Manual*, Table 5.6: Point Estimates of Residential Daily Breathing Rates for 3rd Trimester, 0<2, 2<9, 2<16, 16<30, and 16-70 years (L/kg BW-day).

$$Cancer\ Risk = DPM\ Concentration \times CPF \times DBR \times ED \times EF \times ASF \times FAH \div 25550$$

AERMOD Receptor ID (a)	Maximum Concentration		Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards		Noncarcinogenic Hazards		
	(ug/m^3) (b)	(mg/m^3) (c)			CPF (mg/kg/day) (f)	RISK (per million) (g)	REL (ug/m^3) (h)	RfD (mg/kg/day) (i)	Index (j)
1	0.00302	3.02E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0006
2	0.00614	6.14E-06	1	DPM	1.10E+00	0.02	5.00E+00	1.43E-03	0.0012
3	0.01961	1.96E-05	1	DPM	1.10E+00	0.07	5.00E+00	1.43E-03	0.0039
4	0.00554	5.54E-06	1	DPM	1.10E+00	0.02	5.00E+00	1.43E-03	0.0011
5	0.00222	2.22E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0004
6	0.00071	7.10E-07	1	DPM	1.10E+00	0.00	5.00E+00	1.43E-03	0.0001
7	0.00257	2.57E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0005
8	0.01697	1.70E-05	1	DPM	1.10E+00	0.06	5.00E+00	1.43E-03	0.0034
9	0.01031	1.03E-05	1	DPM	1.10E+00	0.04	5.00E+00	1.43E-03	0.0021
10	0.00385	3.85E-06	1	DPM	1.10E+00	0.01	5.00E+00	1.43E-03	0.0008
11	0.00104	1.04E-06	1	DPM	1.10E+00	0.00	5.00E+00	1.43E-03	0.0002

Cumulative Risk - Construction

Project:	Toll Brothers Laguna Hills Townhome Project	**Engineer:**	B. Morrison	**Date:**	1/9/2026
				JN:	3075-2025-69

Sensitive Receptor Location	AERMOD Receptor ID	Cumulative Cancer Risk (per one million)	Maximum Non-Cancer Hazard Index
1	1	0.3498	0.0006
	2	0.3308	0.0012
	3	0.8681	0.0039
	4	2.3000	0.0027
	5	2.6625	0.0032
	6	1.3925	0.0017
	7	0.7525	0.0009
	8	0.5747	0.0034
	9	0.3306	0.0021
	10	0.1506	0.0008
	11	0.0972	0.0002
Maximum		**2.6625**	**0.0039**
SCAQMD Threshold		10	1
Exceeds Threshold?		**No**	**No**

WQ XX-XXXX

County of Orange/Santa Ana Region Priority Project Water Quality Management Plan (WQMP)

Project Name:

23161 Mill Creek Development

P.M. 147, 43-47

Prepared for:

Toll Brothers

350 Commerce, Suite 200

Irvine, CA 92602

(714) 347-1375

Prepared by:

Wilson Mikami Corporation

9 Corporate Park, Suite 100

Irvine, CA 92606

(949) 679-0090

July 11, 2025

Project Owner's Certification			
Planning Application No. (If applicable)	TBD	Grading Permit No.	TBD
Tract/Parcel Map and Lot(s) No.	P.M. 147-43-47	Building Permit No.	TBD
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			23161 Mill Creek, Laguna Hills

This Water Quality Management Plan (WQMP) has been prepared for Toll Brothers by Wilson Mikami Corporation. The WQMP is intended to comply with the requirements of the County of Orange NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan , including the ongoing operation and maintenance of all best management practices (BMPs), and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner:			
Title	Kris Campbell, Vice President of Land Development		
Company	Toll Brothers		
Address	350 Commerce, Suite 200, Irvine, CA 92602		
Email	kcampbell@tollbrothers.com		
Telephone #	(714) 347-1375		
I understand my responsibility to implement the provisions of this WQMP including the ongoing operation and maintenance of the best management practices (BMPs) described herein.			
Owner Signature		Date	

Preparer (Engineer):			
Title	Scott Wilson, Principal	PE Registration #	49884
Company	Wilson Mikami Corporation		
Address	9 Corporate Park, Suite 100		
Email	swilson@wilsonmikami.com		
Telephone #	(949) 679-0090		

I hereby certify that this Water Quality Management Plan is in compliance with, and meets the requirements set forth in, Order No. R8-2009-0030/NPDES No. CAS618030, of the Santa Ana Regional Water Quality Control Board.

Preparer Signature		Date	
Place Stamp Here			

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Section III	**Site Description**	**8**
Section IV	**Best Management Practices (BMPs)**	**10**
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Attachments

Attachment A . ..... Educational Materials
Attachment B . ..... Rainfall Zones Map
Attachment C . ..... WQMP Exhibit
Attachment D . ..... Hydrologic Conditions of Concern Calculations
Attachment E . ..... BMP Sizing Calculations and Worksheet
Attachment F . ..... Preliminary Soils Report
Attachment G . ..... Preliminary Drainage Report

Section I Permit(s) and Water Quality Conditions of Approval or Issuance

Provide discretionary or grading/building permit information and water quality conditions of approval, or permit issuance, applied to the project. If conditions are unknown, please request applicable conditions from staff. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available on the OC Planning website (ocplanning.net).*

Project Infomation			
Permit/Application No. (If applicable)	TBD	Grading or Building Permit No. (If applicable)	TBD
Address of Project Site (or Tract Map and Lot Number if no address) and APN	23161 Mill Creek, Laguna Hills		
Water Quality Conditions of Approval or Issuance			
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	None		
Conceptual WQMP			
Was a Conceptual Water Quality Management Plan previously approved for this project?	No		

Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	N/A

Section II Project Description

II.1 Project Description

Provide a detailed project description including:

- Project areas;
- Land uses;
- Land cover;
- Design elements;
- A general description not broken down by drainage management areas (DMAs).

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the Technical Guidance Document (TGD) for information that must be included in the project description.*

Description of Proposed Project				
Development Category (From Model WQMP, Table 7.11-2; or -3):	Priority Project: New development projects that create 10,000 square feet or more of impervious surface. This category includes commercial, industrial, residential housing subdivisions, mixed-use, and public projects on private or public property that falls under the planning and building authority or the Permittees.			
Project Area (ft^2): 105,917	Number of Dwelling Units: 36		SIC Code: N/A	
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	0.53 ac	22%	1.87 ac	78%
Post-Project Conditions	0.62 ac	26%	1.78 ac	74%
Drainage Patterns/Connections	The drainage from the project is collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site.			

Narrative Project Description: (Use as much space as necessary.)	Re-development of an existing commercial property to a residential development including 36 duplex residential. No off-site drainage is anticipated.

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the Technical Guidance Document (TGD) for guidance.*

Pollutants of Concern			
Pollutant	Check One for each: E=Expected to be of concern N=Not Expected to be of concern		Attached Residential Development
Suspended-Solid/ Sediment	E ☒	N ☐	
Nutrients	E ☒	N ☐	
Heavy Metals	E ☐	N ☒	
Pathogens (Bacteria/Virus)	E ☒	N ☐	
Pesticides	E ☒	N ☐	
Oil and Grease	E ☒	N ☐	
Toxic Organic Compounds	E ☐	N ☒	
Trash and Debris	E ☒	N ☐	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the Technical Guidance Document (TGD) for North Orange County or Section 2.2.3.2 for South Orange County.*

☒ No – Show map

☐ Yes – Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the Technical Guidance Document (TGD).*

The post development volume for the 2 year storm event does not exceed that of the pre development condition by more than 5%. The time of concentration of the post development runoff is less than the pre development condition. Per Section 5.3-1 of the Technical Guidance, the following calculations are prepared:

1. ($V_{2\ year,\ post}$/ $V_{2\ year,\ pre}$) = ≤ 1.05

(776 cf / 833 cf) = 0.93 (7% decrease)

1. $Tc_{2\ year,\ post}$ / $Tc_{2\ year,\ pre}$ = ≤ 1.05

(6.6 min / 7.1 min = 0.93 (7% decrease) *

* Reference calculations for time of concentration information for the 2 year storm event in Attachment D.

Hydrologic Conditions of Concern will not be considered for this project since the post development time of concentration is less than pre development time of concentration and the post development volume does not exceed pre development volume by more than 5%.

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the Technical Guidance Document (TGD).*

The drainage from the project is collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site.

The flow continues down Mill Creek to an existing storm drain system tributary to San Diego Creek Channel. San Diego Creek channel drains to Upper Newport Bay.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the Technical Guidance Document (TGD).*

On-site proposed drainage facilities will be privately owned and maintained.

Section III Site Description

III.1 Physical Setting

Fill out table with relevant information. *Refer to Section 2.3.1 in the Technical Guidance Document (TGD).*

Name of Planned Community/Planning Area (if applicable)	Not applicable
Location/Address	23161 Mill Creek Drive
	Laguna Hills
General Plan Land Use Designation	MXU
Zoning	Mixed use, MXU
Acreage of Project Site	2.4 acres
Predominant Soil Type	Hydrological Soil Type "D"

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.2 in the Technical Guidance Document (TGD).*

Site Characteristics	
Precipitation Zone	0.80" (Refer to Figure XVI-1 of the TGD located in Attachment D)
Topography	Slopes on the existing and proposed developed portion of the site are relatively flat (<5%) with vegetative slopes at 2:1 (+30 feet) surrounding existing and proposed development

Drainage Patterns/Connections	parkway culvert to Mill Creek. Ultimately tributary to San Diego Creek Reach 2, then Reach 1, then Upper Newport Bay
Soil Type, Geology, and Infiltration Properties	silty fine to coarse sands, clayey to fine sandy silts, silty clay, siltsone/claystone, and sandstone layers; relatively low infiltration rate. percolation test in process
Hydrogeologic (Groundwater) Conditions	Greater than 50 ft below ground surface
Geotechnical Conditions (relevant to infiltration)	relatively low infiltration (<0.5 in/hr) expected. Percolation test in process
Off-Site Drainage	Offsite drainage is not anticipated for this project.
Utility and Infrastructure Information	There is no existing storm drain system adjacent to the site. Stormwater will be collected by a series of PVC pipes discharging to a proposed bio-treatment BMP and then through a parkway culvert onto Mill Creek.

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the Technical Guidance Document (TGD).*

Receiving Waters	San Diego Creek Reach 1&2/Upper Newport Bay
303(d) Listed Impairments	category 5
Applicable TMDLs	5A-TMDL/5B-TMDL being addressed by USEPA approved TMDL
Pollutants of Concern for the Project	San Diego Creek Reach 2 -Indicator Bacteria, Nutrients, Sedimentation/Siltation, Unknown Toxicity San Diego Creek Reach 1 – Fecal Coliform, Nutrients, Pesticides, Sedimentation/Siltation, Selenium, Toxaphene Upper Newport Bay – Chlordane, Copper, DDT, Indicator Bacteria, Metals, Nutrients, PCB's, Pesticides, Sediment Toxicity, Sedimentation/Siltation

Environmentally Sensitive and Special Biological Significant Areas	There are no Environment Sensitive Areas (ESA) or Areas of Special Biological Sign

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. (Please ask your assigned planner or plan checker regarding whether your project is part of an approved WIHMP or equivalent.)
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES ☒	NO ☐
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.	Newport Bay has a WIHMP. This project will use LID Treatment BMPs to reduce the post development impacts including infiltration, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile of a 24 hour storm event. This project specifically proposes a LID Treatment BMP of impervious area dispersion. Biotreatment will be utilized for the remaining volume. Due to the limited available space, this project proposed the use of proprietary media biofiltration units.	

Project Performance Criteria	
If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	Per Section II-3 of this WQMP, HCOC's do not exist.
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	Per 7.II 2.4.3 of the Model WQMP, the available LID Treatment BMPs to be utilized in reducing the post development impacts include infiltration, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile of a 24 hour storm event.
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	Per 7.II 3.2.2 of the Model MQMP, if the LID performance criteria is not feasibly met by retention and/or biotreatment, then sizing of onsite treatment control BMPs are required. For this project, a LID BMP of impervious area dispersion (e.g. roof top disconnection) will be implemented. This does not
Calculate LID design storm capture volume for Project.	DMA A, VBMP = 1850 cf* DMA B, VBMP=2570 cf* *Refer to Worksheet A and C in Attachment E of this report.

IV.2. Site Design and Drainage

Describe site design and drainage including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP "BMP Exhibit."
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs.

Refer to Section 2.4.2 in the Technical Guidance Document (TGD).

DMA A includes the surface drainage, proposed inlets, and an underground piping system in the south half of the site. The piping discharges to a proposed BMP biofiltration basin with an underdrain. The underdrain connects to a parkway culvert discharging onto Mill Creek near the driveway entrance. DMA B includes the surface drainage, proposed inlets, and an underground piping system in the north half of the site. The piping discharges to a proposed BMP biofiltration basin with an underdrain. The underdrain connects to a proposed parkway culvert further down Mill Creek Drive. The limited surface area necessitates the use of a proprietary biofiltration system with engineered media to reduce the footprint. The use of proprietary biofiltration system will need to treat 150% of the design capture volume. Refer to BMP exhibit in Attachment C.

Drainage Area No. (DMA)	Area (ac)	Proposed BMPs	Northing	Easting	DCV (cf)	150% DCV (cf)
A	0.96	Bio-7 Proprietary Biofiltration	2174538	6109626	1,850	2775
B	1.22	Bio-7 Proprietary Bilfiltration	2174693	6109566	2,570	3855

The sizing calculations and worksheets are in Attachment E.

IV.3 LID BMP Selection and Project Conformance Analysis

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the Technical Guidance Document (TGD) for selecting LID BMPs and Section 2.4.3 in the Technical Guidance Document (TGD) for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls (HSCs)

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☒
Street trees (canopy interception)	☐
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐

Hydrologic Source Control (HSCs):
The proposed development and site conditions were evaluated in order to select the most feasible BMP implementation for the project. The HSC BMP Selection process was determined by the following:
HSC-1 Localized On Lot Infiltration: Infiltration is not proposed for this site due to soil type.
HSC- 2 Impervious Area Dispersion: Impervious Area Dispersion will be utilized for the downspout locations of the project buildings. Roof runoff will be collected in a series of roof downspouts and outlet the runoff to splash blocks which will drain into area drains which will discharge to subsurface infiltration galleries. Refer to Worksheet A in Attachment B of this report for additional information.
HSC-3 Street Trees: Street Trees will not be utilized as number and size has not been determined in the preliminary stage.
HSC-4 Residential Rain Barrels: Harvest and Reuse type BMPs are not suitable for a Southern California climate or feasible for this project type and will not be utilized.
HSC 4 Green/ Brown Roofs: Green and Brown Roof BMPs are not feasible for this project type and are not sustainable in Southern California climates.
HSC 5 Blue Roofs: Blue BMPs are not feasible for this project type and are not sustainable in Southern California climates.

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	☐
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other:	☐
Other:	☐

Not applicable because the natural soil has an infiltration rate that is too low to use bioretention without underdrains or other infiltration BMP's.

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration and/or rainwater harvesting BMPs included.

Name	Included?
All HSCs; *See Section IV.3.1*	☒
Surface-based infiltration BMPs	☐
Biotreatment BMPs	☐
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs included. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	☐
Stormwater planter boxes with underdrains	☐
Rain gardens with underdrains	☐
Constructed wetlands	☐
Vegetated swales	☐
Vegetated filter strips	☐
Proprietary vegetated biotreatment systems	☒
Wet extended detention basin	☐
Dry extended detention basins	☐
Other:	☐
Other:	☐

Proprietary vegetated biotreatment systems will be used to treat 150% of the DCV. See calculations and sizing in Attachment E.

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. *See Section 5 of the Technical Guidance Document (TGD).* Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval (if applicable).

Hydromodification Control BMPs	
BMP Name	**BMP Description**
N/A	N/A

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP*.

Regional/Sub-Regional LID BMPs
Not Applicable

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

Treatment Control BMPs	
BMP Name	**BMP Description**
DMA A – Filterra Model FTPD0809-HC-P	Filterra Bioretention planter (72 sq ft bed area) with 3" of mulch on top of a 18"high flow media layer (measured infiltration rate of 175 in/hr) over 6" of bridging stone on top of a 6" underdrain. Underdrain outlets to a proposed 18" RCP outlet pipe.
DMA B – Filterra Model FTPD08105-HC-P	Filterra Bioretention planter (84 sq ft bed area) with 3" of mulch on top of a 18"high flow media layer (measured infiltration rate of 175 in/hr) over 6" of bridging stone on top of a 6" underdrain. Underdrain outlets to a proposed 18" RCP outlet pipe.

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Common Area Landscape Management	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☒	☐	
N6	Local Industrial Permit Compliance	☐	☒	N/A Residential Development
N7	Spill Contingency Plan	☐	☒	N/A Residential Development
N8	Underground Storage Tank Compliance	☐	☒	N/A Residential Development
N9	Hazardous Materials Disclosure Compliance	☐	☒	No proposed hazardous Materials
N10	Uniform Fire Code Implementation	☒	☐	
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☒	
N14	Common Area Catch Basin Inspection	☒	☐	
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	
N16	Retail Gasoline Outlets	☐	☒	N/A Residential Development

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if structural source controls were not used.

Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☒	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	No proposed outdoor storage areas
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☐	☒	Trash and waste will not be stored in common areas
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☒	☐	
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☐	☒	Not applicable
S6	Dock areas	☐	☒	Not applicable
S7	Maintenance bays	☐	☒	Not applicable
S8	Vehicle wash areas	☐	☒	No proposed vehicle wash areas
S9	Outdoor processing areas	☐	☒	Not applicable
S10	Equipment wash areas	☐	☒	Not applicable
S11	Fueling areas	☐	☒	Not applicable
S12	Hillside landscaping	☒	☐	
S13	Wash water control for food preparation areas	☐	☒	Not applicable
S14	Community car wash racks	☐	☒	Not applicable

IV.4 Alternative Compliance Plan (If Applicable)

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures.

Not applicable

IV.4.1 Water Quality Credits

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the Technical Guidance Document (TGD) for calculation methods for applying water quality credits.*

<table>
<tr><th colspan="5">Description of Proposed Project</th></tr>
<tr><td colspan="5">Project Types that Qualify for Water Quality Credits (Select all that apply):</td></tr>
<tr><td>☐Redevelopment projects that reduce the overall impervious footprint of the project site.</td><td colspan="2">☐Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.</td><td colspan="2">☐ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).</td></tr>
<tr><td colspan="2">☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).</td><td colspan="2">☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned</td><td>☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).</td></tr>
<tr><td>☐Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.</td><td>☐ Developments in a city center area.</td><td>☐ Developments in historic districts or historic preservation areas.</td><td>☐ Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.</td><td>☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.</td></tr>
</table>

Calculation of Water Quality Credits (if applicable)	The entire DCV for the project site is being treated by LID BMP's Water quality credits will not be used.

IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the Model WQMP.*

Not applicable

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the funding mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
Education of Property Owners, Tenants, Occupants & Employees	Homeowner Maintenance Association	Information to be provided to property owners, tenants, occupants and employees	As needed
Activity restrictions	Homeowner Maintenance Association	Employees are to be notified of activities that are prohibited by employees and tenants	Restrictions identified in employee manual and reviewed yearly by employees
Common Area Landscape Management	Homeowner Maintenance Association	Hire professional landscape contractor to properly maintain common areas	Landscape maintenance required on a weekly basis or as needed
Uniform Fire Code Implementation	Homeowner Maintenance Association	Provide litter removal of site parking lot and landscape areas	Once per week

Parking Lot Street sweeping	Homeowner Maintenance Association	Hire a professional street sweeping service	Once per week
Efficient Irrigation and Landscape planting	Homeowner Maintenance Association	Hire professional landscape contractor to properly maintain landscape and control irrigation measures in common areas	Landscape maintenance required on a weekly basis or as needed. All irrigation services shall be efficient, any repairs conducted immediately. Irrigation timers shall be set according to County standard and seasonal conditions.
Filterra Planter Boxes	Homeowner Maintenance Association	Hire professional contractor to properly maintain the biofiltration planter boxes	Regular maintenance prior to, during, and following the rainy season. Service a minimum of once per year and as necessary.

Section VI BMP Exhibit (Site Plan)

VI.1 BMP Exhibit (Site Plan)

Include a BMP Exhibit (Site Plan), at a size no less than 24" by 36," which includes the following minimum information:

- Insert in the title block (lower right hand corner) of BMP Exhibit: the WQMP Number (assigned by staff) and the grading/building or Planning Application permit numbers
- Project location (address, tract/lot number(s), etc.)
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Delineate the area being treated by each structural BMP
- GIS coordinates for LID and Treatment Control BMPs
- Drainage connections
- BMP details
- Preparer name and stamp

Please do not include any areas outside of the project area or any information not related to drainage or water quality. The approved BMP Exhibit (Site Plan) shall be submitted as a plan sheet on all grading and building plan sets submitted for plan check review and approval. The BMP Exhibit shall be at the same size as the rest of the plan sheets in the submittal and shall have an approval stamp and signature prior to plan check submittal.

VI.2 Submittal and Recordation of Water Quality Management Plan

Following approval of the Final Project-Specific WQMP, three copies of the approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be submitted. In addition, these documents shall be submitted in a PDF format.

Each approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be recorded in the Orange County Clerk-Recorder's Office, prior to close-out of grading and/or building permit. Educational Materials are not required to be included.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. Please only attach the educational materials specifically applicable to this project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☒	Proper Maintenance Practices for Your Business	☐
Household Tips	☒	**Other Material**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☒		
Recycle at Your Local Used Oil Collection Center (North County)	☐		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☒		☐
Sewer Spill	☐		☐
Tips for the Home Improvement Projects	☐		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☐		☐
Tips for Pool Maintenance	☐		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☒		☐
Tips for Projects Using Paint	☒		☐

Attachment A

Education Materials

The Ocean Begins at Your Front Door

Never allow pollutants to enter the

street, gutter or storm drain!

Follow these simple steps to help reduce water pollution:

Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in the trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste Collection Center (HHWCC).
- For a HHWCC near you call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of it in the trash.

Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate- free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing to drain into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor your vehicles for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.1800cleanup.org.

Pool Maintenance

- Pool and spa water must be dechlorinated and free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- When it is not raining, drain dechlorinated pool and spa water directly into the sanitary sewer.
- Some cities may have ordinances that do not allow pool water to be disposed of in the storm drain. Check with your city.

Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Take unwanted pesticides to a HHWCC to be recycled. For locations and hours of HHWCC, call (714) 834-6752 or visit www.oclandfills.com.

Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle.

Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a HHWCC.

Common Pollutants

Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

Automobile

- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.

Did You Know?

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution is sometimes called “non-point source” pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff results from rainfall. When rainstorms cause large volumes of water to rinse the urban landscape, picking up pollutants along the way.
- Urban runoff can happen any time of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

Where Does It Go?

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers and cleaners – can be blown or washed into storm drains.
- A little water from a garden hose or rain can also send materials into storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets), water in storm drains is not treated before entering our waterways.

Sources of Non-Point Source Pollution

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

The Effect on the Ocean

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

Stormwater quality management programs have been developed throughout Orange County to educate and encourage the public to protect water quality, monitor runoff in the storm drain system, investigate illegal dumping and maintain storm drains.

Support from Orange County residents and businesses is needed to improve water quality and reduce urban runoff pollution. Proper use and disposal of materials will help stop pollution before it reaches the storm drain and the ocean.

For More Information

California Environmental Protection Agency
www.calepa.ca.gov

- **Air Resources Board**
  www.arb.ca.gov
- **Department of Pesticide Regulation**
  www.cdpr.ca.gov
- **Department of Toxic Substances Control**
  www.dtsc.ca.gov
- **Integrated Waste Management Board**
  www.ciwmb.ca.gov
- **Office of Environmental Health Hazard Assessment**
  www.oehha.ca.gov
- **State Water Resources Control Board**
  www.waterboards.ca.gov

Earth 911 - Community-Specific Environmental Information 1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
(714) 433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management Dept. of Orange County (714) 834-6752 or visit www.oclandfills.com for information on household hazardous waste collection centers, recycling centers and solid waste collection

O.C. Agriculture Commissioner
(714) 447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
(714) 708-1646 or visit www.uccemg.com

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to ocstormwaterinfo-join@list.ocwatersheds.com

Orange County Stormwater Program

Aliso Viejo	(949)	425-2535
Anaheim Public Works Operations	(714)	765-6860
Brea Engineering	(714)	990-7666
Buena Park Public Works	(714)	562-3655
Costa Mesa Public Services	(714)	754-5323
Cypress Public Works	(714)	229-6740
Dana Point Public Works	(949)	248-3584
Fountain Valley Public Works	(714)	593-4441
Fullerton Engineering Dept.	(714)	738-6853
Garden Grove Public Works	(714)	741-5956
Huntington Beach Public Works	(714)	536-5431
Irvine Public Works	(949)	724-6315
La Habra Public Services	(562)	905-9792
La Palma Public Works	(714)	690-3310
Laguna Beach Water Quality	(949)	497-0378
Laguna Hills Public Services	(949)	707-2650
Laguna Niguel Public Works	(949)	362-4337
Laguna Woods Public Works	(949)	639-0500
Lake Forest Public Works	(949)	461-3480
Los Alamitos Community Dev.	(562)	431-3538
Mission Viejo Public Works	(949)	470-3056
Newport Beach, Code & Water Quality Enforcement	(949)	644-3215
Orange Public Works	(714)	532-6480
Placentia Public Works	(714)	993-8245
Rancho Santa Margarita	(949)	635-1800
San Clemente Environmental Programs	(949)	361-6143
San Juan Capistrano Engineering	(949)	234-4413
Santa Ana Public Works	(714)	647-3380
Seal Beach Engineering	(562)	431-2527 x317
Stanton Public Works	(714)	379-9222 x204
Tustin Public Works/Engineering	(714)	573-3150
Villa Park Engineering	(714)	998-1500
Westminster Public Works/Engineering	(714)	898-3311 x446
Yorba Linda Engineering	(714)	961-7138
Orange County Stormwater Program	(877)	897-7455

Orange County 24-Hour
Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455)

On-line Water Pollution Problem Reporting Form
www.ocwatersheds.com

Printed on Recycled Paper

The Ocean Begins at Your Front Door

The Pollution Solution

Several residential activities can result in water pollution. Among these activities are car washing and hosing off driveways and sidewalks. Both activities can waste water and result in excess runoff. Water conservation methods described in this pamphlet can prevent considerable amounts of runoff and conserve water. By taking your car to a commercial car wash and by sweeping driveways and sidewalks, you can further prevent the transport of pollutants to Orange County waterways. Here are some of the common pollutants for which you can be part of the solution:

1 Pesticides and Fertilizer

- **Pollution:** The same pesticides that are designed to be toxic to pests can have an equally lethal impact on our marine life. The same fertilizer that promotes plant growth in lawns and gardens can also create nuisance algae blooms, which remove oxygen from the water and clog waterways when it decomposes.
- **Solution:** Never use pesticides or fertilizer within 48 hours of an anticipated rainstorm. Use only as much as is directed on the label and keep it off driveways and sidewalks.

2 Dirt and Sediment

- **Pollution:** Dirt or sediment can impede the flow of the stormwater and negatively impact stream habitat as it travels through waterways and deposits downstream. Pollutants can attach to sediment, which can then be transported through our waterways.
- **Solution:** Protect dirt stockpiles by covering them with tarps or secure plastic sheets to prevent wind or rain from allowing dirt or sediment to enter the storm drain system.

3 Metals

- **Pollution:** Metals and other toxins present in car wash water can harm important plankton, which forms the base of the aquatic food chain.
- **Solution:** Take your car to a commercial car wash where the wash water is captured and treated at a local wastewater treatment plant.

DID YOU KNOW?

Did you know that most of the pollution found in our waterways is not from a single source, but from a "non-point" source meaning the accumulation of pollution from residents and businesses throughout the community

4 Pet Waste

- **Pollution:** Pet waste carries bacteria through our watersheds and eventually will be washed out to the ocean. This can pose a health risk to swimmers and surfers.
- **Solution:** Pick up after your pets!

5 Trash and Debris

- **Pollution:** Trash and debris can enter waterways by wind, littering and careless maintenance of trash receptacles. Street sweeping collects some of this trash; however, much of what isn't captured ends up in our storm drain system where it flows untreated out to the ocean.
- **Solution:** Don't litter and make sure trash containers are properly covered. It is far more expensive to clean up the litter and trash that ends up in our waterways than it is to prevent it in the first place. Come out to one of Orange County's many locations for Coastal and Inner-Coastal Cleanup Day, which is held in September.

6 Motor Oil / Vehicle Fluids

- **Pollution:** Oil and petroleum products from our vehicles are toxic to people, wildlife and plants.
- **Solution:** Fix any leaks from your vehicle and keep the maintenance up on your car. Use absorbent material such as cat litter on oil spills, then sweep it up and dispose of it in the trash. Recycle used motor oil at a local Household Hazardous Waste Collection Center.

A TEAM EFFORT

The Orange County Stormwater Program has teamed with the Municipal Water District of Orange County (MWDOC) and the University of California Cooperative Extension Program (UCCE) to develop this pamphlet.

Low Impact Development (LID) and sustainable water use prevents water pollution and conserves water for drinking and reuse. Reducing your water use and the amount of water flowing from your home protects the environment and saves you money.

Thank you for making water protection a priority!

For more information, please visit
www.ocwatersheds.com/publiced/

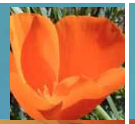
www.mwdoc.com

www.uccemg.com

To report a spill, call the Orange County 24-Hour Water Pollution Prevention Reporting Hotline at 1-877-89-SPILL \ (1-877-897-7455)

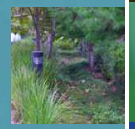
Special Thanks to
The City of Los Angeles Stormwater Program for the use of its artwork

The Metropolitan Water District of Southern California for the use of the California-Friendly Plant and Native Habitat photos

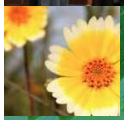


Homeowners Guide for Sustainable Water Use

Low Impact Development, Water Conservation & Pollution Prevention



The Ocean Begins at Your Front Door



RUNOFF, RAINWATER AND REUSE

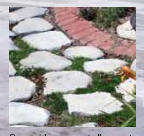
Where Does Water Runoff Go?

Stormwater, or water from rainfall events, and runoff from outdoor water use such as sprinklers and hoses flows from homes directly into catch basins and the storm drain system. After entering the storm drain, the water flows untreated into streams, rivers, bays and ultimately the Pacific Ocean. Runoff can come from lawns, gardens, driveways, sidewalks and roofs. As it flows over hard, impervious surfaces, it picks up pollutants. Some pollutants carried by the water runoff include trash, pet waste, pesticides, fertilizer, motor oil and more.

Water Conservation

Pollution not only impairs the water quality for habitat and recreation, it can also reduce the water available for reuse. Runoff allowed to soak into the ground is cleaned as it percolates through the soil, replenishing depleted groundwater supplies. Groundwater provides approximately 50% of the total water for drinking and other indoor household activities in north and central Orange County. When land is covered with roads, parking lots, homes, etc., there is less land to take in the water and more hard surfaces over which the water can flow.

In Orange County, 60-70% of water used by residents and businesses goes to irrigation and other outdoor uses. Reusing rainwater to irrigate our lawn not only reduces the impact of water pollution from runoff, but it also is a great way to conserve our precious water resources and replenish our groundwater basin.



Permeable pavement allows water runoff to infiltrate through the soil and prevents most pollutants from reaching the storm drain system.

What is Low Impact Development (LID)?

Low Impact Development (LID) is a method of development that seeks to maintain the natural hydrologic character of an area. LID provides a more sustainable and pollution-preventative approach to water management.

New water quality regulations require implementation of LID in larger new developments and encourage implementation of LID and other sustainable practices in existing residential areas. Implementing modifications to your lawn or garden can reduce pollution in our environment, conserve water and reduce your water bill.

OPTIONS FOR RAINWATER HARVESTING AND REUSE

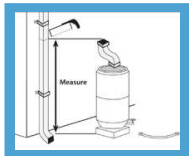
Rainwater harvesting is a great way to save money, prevent pollution and reduce potable water use. To harvest your rainwater, simply redirect the runoff from roofs and downspouts to rain barrels. Rain gardens are another option; these reduce runoff as well as encourage infiltration.

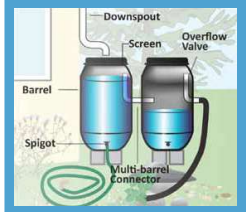
Downspout Disconnection/Redirection

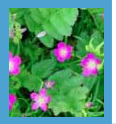
Disconnecting downspouts from pipes running to the gutter prevents runoff from transporting pollutants to the storm drain. Once disconnected, downspouts can be redirected to rain gardens or other vegetated areas, or be connected to a rain barrel.

Rain Barrels

Rain barrels capture rainwater flow from roofs for reuse in landscape irrigation. Capacity of rain barrels needed for your home will depend on the amount of roof area and rainfall received. When purchasing your rain barrel, make sure it includes a screen, a spigot to siphon water for use, an overflow tube to allow for excess water to run out and a connector if you wish to connect multiple barrels to add capacity of water storage.







Mosquito growth prevention is very important when installing a rain barrel. The best way to prevent mosquito breeding is to eliminate entry points by ensuring all openings are sealed tightly. If these methods are unsuccessful, products are available to kill mosquito larvae, but that are harmless to animals and humans. Regular application of these products is essential. Please visit the Orange County Vector Control website for more information at www.ocvcd.org/mosquitoes3.php.

Rain Gardens

Rain gardens allow runoff to be directed from your roof downspout into a landscaped area. Vegetation and rocks in the garden will slow the flow of water to allow for infiltration into the soil. Plants and soil particles will absorb pollutants from the roof runoff. By utilizing a native plant palate, rain gardens can be maintained all year with minimal additional irrigation. These plants are adapted to the semi-arid climate of Southern California, require less water and can reduce your water bill.

Before modifying your yard to install a rain garden, please consult your local building and/or planning departments to ensure your garden plan follows pertinent building codes and ordinances. Besides codes and ordinances, some home owner associations also have guidelines for yard modifications. If your property is in hill areas or includes engineered slopes, please seek professional advice before proceeding with changes.

For information on how to disconnect a downspout or to install and maintain a rain barrel or rain garden at your home, please see the Los Angeles Rainwater Harvesting Program, A Homeowner's "How-To" Guide, November 2009 at www.larainwaterharvesting.org/

OTHER WATER CONSERVATION AND POLLUTION PREVENTION TECHNIQUES

Native Vegetation and Maintenance

"California Friendly" plants or native vegetation can significantly reduce water use. These plants often require far less fertilizers and pesticides, which are two significant pollutants found in Orange County waterways. Replacing water "thirsty" plants and grass types with water efficient natives is a great way to save water and reduce the need for potentially harmful pesticides and fertilizer.

Please see the California Friendly Garden Guide produced by the Metropolitan Water District of Southern California and associated Southern California Water Agencies for a catalog of California friendly plants and other garden resources at www.bewaterwise.com/Gardensoft.

Weed Free Yards

Weeds are water thieves. They often reproduce quickly and rob your yard of both water and nutrients. Weed your yard by hand if possible. If you use herbicides to control the weeds, use only the amount recommended on the label and never use it if rain is forecast within the next 48 hours.

Soil Amendments

Soil amendments such as green waste (e.g. grass clippings, compost, etc.) can be a significant source of nutrients and can help keep the soil near the roots of plants moist. However, they can cause algal booms if they get into our waterways, which reduces the amount of oxygen in the water and impacts most aquatic organisms. It is important to apply soil amendments more than 48 hours prior to predicted rainfall.

IRRIGATE EFFICIENTLY

Smart Irrigation Controllers

Water runoff from sprinklers left on too long will carry pollutants into our waterways.

Smart Irrigation Controllers have internal clocks as well as sensors that will turn off the sprinklers in response to environmental changes. If it is raining, too windy or too cold, the smart irrigation control sprinklers will automatically shut off.

Check with your local water agency for available rebates on irrigation controllers and smart timers.

- Aim your sprinklers at your lawn, not the sidewalk – By simply adjusting the direction of your sprinklers you can save water, prevent water pollution from runoff, keep your lawn healthy and save money.
- **Set a timer for your sprinklers** – lawns absorb the water they need to stay healthy within a few minutes of turning on the sprinklers. Time your sprinklers; when water begins running off your lawn, you can turn them off. Your timer can be set to water your lawn for this duration every time.
- **Water at Sunrise** – Watering early in the morning will reduce water loss due to evaporation. Additionally, winds tend to die down in the early morning so the water will get to the lawn as intended.
- **Water by hand** – Instead of using sprinklers, consider watering your yard by hand. Hand-watering ensures that all plants get the proper amount of water and you will prevent any water runoff, which wastes water and carries pollutants into our waterways.
- **Fix leaks** - Nationwide, households waste one trillion gallons of water a year to leaks – that is enough water to serve the entire state of Texas for a year. If your garden hose is leaking, replace the nylon or rubber hose washer and ensure a tight connection. Fix broken sprinklers immediately.

Do your part to prevent water pollution in our creeks, rivers, bays and ocean.

Clean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common household activities can lead to water pollution if you're not careful.

Remember the Water in Your Storm Drain is Not Treated BEFORE It Enters Our Waterways

Litter, oil, chemicals and other substances that are left on your yard or driveway can be blown or washed into storm drains that flow to the ocean. Over-watering your lawn and washing your car can also flush materials into the storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated.

You would never pour soap, fertilizers or oil into the ocean, so don't let them enter streets, gutters or storm drains. Follow the easy tips in this brochure to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline 1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while performing everyday household activities. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

GENUINE RECYCLED PAPER
50% PRE-CONSUMER AND 15% POST-CONSUMER

RECYCLE USED OIL

Help Prevent Ocean Pollution:

Household Tips

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Pollution Prevention

Household Activities

- **Do not rinse spills with water!** Sweep outdoor spills and dispose of in the trash. For wet spills like oil, apply cat litter or another absorbent material, then sweep and bring to a household hazardous waste collection center (HHWCC).
- Securely cover trash cans.
- Take household hazardous waste to a household hazardous waste collection center.
- Store household hazardous waste in closed, labeled containers inside or under a cover.
- Do not hose down your driveway, sidewalk or patio. Sweep up debris and dispose of in trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of in the trash.
- Bathe pets indoors or have them professionally groomed.

Household Hazardous Wastes include:

- ▲ **Batteries**
- ▲ **Paint thinners, paint strippers and removers**
- ▲ **Adhesives**
- ▲ **Drain openers**
- ▲ **Oven cleaners**
- ▲ **Wood and metal cleaners and polishes**
- ▲ **Herbicides and pesticides**
- ▲ **Fungicides/wood preservatives**
- ▲ **Automotive fluids and products**
- ▲ **Grease and rust solvents**
- ▲ **Thermometers and other products containing mercury**
- ▲ **Fluorescent lamps**
- ▲ **Cathode ray tubes, e.g. TVs, computer monitors**
- ▲ **Pool and spa chemicals**

Gardening Activities

- Follow directions on pesticides and fertilizers, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Water your lawn and garden by hand to control the amount of water you use. Set irrigation systems to reflect seasonal water needs. If water flows off your yard and onto your driveway or sidewalk, your system is over-watering.
- Mulch clippings or leave them on the lawn. If necessary, dispose in a green waste container.
- Cultivate your garden often to control weeds.

Washing and Maintaining Your Car

- Take your car to a commercial car wash whenever possible.
- Choose soaps, cleaners, or detergents labeled "non-toxic," "phosphate free" or "biodegradable." Vegetable and citrus-based products are typically safest for the environment, **but even these should not be allowed into the storm drain.**
- Shake floor mats into a trash can or vacuum to clean.
- Do not use acid-based wheel cleaners and "hose off" engine degreasers at home. They can be used at a commercial facility, which can properly process the washwater.
- **Do not dump washwater onto your driveway, sidewalk, street, gutter or storm drain.** Excess washwater should be disposed of in the sanitary sewers (through a sink, or toilet) or onto an absorbent surface like your lawn.
- Use a nozzle to turn off water when not actively washing down automobile.
- Monitor vehicles for leaks and place pans under leaks. Keep your car well maintained to stop and prevent leaks.
- Use cat litter or other absorbents and sweep to remove any materials deposited by vehicles. Contain sweepings and dispose of at a HHWCC.
- Perform automobile repair and maintenance under a covered area and use drip pans or plastic sheeting to keep spills and waste material from reaching storm drains.
- **Never pour oil or antifreeze in the street, gutter or storm drains.** Recycle these substances at a service station, HHWCC, or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.ciwmb.ca.gov/UsedOil.

For locations and hours of Household Hazardous Waste Collection Centers in Anaheim, Huntington Beach, Irvine and San Juan Capistrano, call (714)834-6752 or visit www.oclandfills.com.

Do your part to prevent water pollution in our creeks, rivers, bays and ocean.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, not properly disposing of household hazardous waste can lead to water pollution. Batteries, electronics, paint, oil, gardening chemicals, cleaners and other hazardous materials cannot be thrown in the trash. They also must never be poured or thrown into yards, sidewalks, driveways, gutters or streets. Rain or other water could wash the materials into the storm drain and eventually into our waterways and the ocean. In addition, hazardous waste must not be poured in the sanitary sewers (sinks and toilets).

NEVER DISPOSE OF HOUSEHOLD HAZARDOUS WASTE IN THE TRASH, STREET, GUTTER, STORM DRAIN OR SEWER.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To Report Illegal Dumping of Household Hazardous Waste call 1-800-69-TOXIC

To report a spill,
call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

RECYCLE USED OIL

Printed on Recycled Paper

Help Prevent Ocean Pollution:

Proper Disposal of Household Hazardous Waste

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

ORANGE COUNTY

Pollution Prevention

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be "household hazardous waste" or "HHW." HHW can be found throughout your home, including the bathroom, kitchen, laundry room and garage.

WHEN POSSIBLE, USE NON-HAZARDOUS OR LESS-HAZARDOUS PRODUCTS.

Disposal of HHW down the drain, on the ground, into storm drains, or in the trash is illegal and unsafe.

Proper disposal of HHW is actually easy. Simply drop them off at a Household Hazardous Waste Collection Center (HHWCC) for free disposal and recycling. Many materials including anti-freeze, latex-based paint, motor oil and batteries can be recycled. Some centers have a "Stop & Swap" program that lets you take partially used home, garden, and automobile products free of charge. There are four HHWCCs in Orange County:

Anaheim:.....1071 N. Blue Gum St
Huntington Beach:.....17121 Nichols St
Irvine:..... 6411 Oak Canyon
San Juan Capistrano:... 32250 La Pata Ave

Centers are open Tuesday-Saturday, 9 a.m.-3 p.m. Centers are closed on rainy days and major holidays. For more information, call **(714) 834-6752** or visit **www.oclandfills.com.**

Common household hazardous wastes

- Batteries
- Paint and paint products
- Adhesives
- Drain openers
- Household cleaning products
- Wood and metal cleaners and polishes
- Pesticides
- Fungicides/wood preservatives
- Automotive products (antifreeze, motor oil, fluids)
- Grease and rust solvents
- Fluorescent lamps
- Mercury (thermometers & thermostats)
- All forms of electronic waste including computers and microwaves
- Pool & spa chemicals
- Cleaners
- Medications
- Propane (camping & BBQ)
- Mercury-containing lamps
- Television & monitors (CRTs, flatscreens)

Tips for household hazardous waste

- Never dispose of HHW in the trash, street, gutter, storm drain or sewer.
- Keep these materials in closed, labeled containers and store materials indoors or under a cover.
- When possible, use non-hazardous products.
- Reuse products whenever possible or share with family and friends.
- Purchase only as much of a product as you'll need. Empty containers may be disposed of in the trash.
- HHW can be harmful to humans, pets and the environment. Report emergencies to 911.

HOMEOWNER TIPS

PROTECTING WATER

Before Buying Pest Control Products

- Identify the pest.
- Decide if pest control products are the best control measure or if there are alternatives available.
- Are integrated pest management guidelines available for this pest?
- Read the product label:
  Is the pest listed on the label?
  Is it the best product for the pest?

Before Mixing Your Sprayer

- Read the label carefully.
- Buy only enough pesticide to treat the area affected by the pest.
- Check the weather and don't apply if it's windy or about to rain
- Measure the area you're treating.
- Calculate how much spray to mix.
- Wear long sleeve shirt, long pants, shoes and any other protective equipment listed on the label and follow all the label precautions.
- Be prepared for spills and know how to clean them up.

When You're Ready To Spray

- Mix and load spray in an area where any spilled pesticide will not be able to drain or be washed away into storm drains, ditches, streams, ponds or other bodies of water.
- Mix sprayer on grass, not the sidewalk or driveway.
- Mix only as much as needed.

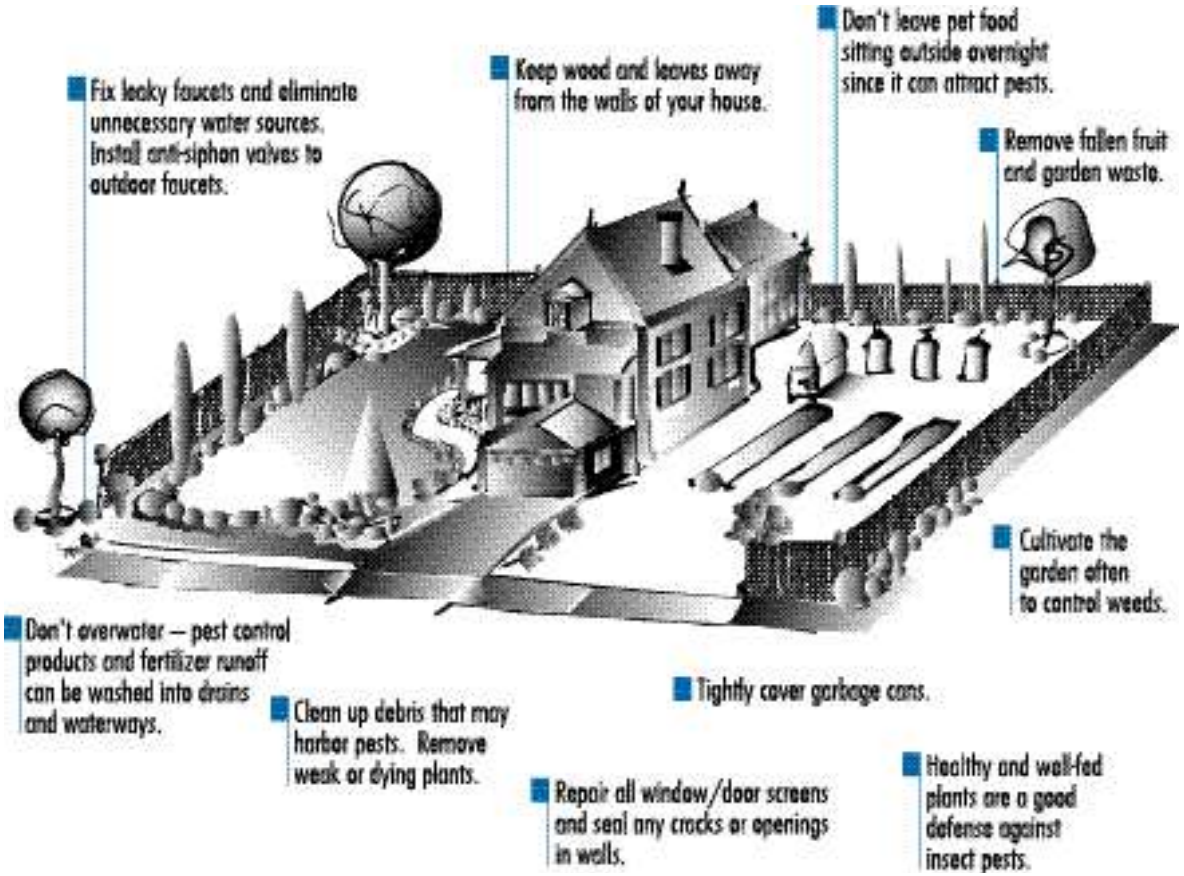
When You're Spraying

- AVOID spraying in or near storm drains, ditches, streams, and ponds!
- Leave an untreated strip around these areas to protect the water.

When You're done

- Never dump leftovers down any drain; Save for a future application.
- Triple-rinse sprayer and apply rinsewater to treated area.
- Take any old or unwanted pesticides to a Household Hazardous Waste Collection Center (714) 834-6752.

Using Pest Control Products.
It's Your Responsibility To Do It Right!



IPM... OUTSMARTING PESTS WHILE PROTECTING WATER

With Integrated Pest Management (IPM), homeowners use common sense and nature to make it difficult for pests to survive. IPM techniques include cultural practices (such as mulching to prevent weeds), encouraging natural enemies (good bugs), and judicious use of pest control products.

- First, identify your pest problem. To find the best solution, you need to pin down the problem. Consult gardening books, your county cooperative extension office or your local nursery.
- Decide how much pest control is necessary. If you can live with some pest damage, you can avoid intensive pest control product treatments.
- Choose an effective option. Try various types of controls first: washing bugs off plants, pruning diseased parts of plants. If you need to use pest control products, choose one that targets the problem and poses the least hazard.
- Finally, it's easier to prevent pests than to control them.

Think ahead.

This brochure is being distributed in order to reduce the impacts of pesticides on water quality. It was produced with support from the Orange County Storm Water Program, the Coalition for Urban/Rural Environmental Stewardship (CURES) and a 319(h) grant from the State Water Resources Control Board.

Orange County Storm Water Program Participants:

Anaheim Public Works/Engineering ..... (714) 765-5176
Brea Engineering ..... (714) 990-7666
Buena Park Public Works ..... (714) 562-3655
Costa Mesa Public Services ..... (714) 754-5248
Cypress Engineering ..... (714) 229-6752
Dana Point Public Works ..... (949) 248-3562
Fountain Valley Public Works ..... (714) 593-4400 x347
Fullerton Engineering Dept ..... (714) 738-6853
Garden Grove Development Services ..... (714) 741-5554
Huntington Beach Public Works ..... (714) 536-5432
Irvine Public Works ..... (949)724-6515
La Habra Public Services ..... (562) 905-9792
La Palma Public Works ..... (714) 523-1140 x102
Laguna Beach Municipal Services ..... (949) 497-0711
Laguna Hills Engineering ..... (949) 707-2600
Laguna Niguel Public Works ..... (949) 362-4337
Lake Forest Public Works ..... (949) 461-3480
Los Alamitos Community Dev ..... (562) 431-3538 x301
Mission Viejo Public Works ..... (949) 470-3095
Newport Beach Public works ..... (949) 644-3311
Orange Public Works ..... (714) 744-5551
Placentia Engineering ..... (714) 993-8131
San Clemente Engineering ..... (949) 361-6100
San Juan Capistrano Engineering ..... (949) 493-1171
Santa Ana Public Works ..... (714) 647-3380
Seal Beach Engineering ..... (562) 431-2527 x318
Stanton Public Works ..... (714) 379-9222 x204
Tustin Public Works Engineering ..... (714) 573-3150
Villa Park Engineering ..... (714) 998-1500
Westminster Public Works Eng. ..... (714) 898-3311 x215
Yorba Linda Engineering ..... (714) 961-7170 x174
O.C. Storm Water Program 1-877-89-SPILL (1-877-897-7455)
24 Hour Water Pollution Hotline ..... (714) 567-6363 or ashbyk@pfrd.co.orange.ca.us
Chemical and Hazardous Material Spill Emergencies 911

Other Important Phone Numbers:

For Additional Brochures 1-877-89-SPILL (1-877-897-7455)
UC Masters & Coop Extension ..... (714) 708-1646 ucmastergardeners@yahoo.com
O.C. Household Hazardous Waste Information ..... (714) 834-6752 or www.oc.ca.gov/IWMD
Information on agriculture chemicals, pesticides and possible alternatives, O.C. Agriculture Commissioner ..... (714) 447-7115

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Western Crop Protection Association (WCPA)
Responsible Industry for a Sound Environment (RISE)

Keeping Pest Control Products Out of Creeks, Rivers and The Ocean

HOMEOWNER TIPS

PROTECTING WATER

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as pest control can lead to water pollution if you're not careful. Pesticide treatments must be planned and applied properly to ensure that pesticides do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pesticides into the ocean, so don't let it enter the storm drains. Pesticides can cause significant damage to our environment if used improperly. If you are thinking of using a pesticide to control a pest, there are some important things to consider.

For more information,
please call
University of California Cooperative
Extension Master Gardeners at
(714) 708-1646
or visit these Web sites:
www.uccemg.org
www.ipm.ucdavis.edu

For instructions on collecting a specimen sample visit the Orange County Agriculture Commissioner's website at:
http://www.ocagcomm.com/ser_lab.asp

To report a spill, call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline at 1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

Information From:
Cheryl Wilen, Area IPM Advisor; Darren Haver, Watershed Management Advisor; Mary Louise Flint, IPM Education and Publication Director; Pamela M. Geisel, Environmental Horticulture Advisor; Carolyn L. Unruh, University of California Cooperative Extension staff writer. Photos courtesy of the UC Statewide IPM Program and Darren Haver.

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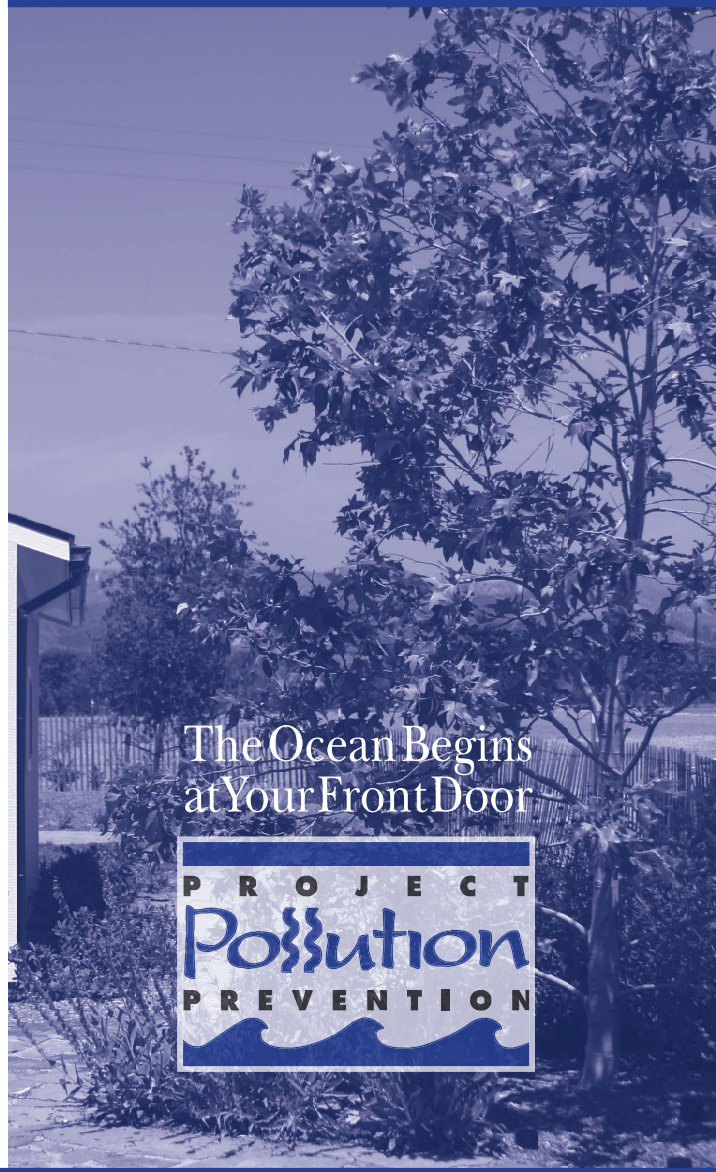
Help Prevent Ocean Pollution:

Responsible Pest Control



Tips for Pest Control

Key Steps to Follow:

Step 1: Correctly identify the pest (insect, weed, rodent, or disease) and verify that it is actually causing the problem.

Three life stages of the common lady beetle, a beneficial insect.

This is important because beneficial insects are often mistaken for pests and sprayed with pesticides needlessly.

Consult with a Certified Nursery Professional at a local nursery or garden center or send a sample of the pest to the Orange County Agricultural Commissioner's Office.

Determine if the pest is still present – even though you see damage, the pest may have left.

Step 2: Determine how many pests are present and causing damage.

Small pest populations may be controlled more safely using non-pesticide techniques. These include removing food sources, washing off leaves with a strong stream of water, blocking entry into the home using caulking and replacing problem plants with ones less susceptible to pests.

Integrated Pest Management (IPM) usually combines several least toxic pest control methods for long-term prevention and management of pest problems without harming you, your family, or the environment.

UC CE University of California Cooperative Extension

Step 3: If a pesticide must be used, choose the least toxic chemical.

Obtain information on the least toxic pesticides that are effective at controlling the target pest from the UC Statewide Integrated Pest Management (IPM) Program's Web site at www.ipm.ucdavis.edu.

Seek out the assistance of a Certified Nursery Professional at a local nursery or garden center when selecting a pesticide. Purchase the smallest amount of pesticide available.

Apply the pesticide to the pest during its most vulnerable life stage. This information can be found on the pesticide label.

Step 4: Wear appropriate protective clothing.

Follow pesticide labels regarding specific types of protective equipment you should wear. Protective clothing should always be washed separately from other clothing.

Step 5: Continuously monitor external conditions when applying pesticides such as weather, irrigation, and the presence of children and animals.

Never apply pesticides when rain is predicted within the next 48 hours. Also, do not water after applying pesticides unless the directions say it is necessary.

Apply pesticides when the air is still; breezy conditions may cause the spray or dust to drift away from your targeted area.

In case of an emergency call 911 and/or the regional poison control number at (714) 634-5988 or (800) 544-4404 (CA only).

For general questions you may also visit www.calpoison.org.

Step 6: In the event of accidental spills, sweep up or use an absorbent agent to remove any excess pesticides. Avoid the use of water.

Be prepared. Have a broom, dust pan, or dry absorbent material, such as cat litter, newspapers or paper towels, ready to assist in cleaning up spills.

Contain and clean up the spill right away. Place contaminated materials in a doubled plastic bag. All materials used to clean up the spill should be properly disposed of according to your local Household Hazardous Waste Disposal site.

Step 7: Properly store and dispose of unused pesticides.

Purchase Ready-To-Use (RTU) products to avoid storing large concentrated quantities of pesticides.

Store unused chemicals in a locked cabinet.

Unused pesticide chemicals may be disposed of at a Household Hazardous Waste Collection Center.

Empty pesticide containers should be triple rinsed prior to disposing of them in the trash.

Household Hazardous Waste Collection Center
(714) 834-6752
www.oclandfills.com

PROJECT Pollution PREVENTION

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Home improvement projects and work sites must be maintained to ensure that building materials do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump building materials into the ocean, so don't let them enter the storm drains. Follow these tips to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while performing home improvement projects. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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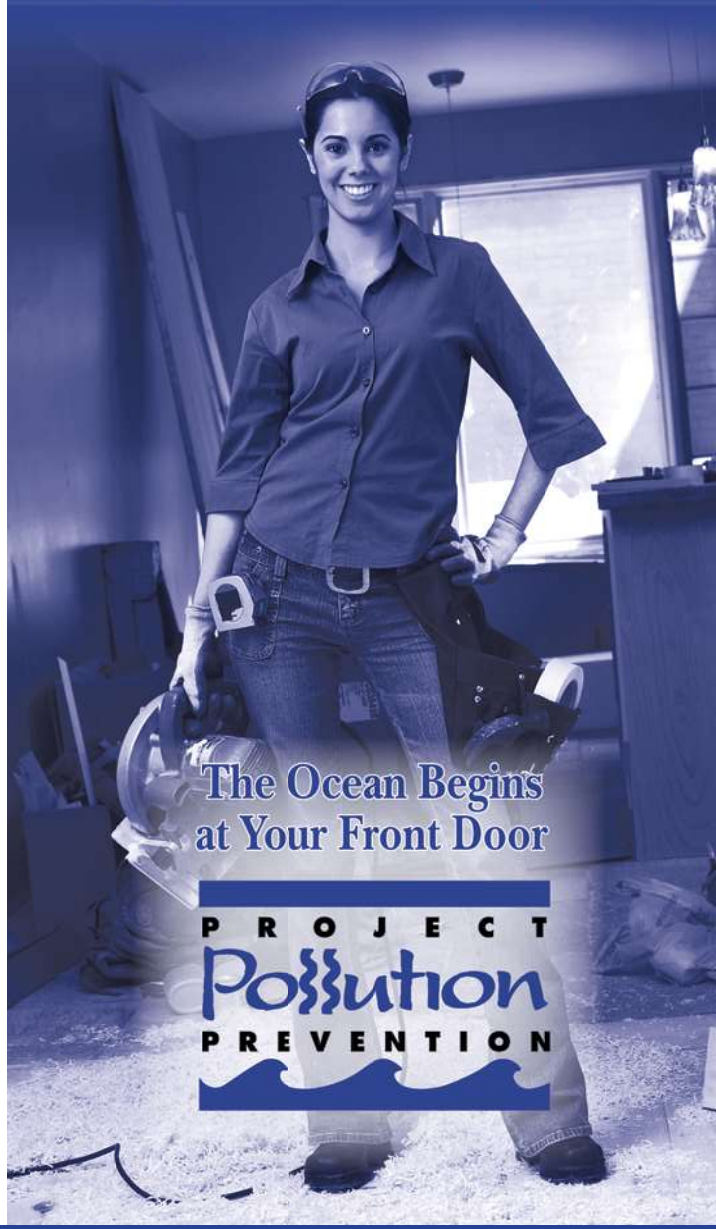
Help Prevent Ocean Pollution:

Tips for Home Improvement Projects



Tips for Home Improvement Projects

Home improvement projects can cause significant damage to the environment. Whether you hire a contractor or work on the house yourself, it is important to follow these simple tips while renovating, remodeling or improving your home:

General Construction

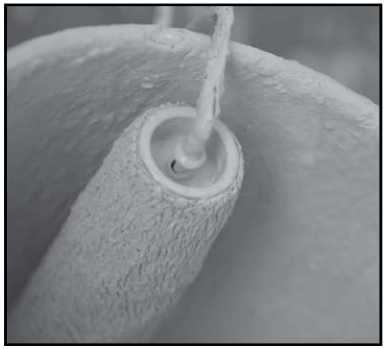
- Schedule projects for dry weather.
- Keep all construction debris away from the street, gutter and storm drain.
- Store materials under cover with temporary roofs or plastic sheets to eliminate or reduce the possibility that rainfall, runoff or wind will carry materials from the project site to the street, storm drain or adjacent properties.

Building Materials

- Never hose materials into a street, gutter or storm drain.
- Exposed piles of construction material should not be stored on the street or sidewalk.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Do not mix more fresh concrete than is needed for each project.
- Wash concrete mixers and equipment in a designated washout area where the water can flow into a containment area or onto dirt.
- Dispose of small amounts of dry excess materials in the trash. Powdery waste, such as dry concrete, must be properly contained within a box or bag prior to disposal. Call your local trash hauler for weight and size limits.

Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Place the lid on firmly and store the paint can upside-down in a dry location away from the elements.
- Tools such as brushes, buckets and rags should never be washed where excess water can drain into the street, gutter or storm drain. All tools should be rinsed in a sink connected to the sanitary sewer.
- When disposing of paint, never put wet paint in the trash.
- Dispose of water-based paint by removing the lid and letting it dry in the can. Large amounts must be taken to a Household Hazardous Waste Collection Center (HHWCC).



- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.
- For HHWCC locations and hours, call **(714) 834-6752** or visit **www.oclandfills.com**.

Erosion Control

- Schedule grading and excavation projects for dry weather.
- When temporarily removing soil, pile it in a contained, covered area where it cannot spill into the street, or obtain the required temporary encroachment or street closure permit and follow the conditions instructed by the permit.
- When permanently removing large quantities of soil, a disposal location must be found prior to excavation. Numerous businesses are available to handle disposal needs. For disposal options, visit **www.ciwmb.ca.gov/SWIS**.
- Prevent erosion by planting fast-growing annual and perennial grasses. They will shield and bind the soil.

Recycle

- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry (bricks, concrete, etc.), carpet, plastic, pipes (plastic, metal and clay), drywall, rocks, dirt and green waste.

- For a listing of construction and demolition recycling locations in your area, visit **www.ciwmb.ca.gov/recycle.**

Spills

- Clean up spills immediately by using an absorbent material such as cat litter, then sweep it up and dispose of it in the trash.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident reporting form.

PROJECT Pollution PREVENTION

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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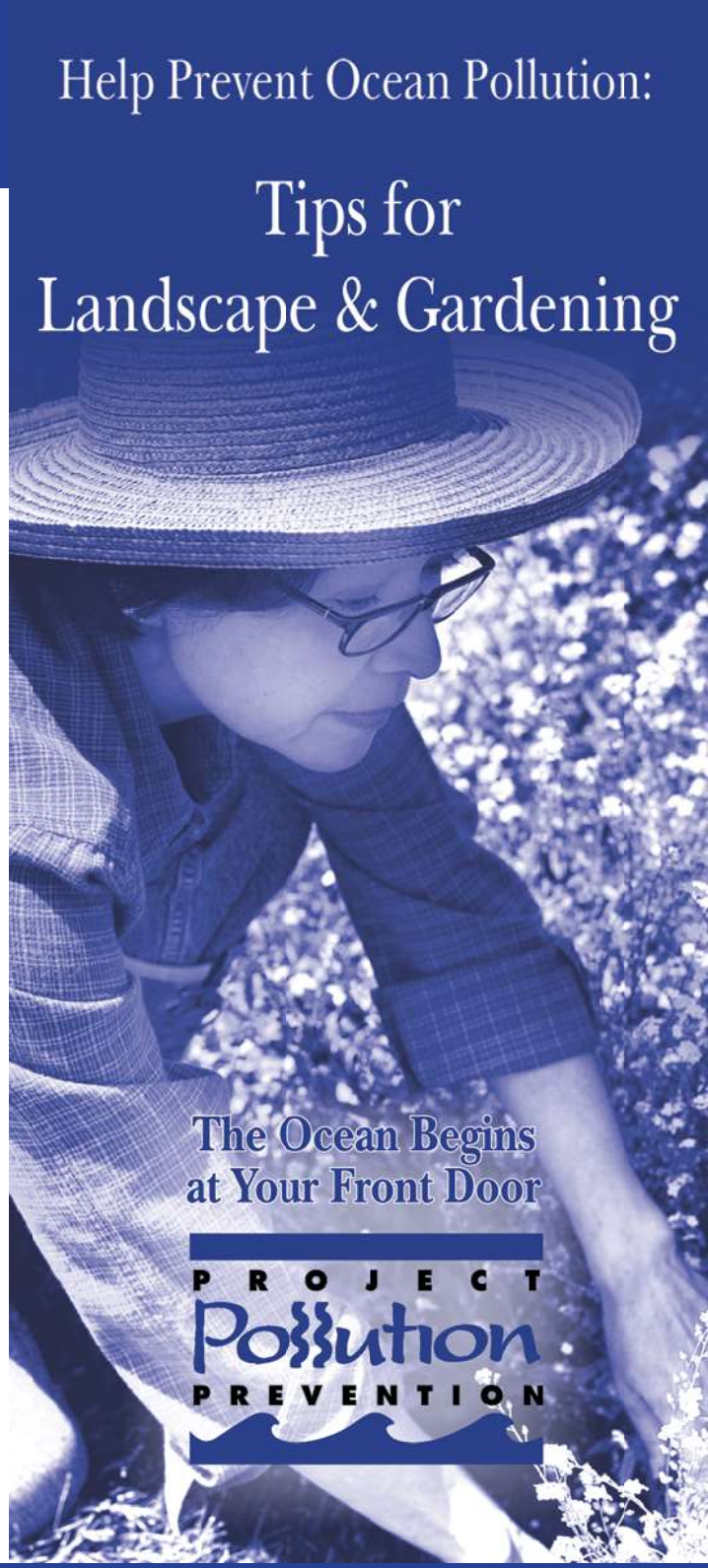
Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.
- Plant native vegetation to reduce the amount of water, fertilizers, and pesticide applied to the landscape.

- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.

- Use slow-release fertilizers to minimize leaching, and use organic fertilizers.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.

- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting. For more information, visit **www.ipm.ucdavis.edu**.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

Household Hazardous Waste Collection Centers

Anaheim:	1071 N. Blue Gum St.
Huntington Beach:	17121 Nichols St.
Irvine:	6411 Oak Canyon
San Juan Capistrano:	32250 La Pata Ave.

For more information, call (714) 834-6752 or visit www.oclandfills.com

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Pet waste and pet care products can be washed into the storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never put pet waste or pet care products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while caring for your pet. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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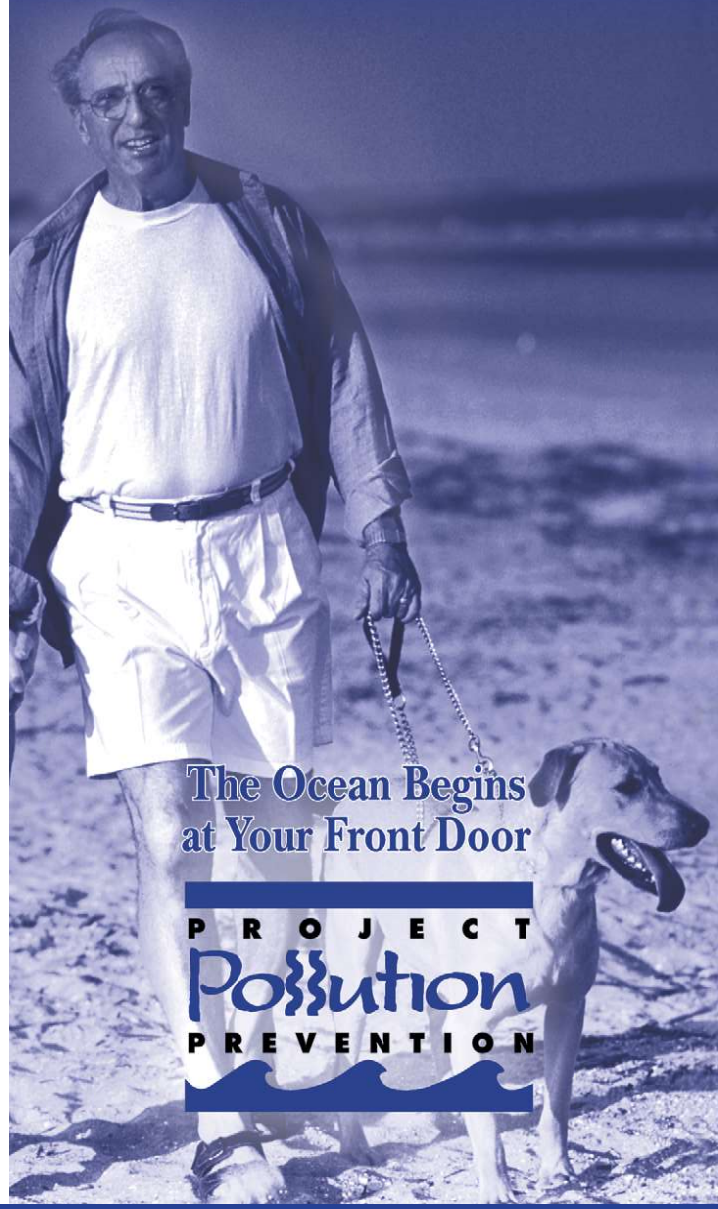
Help Prevent Ocean Pollution:

Tips for Pet Care



Tips for Pet Care

Never let any pet care products or washwater run off your yard and into the street, gutter or storm drain.

Washing Your Pets

Even biodegradable soaps and shampoos can be harmful to marine life and the environment.

- If possible, bathe your pets indoors using less-toxic shampoos or have your pet professionally groomed. Follow instructions on the products and clean up spills.

- If you bathe your pet outside, wash it on your lawn or another absorbent/ permeable surface to keep the washwater from running into the street, gutter or storm drain.

Flea Control

- Consider using oral or topical flea control products.

- If you use flea control products such as shampoos, sprays or collars, make sure to dispose of any unused products at a Household Hazardous Waste Collection Center. For location information, call **(714) 834-6752**.

Why You Should Pick Up After Your Pet

It's the law! Every city has an ordinance requiring you to pick up after your pet. Besides being a nuisance, pet waste can lead to water pollution, even if you live inland. During rainfall, pet waste left outdoors can wash into storm drains. This waste flows directly into our waterways and the ocean where it can harm human health, marine life and the environment.

As it decomposes, pet waste demands a high level of oxygen from water. This decomposition can contribute to killing marine life by reducing the amount of dissolved oxygen available to them.

Have fun with your pets, but please be a responsible pet owner by taking care of them and the environment.

- Take a bag with you on walks to pick up after your pet.

- Dispose of the waste in the trash or in a toilet.

PROJECT Pollution PREVENTION

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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Help Prevent Ocean Pollution:

Tips for Residential Pool, Landscape and Hardscape Drains

The Ocean Begins at Your Front Door

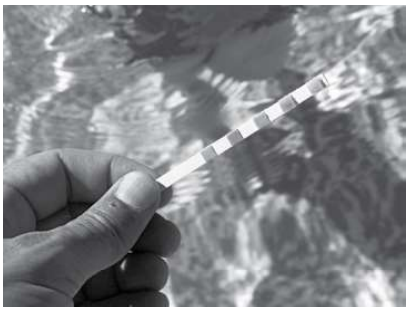
PROJECT Pollution PREVENTION

Tips for Residential Pool, Landscape and Hardscape Drains

Pool Maintenance

All pool water discharged to the curb, gutter or permitted pool drain from your property must meet the following water quality criteria:

- The residual chlorine does not exceed 0.1 mg/L (parts per million).
- The pH is between 6.5 and 8.5.
- The water is free of any unusual coloration.
- There is no discharge of filter media or acid cleaning wastes.



Some cities have ordinances that do not allow pool water to be discharged to the storm drain. Check with your city.

Landscape and Hardscape Drains

The following recommendations will help reduce or prevent pollutants from your landscape and hardscape drains from entering the street, gutter or storm drain. Unlike water that enters the sewer (from sinks and toilets), water that enters a landscape or hardscape drain is not treated before entering our creeks, rivers, bays and ocean.

Household Activities

- Do not rinse spills of materials or chemicals to any drain.
- Use dry cleanup methods such as applying cat litter or another absorbent material, then sweep it up and dispose of it in the trash. If the material is hazardous, dispose of it at a Household Hazardous Waste Collection Center (HHWCC). For locations, call **(714) 834-6752** or visit **www.oclandfills.com**.
- Do not hose down your driveways, sidewalks or patios to your landscape or hardscape drain. Sweep up debris and dispose of it in the trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash.
- Do not store items such as cleaners, batteries, automotive fluids, paint products, TVs, or computer monitors uncovered outdoors. Take them to a HHWCC for disposal.

Yard Maintenance

- Do not overwater. Water by hand or set automated irrigation systems to reflect seasonal water needs.
- Follow directions on pesticides and fertilizers (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Cultivate your garden often to control weeds and reduce the need to use chemicals.

Vehicle Maintenance

- Never pour oil or antifreeze down your landscape or hardscape drain. Recycle these substances at a service station, a waste collection center or used oil recycling center. For locations, contact the Used Oil Program at **1-800-CLEANUP** or visit **www.CLEANUP.org**.
- Whenever possible, take your vehicle to a commercial car wash.
- If you do wash your vehicle at home, do not allow the washwater to go down your landscape or hardscape drain. Instead, dispose of it in the sanitary sewer (a sink or toilet) or onto an absorbent surface such as your lawn.
- Use a spray nozzle that will shut off the water when not in use.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as painting can lead to water pollution if you're not careful. Paint must be used, stored and disposed of properly to ensure that it does not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump paint into the ocean, so don't let it enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while using, storing and disposing of paint. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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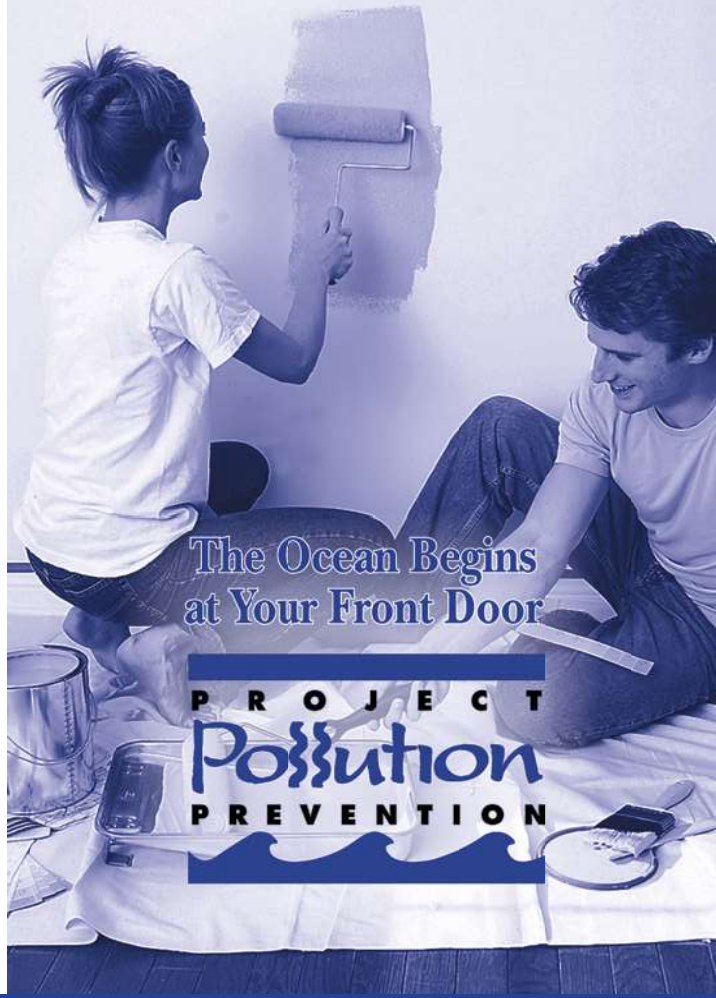
Help Prevent Ocean Pollution:

Tips for Projects Using Paint



Tips for Projects Using Paint

Paint can cause significant damage to our environment. Whether you hire a contractor or do it yourself, it is important to follow these simple tips when purchasing, using, cleaning, storing and disposing of paint.

Purchasing Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Whenever possible, use water-based paint since it usually does not require hazardous solvents such as paint thinner for cleanup.

Painting

- Use only one brush or roller per color of paint to reduce the amount of water needed for cleaning.
- Place open paint containers or trays on a stable surface and in a position that is unlikely to spill.
- Always use a tarp under the area or object being painted to collect paint drips and contain spills.

Cleaning

- Never clean brushes or rinse paint containers in the street, gutter or storm drain.
- For oil-based products, use as much of the paint on the brushes as possible. Clean brushes with thinner. To reuse thinner, pour it through a fine filter (e.g. nylon, metal gauze or filter paper) to remove solids such as leftover traces of paint.
- For water-based products, use as much of the paint on the brushes as possible, then rinse in the sink.
- Collect all paint chips and dust. Chips and dust from marine paints or paints containing lead, mercury or tributyl tin are hazardous waste. Sweep up and dispose of at a Household Hazardous Waste Collection Center (HHWCC).

Storing Paint

- Store paint in a dry location away from the elements.
- Store leftover water-based paint, oil-based paint and solvents separately in original or clearly marked containers.
- Avoid storing paint cans directly on cement floors. The bottom of the can will rust much faster on cement.
- Place the lid on firmly and store the paint can upside-down to prevent air from entering. This will keep the paint usable longer. Oil-based paint is usable for up to 15 years. Water-based paint remains usable for up to 10 years.

Alternatives to Disposal

- Use excess paint to apply another coat, for touch-ups, or to paint a closet, garage, basement or attic.
- Give extra paint to friends or family. Extra paint can also be donated to a local theatre group, low-income housing program or school.
- Take extra paint to an exchange program such as the **"Stop & Swap"** that allows you to drop off or pick up partially used home care products free of charge. **"Stop & Swap"** programs are available at most HHWCCs.
- For HHWCC locations and hours, call **(714) 834-6752** or visit **www.oclandfills.com**.

Disposing of Paint

- Never put wet paint in the trash.

For water-based paint:

- If possible, brush the leftover paint on cardboard or newspaper. Otherwise, allow the paint to dry in the can with the lid off in a well-ventilated area protected from the elements, children and pets. Stirring the paint every few days will speed up the drying.
- Large quantities of extra paint should be taken to a HHWCC.
- Once dried, paint and painted surfaces may be disposed of in the trash. When setting a dried paint can out for trash collection, leave the lid off so the collector will see that the paint has dried.

For oil-based paint:

- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.

Aerosol paint:

- Dispose of aerosol paint cans at a HHWCC.

Spills

- Never hose down pavement or other impermeable surfaces where paint has spilled.
- Clean up spills immediately by using an absorbent material such as cat litter. Cat litter used to clean water-based paint spills can be disposed of in the trash. When cleaning oil-based paint spills with cat litter, it must be taken to a HHWCC.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident reporting form.

PROJECT Pollution PREVENTION

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. Fats, oils and grease from restaurants and food service facilities can cause sewer line blockages that may result in sewage overflow into your facility and into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways and should never contain washwater, trash, grease or other materials.

You would never dump oil and trash into the ocean, so don't let it enter the storm drains. Follow these tips to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

Report sewage spills and discharges that are not contained to your site to the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455)

For emergencies, dial 911.

CALIFORNIA Restaurant ASSOCIATION SINCE 1906

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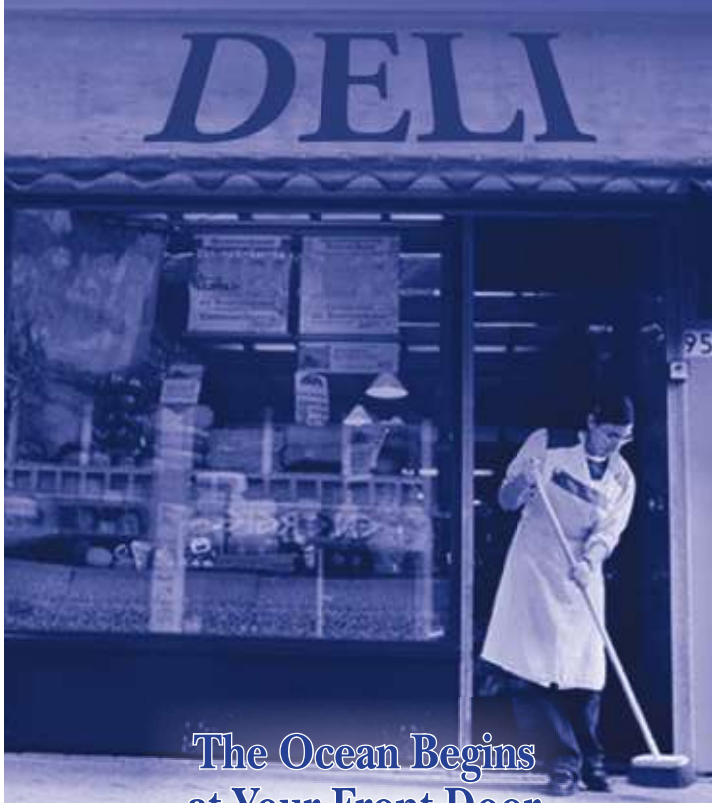
Help Prevent Ocean Pollution:

Tips for the Food Service Industry



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Best Kitchen Practices

Food Waste Disposal

- Scrape food waste off of plates, utensils, pots, food preparation and cooking areas and dispose of it in the trash.
- Never put food waste down the drain. Food scraps often contain grease, which can clog sewer pipes and result in sewage backups and overflows.

Grease & Oil Disposal

- Never put oil or grease down the drain. Contain grease and oil by using covered grease storage containers or installing a grease interceptor.
- Never overfill your grease storage container or transport it without a cover.
- Grease control devices must be emptied and cleaned by permitted companies.
- Keep maintenance records on site.

- For a list of oil/grease recycling companies, contact the CIWMB at **www.ciwmb.ca.gov/foodwaste/render.htm** or contact your local sanitation district.

Minor Spill Cleanup

- Always use dry cleanup methods, such as a rag, damp mop or broom.
- Never hose a spill into the street, gutter or storm drain.

Major Spill Cleanup

- Have spill containment and clean-up kits readily available, and train all employees on how to use them.
- Immediately contain and clean the spill using dry methods.
- If the spill leaves your site, call **(714) 567-6363**.

Dumpster Cleanup

- Pick up all debris around the dumpster.
- Always keep the lid on the dumpster closed.
- Never pour liquids into the dumpster or hose it out.

Floor Mat Cleaning

- Sweep the floor mats regularly, discarding the debris into the trash.
- Hose off the mats in a mop sink, at a floor drain, or in an outdoor area that can contain the water.
- Never hose the mats in an area where the wastewater can flow to the street, gutter or storm drain.

Washwater Disposal

- Dispose of washwater in a mop sink or an area with a floor drain.
- Never dispose of washwater in the street, gutter or storm drain.

PROJECT Pollution PREVENTION

Preventing water pollution at your commercial/industrial site

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow these easy tips to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit: **www.swrcb.ca.gov/stormwater/industrial.html**

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455).

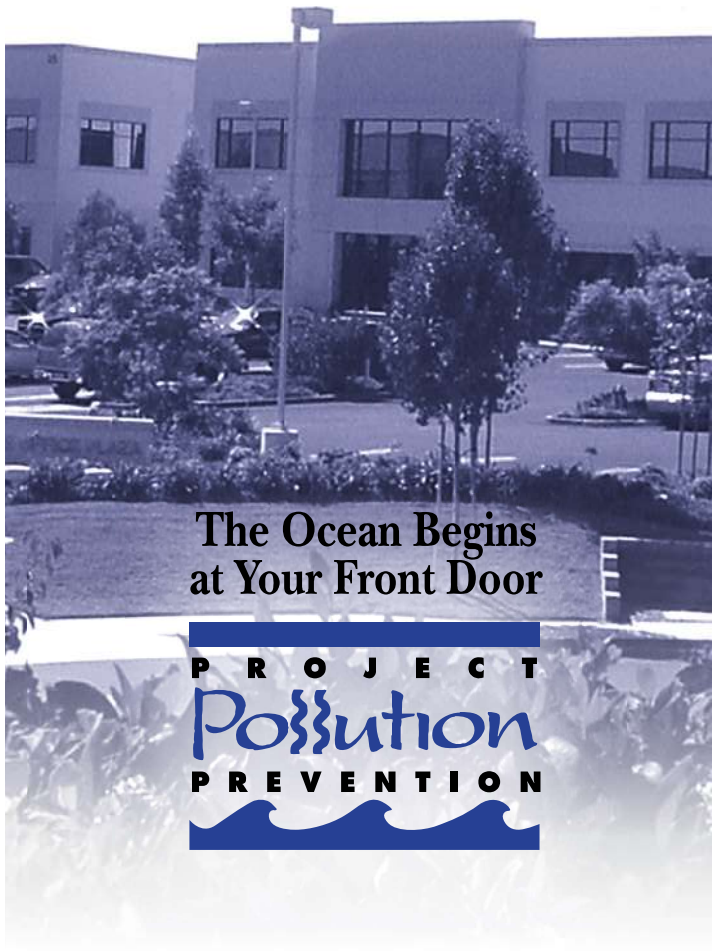
For emergencies, dial 911.

RECYCLE USED OIL

Printed on Recycled Paper

Help Prevent Ocean Pollution:

Proper Maintenance Practices for Your Business



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Proper Maintenance Practices for your Business

Landscape Maintenance

- Compost grass clippings, leaves, sticks and other vegetation, or dispose of it at a permitted landfill or in green waste containers. Do not dispose of these materials in the street, gutter or storm drain.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid overwatering.
- Follow label directions for the use and disposal of fertilizers and pesticides.
- Do not apply pesticides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

Building Maintenance

- Never allow washwater, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose of it in the trash.
- If you wash your building, sidewalk or parking lot, you **must** contain the water. Use a shop vac to collect the water and contact your city or sanitation agency for proper disposal information. Do not let water enter the street, gutter or storm drain.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to keep insects, animals, rainwater and sand from entering. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.
- Call your trash hauler to replace leaking dumpsters.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or near a storm drain. Even materials that seem harmless such as latex paint or biodegradable cleaners can damage the environment.

NEVER DISPOSE OF ANYTHING IN THE STORM DRAIN.

- Recycle paints, solvents and other materials. For more information about recycling and collection centers, visit **www.oclandfills.com**.
- Store materials indoors or under cover and away from storm drains.
- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry, carpet, plastic, pipes, drywall, rocks, dirt, and green waste. For a listing of construction and demolition recycling locations in your area, visit **www.ciwmb.ca.gov/recycle.**
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

PROJECT Pollution PREVENTION

Attachment B

Rainfall Zones Map

SUBJECT TO FURTHER REVISION

LEGEND

- Orange County Precipitation Stations
- 24 Hour, 85th Percentile Rainfall (Inches)
- 24 Hour, 85th Percentile Rainfall (Inches) - Extrapolated
- City Boundaries

Rainfall Zones

Design Capture Storm Depth (inches)

- 0.65"
- 0.7
- 0.75
- 0.80
- 0.85
- 0.90
- 0.95
- 1.00
- 1.10"

Note: Events defined as 24-hour periods (calendar days) with greater than 0.1 inches of rainfall.
For areas outside of available data coverage, professional judgment shall be applied.

0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05

LOS ANGELES COUNTY
ORANGE COUNTY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Riverside County
San Diego County

0 3 6 12 Kilometers
0 1.8 3.6 7.2 Miles

TITLE: RAINFALL ZONES

JOB: ORANGE COUNTY TECHNICAL GUIDANCE DOCUMENT — ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE XVI-1

P:\9526E\6-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-1_RainfallZones_20110215.mxd

Attachment C

WQMP Exhibit

LEGEND

- A / 1.00 — DMA ID / AREA (ACRES)
- LANDSCAPE AREA GRASS/SHRUBS (PERVIOUS)
- BUILDINGS (IMPERVIOUS) ROOFS HAVE DOWNSPOUTS SUBJECT TO IMPERVIOUS AREA DISPERSION REQUIREMENTS
- PAVEMENT AND HARDSCAPE (IMPERVIOUS)
- PROPERTY LINE
- DMA AREAS
- STORM DRAIN AND INLET
- DRAINAGE PATH
- STORM DRAIN, (PROPOSED OR EXISTING)
- CB — STORM DRAIN CATCH BASIN (PROPOSED) (SEE APPENDIX 6)
- STRUCTURAL BMP – CATCH BASIN/GRATE INLET FILTER BASKET & CONNECTOR PIPE SCREEN
- STRUCTURAL BMP – BIOFILTRATION BMP (FILTERRA –SEE TABLE FOR SIZE AND MODEL) (SEE SHEET 2 FOR DETAIL)

LIST OF SOURCE CONTROL BMPS

- CATCH BASIN MARKINGS "ONLY RAIN DOWN THE STORM DRAIN"
- MINIMIZING IRRIGATION AND RUN–OFF
- FIRE SPRINKLER TEST WATER, DRAIN TO SEWER

ON-SITE DMA AREA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (AC)	TOTAL AREA (SF)	Aimp (%)	C RUNOFF COEFF	DCV [1] VOLUME (CU-FT)	Q(BMP) [2] (CFS)	DCV [3] REQUIRED (CU-FT)	Q(BMP) [3] REQUIRED (CFS)	FILTERRA REQUIRED SURFACE AREA (SF) [4]	PROVIDED SURFACE AREA (SF)	PROPOSED BMP SIZING
A	8180	33638	0.96	41818	0.80	0.753	1850	0.159	2775	0.239	59	72	FTPD0809-HC-P
B	5476	47667	1.22	53143	0.90	0.823	2570	0.221	3855	0.332	82	84	FTPD08105-HC-P

1 SEE WORKSHEETS A AND B
2 SEE WORKSHEETS A AND D
3 TO USE A PROPRIETARY BIOFILTRATION UNIT, REQUIRED TO TREAT 150% OF THE DCV AND CORRESPONDING Q(BMP)
4 THE FILTERRA UNIT SURFACE AREA REQUIRED IS BASED ON A 175 IN/HR MEDIA LOADING RATE (AREA REQ = Q(BMP) REQ/175 IN/HR)

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NO.	DATE	REVISIONS

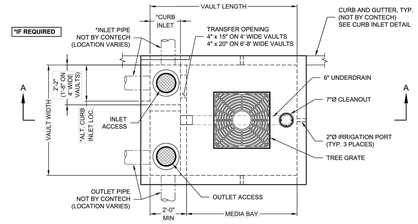
DESIGNED BY:	ES
DRAFTED BY:	ES
CHECKED BY:	KM
DATE:	9/24

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
T: 949–679–0090

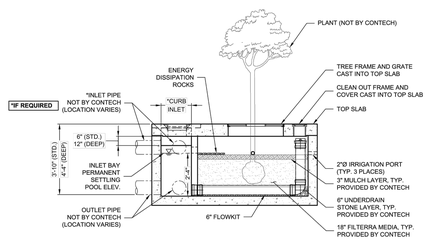
LAGUNA HILLS
KHOSHBIN MILL CREEK PROPERTY
PROPOSED CONDITION HYDROLOGY MAP

PROJECT NO. 10501.00
SHEET 1 OF 2

S:\10501.00\dwg\PREX0006-WQMP.dwg 7/14/25



PLAN VIEW



SECTION A-A
(STANDARD DEPTH SHOWN)

INTERNAL PIPE CONFIGURATION MAY VARY DEPENDING UPON OUTLET LOCATION

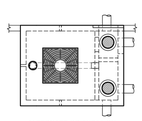
filterra
FOR PATENT INFORMATION, GO TO www.contechES.com/IP

FTPD-HC CONFIGURATION

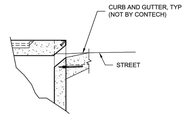
(OPTIONS: DEEP "-D", THROAT INLET "-T", PIPE INLET "-P", PIPE AND THROAT INLET "-PT")

MODEL NAME	PART NUMBER	AVAILABILITY	MEDIA AREA (SF)	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX. CURB OPENING	*MAX. BYPASS FLOW (CFS) STD / DEEP	INLET/ OUTLET ACCESS DIA.	TREE GRATE QTY. AND SIZE
FTPD 4x4 HC (4x6 VAULT)	FTPD0404-HC	ALL	16	4 x 4	4 x 6	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 4x6 HC (4x8 VAULT)	FTPD0406-HC	ALL (EXCEPT DE, MD, NJ, PA, VA, WV)	24	4 x 6	4 x 8	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x4 HC (6x6 VAULT)	FTPD0604-HC	ALL (EXCEPT CA, TX)	24	6 x 4	6 x 6	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 4.5x5.8 HC (4.5x7.8 VAULT)	FTPD045058-HC	DE, MD, NJ, PA, VA, WV ONLY	26	4.5 x 5.83	4.5 x 7.83	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x6 HC (6x8 VAULT)	FTPD0606-HC	ALL	36	6 x 6	6 x 8	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x8 HC (6x10 VAULT)	FTPD0608-HC	ALL (EXCEPT CA, TX)	48	6 x 8	6 x 10	1'-8"	1.4 / 4.6	12"/12"	(1) 4' x 4'
FTPD 8x7 HC (8x10 VAULT)	FTPD0807-HC	CA, TX ONLY	56	8 x 7	8 x 10	2'-0"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 6x10 HC (6x12 VAULT)	FTPD0610-HC	ALL (EXCEPT CA, TX)	60	6 x 10	6 x 12	1'-8"	1.4 / 4.6	12"/12"	(1) 4' x 4'
FTPD 7x10 HC (7x13 VAULT)	FTPD0710-HC	ALL (EXCEPT CA, TX)	70	7 x 10	7 x 13	2'-6"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 8x9 HC (8x12 VAULT)	FTPD0809-HC	CA, TX ONLY	72	8 x 9	8 x 12	2' -6"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 8x10.5 HC (8x14 VAULT)	FTPD08105-HC	ALL	84	8 x 10.5	8 x 14	3'-0"	2.5 / 8.2	24"/24"	(1) 4' x 4'
FTPD 8x12.5 HC (8x16 VAULT)	FTPD08125-HC	ALL (EXCEPT OR, WA)	100	8 x 12.5	8 x 16	3'-0"	2.5 / 8.2	24"/24"	(2) 4' x 4'
FTPD 9x11.5 HC (9x15 VAULT)	FTPD09115-HC	OR, WA ONLY	103	9 x 11.5	9 x 15	3'-0"	2.5 / 8.2	24"/24"	(2) 4' x 4'

*MAX BYPASS FLOW IS INTERNAL WEIR FLOW. CAPACITIES SHOWN ARE FOR STANDARD DEPTH AND DEEP (-D), RESPECTIVELY. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY.



ALTERNATE ORIENTATION



CURB INLET DETAIL

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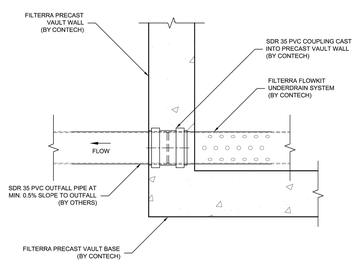
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

FILTERRA HC PEAK DIVERSION (FTPD-HC) CONFIGURATION DETAIL



SECTION VIEW

SCALE 1½" = 1'-0"

(THROUGH PRECAST VAULT WALL AT OUTFALL PIPE CONNECTION)

filterra
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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

FILTERRA OUTFALL PIPE CONNECTION TO PRECAST VAULT WALL DETAIL

DATE: 03-23-15 | FILE NAME: FILTERRA OUTFALL PIPE CONNECTION DTL | DRAWN: SCK | CHECKED: XXX

NO	DATE	REVISIONS

DESIGNED BY:
DRAFTED BY:
CHECKED BY:
DATE:

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
T: 949-679-0090

LAGUNA HILLS
KHOSHBIN MILL CREEK PROJECT
WATER QUALITY MANAGEMENT PLAN

PROJECT NO. 10501.00
SHEET 2 OF 2

S:\10501.00\dwg\PREX0006-WQMP.dwg 7/14/25
C:\DOMAIN\OUTBOUND\TEMP\TEMP\TEMP\FILTERRA\STANDARD DRAWINGS\FTPD - PEAK DIVERSION\FTPDDUALVOUT DETAILS\DWG\FTPD-HC (ALT VOUT) - FILTERRA PEAK DIVERSION CONFIG DTL.DWG 3/17/2023 8:01 AM
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Attachment D

Hydrologic Conditions of Concern Calculations

Project: **Proposed Mill Creek Development**
JN **10501**

Storm Event Volume Calculations

Storm Event: **2 Year**

Existing Condition
Volume(24 hour) = 1/2 (dQ)*(dTime)

Tc=	7.12	min
dTime = 2 x Tc	14.24	min
dQ =	3.9	cfs
Volume (24 hr)=	833	cf

Proposed Condition
Volume(24 hour) = 1/2 (dQ)*(dTime)

Tc=	6.6	10.6	min
dTime = 2 x Tc	13.3	21.2	min
dQ =	3.9	3.0	cfs
Volume (24 hr)=	776		cf

```
******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
          (c) Copyright 1983-2016 Advanced Engineering Software (aes)
              Ver. 23.0  Release Date: 07/01/2016  License ID 1557

                           Analysis prepared by:

                              Wilson Mikami, Inc
                          9 CORPORATE PARK, SUITE 100
                                IRVINE, CA 92606
                                 (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPERTY                                            *
* EXISTING CONDITION 2-YEAR HYDROLOGY                                     *
* BY KAM 071425                                                           *
 ****************************************************************************

  FILE NAME: EX_MC2.DAT
  TIME/DATE OF STUDY: 13:57 07/14/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                     --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =    2.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) I ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   203.00
  ELEVATION DATA: UPSTREAM(FEET) =    316.50  DOWNSTREAM(FEET) =    304.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  2.264
  SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.18      0.20     0.100    57    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.36
  TOTAL AREA(ACRES) =      0.18   PEAK FLOW RATE(CFS) =      0.36

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  304.00  DOWNSTREAM ELEVATION(FEET) =  299.70
  STREET LENGTH(FEET) =   185.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 10.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   5.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       0.53
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.19
    HALFSTREET FLOOD WIDTH(FEET) =    3.19
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.42
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.46
  STREET FLOW TRAVEL TIME(MIN.) =   1.28   Tc(MIN.) =    6.28
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.987
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.19      0.20     0.100    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.34
  EFFECTIVE AREA(ACRES) =      0.37    AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.4        PEAK FLOW RATE(CFS) =       0.65

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.20   HALFSTREET FLOOD WIDTH(FEET) =   3.86
  FLOW VELOCITY(FEET/SEC.) =  2.45   DEPTH*VELOCITY(FT*FT/SEC.) =   0.50
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.28
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.987
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.96      0.20     0.100    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.96      SUBAREA RUNOFF(CFS) =    1.70
  EFFECTIVE AREA(ACRES) =      1.33   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
```

```
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       2.35

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.70  DOWNSTREAM(FEET) =    296.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   119.00   CHANNEL SLOPE =  0.0311
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =   7.500
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.913
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.55      0.20     0.100    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.82
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   4.63
  AVERAGE FLOW DEPTH(FEET) =   0.29   TRAVEL TIME(MIN.) =   0.43
  Tc(MIN.) =    6.70
  SUBAREA AREA(ACRES) =     0.55       SUBAREA RUNOFF(CFS) =    0.94
  EFFECTIVE AREA(ACRES) =      1.88     AREA-AVERAGED Fm(INCH/HR) =   0.02
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       3.20

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.29   FLOW VELOCITY(FEET/SEC.) =   4.92
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     507.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.70
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.913
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.27      0.20     1.000    64
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.27      SUBAREA RUNOFF(CFS) =    0.42
  EFFECTIVE AREA(ACRES) =      2.15   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        2.1       PEAK FLOW RATE(CFS) =       3.62

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     21.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.00  DOWNSTREAM(FEET) =   272.00
  FLOW LENGTH(FEET) =   265.00   MANNING'S N =  0.015
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 18.000
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   4.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.56
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
```

```
  PIPE-FLOW(CFS) =       3.62
  PIPE TRAVEL TIME(MIN.) =   0.42    Tc(MIN.) =    7.12
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     21.00 =     772.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.12
  RAINFALL INTENSITY(INCH/HR) =   1.85
  AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.21
  EFFECTIVE STREAM AREA(ACRES) =       2.15
  TOTAL STREAM AREA(ACRES) =       2.15
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       3.62

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    70.00
  ELEVATION DATA: UPSTREAM(FEET) =    302.00  DOWNSTREAM(FEET) =    272.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  2.264
  SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"       D        0.21      0.20     1.000    64    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      0.39
  TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      0.39

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.00
  RAINFALL INTENSITY(INCH/HR) =   2.26
  AREA-AVERAGED Fm(INCH/HR) =  0.20
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =       0.21
  TOTAL STREAM AREA(ACRES) =       0.21
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.39

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        3.62    7.12    1.848  0.20( 0.04) 0.21       2.1      10.00
```

```
    2        0.39    5.00    2.264  0.20( 0.20) 1.00       0.2      20.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        3.52    5.00    2.264  0.20( 0.06) 0.31       1.7      20.00
      2        3.93    7.12    1.848  0.20( 0.06) 0.28       2.4      10.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       3.93    Tc(MIN.) =     7.12
  EFFECTIVE AREA(ACRES) =       2.36   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.28
  TOTAL AREA(ACRES) =        2.4
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     21.00 =     772.00 FEET.
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        2.4  TC(MIN.) =      7.12
  EFFECTIVE AREA(ACRES) =      2.36  AREA-AVERAGED Fm(INCH/HR)=  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.283
  PEAK FLOW RATE(CFS)   =       3.93

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        3.52    5.00    2.264  0.20( 0.06) 0.31       1.7      20.00
      2        3.93    7.12    1.848  0.20( 0.06) 0.28       2.4      10.00
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                           Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPOSED CONDITION HYDROLOGY                        *
* 2-YEAR HYDROLOGY                                                        *
* BY KAM 071425                                                           *
 ****************************************************************************

  FILE NAME: KOSH.DAT
  TIME/DATE OF STUDY: 13:48 07/14/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                     --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =    2.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) I ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)   (FT)    (n)
===  =====  =========  =================  ======  ===== ======  =====  =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   240.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    309.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.456
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.955
  SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.10      0.20     0.100    57    6.46
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.17
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.17

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     11.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.46
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.955
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.24      0.20     0.200    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.24      SUBAREA RUNOFF(CFS) =    0.41
  EFFECTIVE AREA(ACRES) =      0.34   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       0.59

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   303.20  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    47.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   2.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.58
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.59
  PIPE TRAVEL TIME(MIN.) =   0.17    Tc(MIN.) =    6.63
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.63
  RAINFALL INTENSITY(INCH/HR) =   1.93
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
  EFFECTIVE STREAM AREA(ACRES) =       0.34
  TOTAL STREAM AREA(ACRES) =       0.34
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.59

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     13.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   254.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    308.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.326
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.978
  SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  D        0.10      0.20      0.100    57    6.33
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.18
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.18

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.33
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.978
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"        D        0.26      0.20      0.200    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    0.45
  EFFECTIVE AREA(ACRES) =      0.36   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       0.63

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.70  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    11.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   2.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.02
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.63
  PIPE TRAVEL TIME(MIN.) =   0.04    Tc(MIN.) =    6.36
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     265.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.36
  RAINFALL INTENSITY(INCH/HR) =   1.97
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
```

```
  EFFECTIVE STREAM AREA(ACRES) =       0.36
  TOTAL STREAM AREA(ACRES) =       0.36
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.63

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        0.59    6.63    1.926  0.20( 0.03) 0.17       0.3      10.00
      2        0.63    6.36    1.971  0.20( 0.03) 0.17       0.4      10.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        1.21    6.36    1.971  0.20( 0.03) 0.17       0.7      10.00
      2        1.20    6.63    1.926  0.20( 0.03) 0.17       0.7      10.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       1.21    Tc(MIN.) =     6.36
  EFFECTIVE AREA(ACRES) =       0.69   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.7
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     14.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.50  DOWNSTREAM(FEET) =   296.20
  FLOW LENGTH(FEET) =   103.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   2.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.29
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.21
  PIPE TRAVEL TIME(MIN.) =   0.18    Tc(MIN.) =    6.55
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     14.00 =     390.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     14.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.55
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.939
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.14      0.20     0.100    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.24
  EFFECTIVE AREA(ACRES) =      0.83   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       1.42

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     15.00 IS CODE =  31
----------------------------------------------------------------------------
```

```
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.20  DOWNSTREAM(FEET) =   294.30
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.56
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.42
  PIPE TRAVEL TIME(MIN.) =   0.09    Tc(MIN.) =    6.63
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     15.00 =     435.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     15.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    6.63
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.924
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.10      0.20     0.100    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.17
  EFFECTIVE AREA(ACRES) =      0.93   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.15
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       1.58

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   294.30  DOWNSTREAM(FEET) =   292.30
  FLOW LENGTH(FEET) =    50.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.66
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.58
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    6.73
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     16.00 =     485.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   292.30  DOWNSTREAM(FEET) =   272.30
  FLOW LENGTH(FEET) =   206.00   MANNING'S N =  0.015
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.87
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.58
  PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    7.12
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     26.00 =     691.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.12
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.848
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL FAIR COVER
 "CHAPARRAL,NARROWLEAF"     D        0.28      0.20     1.000    72
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA AREA(ACRES) =    0.28      SUBAREA RUNOFF(CFS) =    0.42
 EFFECTIVE AREA(ACRES) =      1.21   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.35
 TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       1.93

****************************************************************************
 FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  10
----------------------------------------------------------------------------
 >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
 FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   262.00
 ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    301.70

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.414
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.962
 SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 D        0.13      0.20     0.100    57    6.41
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      0.23
 TOTAL AREA(ACRES) =      0.13   PEAK FLOW RATE(CFS) =      0.23

****************************************************************************
 FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.41
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.962
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.06      0.20     0.100    57
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.10
 EFFECTIVE AREA(ACRES) =      0.19   AREA-AVERAGED Fm(INCH/HR) =  0.02
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.33
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.41
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.962
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.26      0.20     0.200    57
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    0.45
 EFFECTIVE AREA(ACRES) =      0.45   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       0.78

****************************************************************************
 FLOW PROCESS FROM NODE     21.00 TO NODE     22.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   296.70  DOWNSTREAM(FEET) =   296.50
 FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.22
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       0.78
 PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    6.50
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     22.00 =     283.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     22.00 TO NODE     22.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.50
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.948
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.14      0.20     0.100    57
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.24
 EFFECTIVE AREA(ACRES) =      0.59   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.14
 TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       1.02

****************************************************************************
 FLOW PROCESS FROM NODE     22.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   296.50  DOWNSTREAM(FEET) =   296.30
 FLOW LENGTH(FEET) =    22.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
```

```
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.50
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.02
  PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    6.58
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     305.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.58
  RAINFALL INTENSITY(INCH/HR) =   1.93
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.14
  EFFECTIVE STREAM AREA(ACRES) =       0.59
  TOTAL STREAM AREA(ACRES) =       0.59
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.02

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     23.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    300.80

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  2.264
  SUBAREA Tc AND LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 D        0.07      0.20     0.100    57    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.14
  TOTAL AREA(ACRES) =      0.07   PEAK FLOW RATE(CFS) =      0.14

****************************************************************************
  FLOW PROCESS FROM NODE     23.00 TO NODE     23.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    5.00
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  2.264
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.18      0.20     0.200    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.36
  EFFECTIVE AREA(ACRES) =      0.25   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.50
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     23.00 TO NODE     24.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.80  DOWNSTREAM(FEET) =   297.60
 FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   2.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.73
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       0.50
 PIPE TRAVEL TIME(MIN.) =   0.09    Tc(MIN.) =    5.09
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     24.00 =     194.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.09
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  2.240
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.03      0.20     0.100    57
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.03      SUBAREA RUNOFF(CFS) =    0.06
 EFFECTIVE AREA(ACRES) =      0.28   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       0.56

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.60  DOWNSTREAM(FEET) =   296.30
 FLOW LENGTH(FEET) =   245.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.12
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       0.56
 PIPE TRAVEL TIME(MIN.) =   1.31    Tc(MIN.) =    6.40
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.40
 *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.965
 SUBAREA LOSS RATE DATA(AMC  I ):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.20      0.20     0.200    57
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
```

```
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.20      SUBAREA RUNOFF(CFS) =    0.35
  EFFECTIVE AREA(ACRES) =      0.48   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       0.83

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.40
  RAINFALL INTENSITY(INCH/HR) =   1.96
  AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.18
  EFFECTIVE STREAM AREA(ACRES) =       0.48
  TOTAL STREAM AREA(ACRES) =       0.48
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.83

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        1.02    6.58    1.934  0.20( 0.03) 0.14       0.6      20.00
      2        0.83    6.40    1.965  0.20( 0.04) 0.18       0.5      20.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        1.84    6.40    1.965  0.20( 0.03) 0.16       1.1      20.00
      2        1.84    6.58    1.934  0.20( 0.03) 0.16       1.1      20.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       1.84    Tc(MIN.) =     6.40
  EFFECTIVE AREA(ACRES) =       1.05   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        1.1
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.40
  *   2 YEAR RAINFALL INTENSITY(INCH/HR) =  1.965
  SUBAREA LOSS RATE DATA(AMC  I ):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.12      0.20     0.200    57
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.21
  EFFECTIVE AREA(ACRES) =      1.17   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       2.04
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.30  DOWNSTREAM(FEET) =   274.00
  FLOW LENGTH(FEET) =    60.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   2.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  20.50
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.04
  PIPE TRAVEL TIME(MIN.) =   0.05    Tc(MIN.) =    6.45
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     499.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        2.04    6.45    1.956  0.20( 0.03) 0.16       1.2      20.00
      2        2.04    6.63    1.926  0.20( 0.03) 0.16       1.2      20.00
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     499.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        1.93    7.12    1.848  0.20( 0.07) 0.35       1.2      10.00
      2        1.91    7.38    1.810  0.20( 0.07) 0.35       1.2      10.00
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     26.00 =     691.00 FEET.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        3.90    6.45    1.956  0.20( 0.05) 0.25       2.3      20.00
      2        3.91    6.63    1.926  0.20( 0.05) 0.25       2.3      20.00
      3        3.88    7.12    1.848  0.20( 0.05) 0.26       2.4      10.00
      4        3.82    7.38    1.810  0.20( 0.05) 0.26       2.4      10.00
    TOTAL AREA(ACRES) =         2.4

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =        3.91  Tc(MIN.) =    6.628
  EFFECTIVE AREA(ACRES) =      2.31  AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.25
  TOTAL AREA(ACRES) =        2.4
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     26.00 =     691.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        2.4  TC(MIN.) =      6.63
  EFFECTIVE AREA(ACRES) =      2.31  AREA-AVERAGED Fm(INCH/HR)=  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.254
  PEAK FLOW RATE(CFS)   =       3.91

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        3.90    6.45    1.956  0.20( 0.05) 0.25       2.3      20.00
```

2	3.91	6.63	1.926	0.20(0.05)	0.25	2.3	20.00
3	3.88	7.12	1.848	0.20(0.05)	0.26	2.4	10.00
4	3.82	7.38	1.810	0.20(0.05)	0.26	2.4	10.00

END OF RATIONAL METHOD ANALYSIS

Attachment E

BMP Sizing Calculations and Worksheets

Worksheet A: Hydrologic Source Control Calculation Form

Drainage area ID	DMA A			
Total drainage area	0.96	acres		
Total drainage area Impervious Area (IA_{total})	0.77	acres		
HSC ID	HSC Type/ Description/ Reference BMP Fact Sheet	Effect of individual HSC_i per criteria in **BMP Fact Sheets (XIV.1)** (d_{HSCi})[1]	Impervious Area Tributary to HSC_i (IA_i)	$d_i \times IA_i$
A	HSC-2 IMPERVIOUS AREA DISPERSION	0.25	0.29 Ac	0.073
A	BIO-7	0	0.96 Ac	0
Box 1:		$\sum d_i \times IA_i =$		0.073
Box 2:		$IA_{total} =$		0.77
[Box 1]/[Box 2]:		$d_{HSC\ total} =$		0.095
		Percent Capture Provided by HSCs (Table III.1)		20%

1 - For HSCs meeting criteria to be considered self-retaining, enter the DCV for the project.

Worksheet B: Simple Design Capture Volume Sizing Method DMA A

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.80	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0.095	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.705	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	0.96	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.80	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.753	
4	Calculate runoff volume, V_{design}= *(C x* $d_{remainder}$ *x A x 43560 x (1/12))*	V_{design}=	~~2,102~~ 1,850	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (Appendix VII)	$K_{observed}$=		In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=		
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=		In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=		Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=		feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=		sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet D: Capture Efficiency Method for Flow-Based BMPs DMA A

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter the time of concentration, T_c (min) (See **Appendix** IV.2)	T_c=	6.6	
2	Using Figure III.4, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.25	in/hr
3	Enter the effect depth of provided HSCs upstream, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0.095	inches
4	Enter capture efficiency corresponding to d_{HSC}, Y_2 (Worksheet A)	Y_2=	20	%
5	Using Figure III.4, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0.03	
6	Determine the design intensity that must be provided by BMP, $I_{design}= I_1-I_2$	I_{design}=	0.22	
Step 2: Calculate the design flowrate				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	0.96	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.80	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.753	
4	Calculate design flowrate, $Q_{design}= (C \times i_{design} \times A)$	Q_{design}=	0.159	cfs
Supporting Calculations				
Describe system:				
Provide time of concentration assumptions: SEE RATIONAL METHOD OUTPUT, PROPOSED CONDITION HYDROLOGY MAP				

Worksheet A: Hydrologic Source Control Calculation Form

Drainage area ID	DMA B			
Total drainage area	1.22	acres		
Total drainage area Impervious Area (IA_{total})	1.09	acres		
HSC ID	HSC Type/ Description/ Reference BMP Fact Sheet	Effect of individual HSC_i per criteria in **BMP Fact Sheets (XIV.1)** (d_{HSCi})[1]	Impervious Area Tributary to HSC_i (IA_i)	$d_i \times IA_i$
B	HSC-2 IMPERVIOUS AREA DISPERSION	0.25	0.45 Ac	0.1125
B	BIO-7	0	1.22 Ac	0
Box 1:		$\sum d_i \times IA_i =$		0.1125
Box 2:		$IA_{total} =$		1.09
[Box 1]/[Box 2]:		$d_{HSC\ total} =$		0.103
		Percent Capture Provided by HSCs (Table III.1)		20%

1 - For HSCs meeting criteria to be considered self-retaining, enter the DCV for the project.

Worksheet B: Simple Design Capture Volume Sizing Method

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.80	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0.095	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.705	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	1.22	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.90	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.823	
4	Calculate runoff volume, V_{design}= *(C x* $d_{remainder}$ *x A x 43560 x (1/12))*	V_{design}=	2,570	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (Appendix VII)	$K_{observed}$=		In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=		
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=		In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=		Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=		feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=		sq-ft

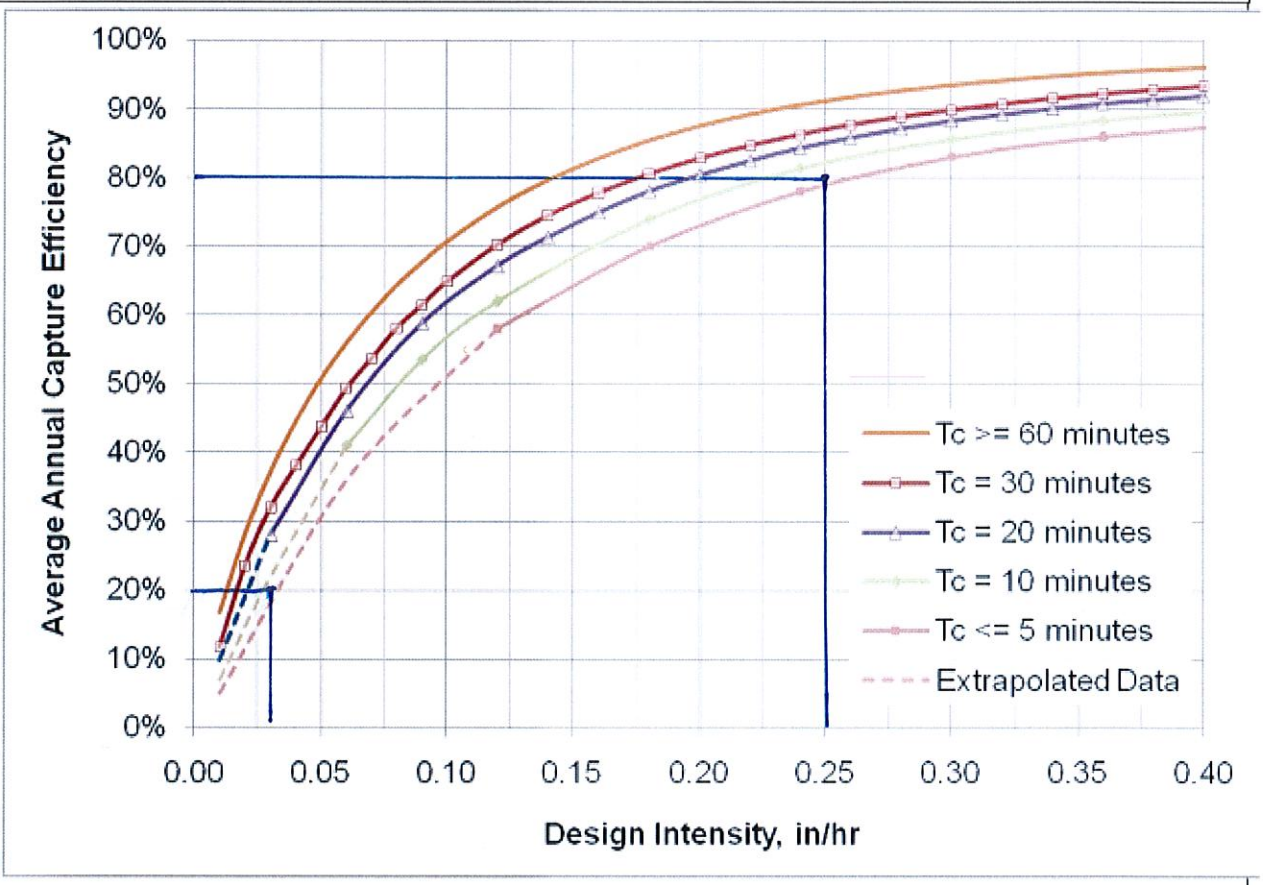
[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet D: Capture Efficiency Method for Flow-Based BMPs

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter the time of concentration, T_c (min) (See **Appendix IV.2**)	T_c=	6.	
2	Using **Figure III.4**, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.25	in/hr
3	Enter the effect depth of provided HSCs upstream, d_{HSC} (inches) (**Worksheet A**)	d_{HSC}=	0.103	inches
4	Enter capture efficiency corresponding to d_{HSC}, Y_2 (**Worksheet A**)	Y_2=	20	%
5	Using **Figure III.4**, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0.03	
6	Determine the design intensity that must be provided by BMP, $I_{design}= I_1-I_2$	I_{design}=	0.22	
Step 2: Calculate the design flowrate				
1	Enter Project area tributary to BMP (s), A (acres)	A=	1.22	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.90	
3	Calculate runoff coefficient, $C= (0.75 \times imp) + 0.15$	C=	0.823	
4	Calculate design flowrate, $Q_{design}= (C \times i_{design} \times A)$	Q_{design}=	0.221	cfs
Supporting Calculations				
Describe system:				
Provide time of concentration assumptions: SEE RATIONAL METHOD OUTPUT, PROPOSED CONDITION HYDROLOGY MAP				

Worksheet D: Capture Efficiency Method for Flow-Based BMPs

Graphical Operations



Provide supporting graphical operations. See Example III.7.

ON-SITE DMA AREA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (AC)	TOTAL AREA (SF)	Aimp (%)	C RUNOFF COEFF	DCV [1] VOLUME (CU-FT)	Q(BMP) [2] (CFS)	DCV [3] REQUIRED (CU-FT)	Q(BMP) [3] REQUIRED (CFS)	FILTERRA REQUIRED SURFACE AREA (SF) [4]	PROVIDED SURFACE AREA (SF)	PROPOSED BMP SIZING
A	8180	33638	0.96	41818	0.80	0.753	1850	0.159	2775	0.239	59	72	FTPD0809-HC-P
B	5476	47667	1.22	53143	0.90	0.823	2570	0.221	3855	0.332	82	84	FTPD08105-HC-P

1 SEE WORKSHEETS A AND B

2 SEE WORKSHEETS A AND D

3 APPLY A 1.5x FACTOR TO 85TH PERCENTILE DESIGN CAPTURE DEPTH

4 ASSUMING A 175 IN/HR LOAD RATE, REQUIRED SURFACE AREA = Q(BMP)/175 IN/HR

Attachment F

Preliminary Soils Report

LGC Valley, Inc.

Geotechnical Consulting

PRELIMINARY GEOTECHNICAL INVESTIGATION,
PROPOSED RESIDENTIAL DEVELOPMENT,
23161 MILL CREEK DRIVE,
LAGUNA HILLS, CALIFORNIA

Dated: August 15, 2024

Project No. 244006-01

Prepared For:

Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

9272 Jeronimo Road, Suite 104, • Irvine • CA 92618 • (949) 297-3856

LGC Valley, Inc.
Geotechnical Consulting

August 15, 2024 Project No. 244006-01

Ms. Aylene Chu
Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

Subject: ***Preliminary Geotechnical Investigation, Proposed Residential Development, 23161 Mill Creek Drive, Laguna Hills, California***

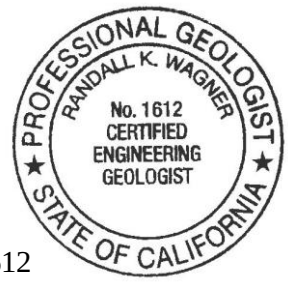
In accordance with your request, LGC Valley, Inc. (LGC) has performed a preliminary geotechnical investigation for the proposed multi-family residential development located at 23161 Mill Creek Drive (Assessor Parcel Number [APN] 588-142-07) in the City of Laguna Hills, California. The purpose of our geotechnical investigation was to evaluate the existing on-site geotechnical conditions relative to the proposed multi-family residential development of the site and to provide geotechnical recommendations applicable to the grading operations and future site construction for the project.

Our geotechnical study included: 1) review of the available geotechnical as-graded documents of the site and adjacent properties, and pertinent geotechnical and geologic reports and maps relative to the general vicinity; 2) a site reconnaissance, geologic mapping, and field exploration consisting of the excavation of six small-diameter borings; 3) laboratory testing of representative on-site soil samples; 4) geotechnical analysis of the collected data; and 5) preparation of this report that includes our findings, conclusions, opinions, and recommendations relative to the grading and development of the site.

Based on the results of our preliminary geotechnical investigation, it is our professional opinion that the proposed site development is feasible from a geotechnical standpoint provided the recommendations included in this report are incorporated into the project plans and specifications and followed during site grading and construction. If you have any questions regarding our report, please contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LGC VALLEY, INC.



Randall K. Wagner, CEG 1612
Senior Project Geologist

Basil Hattar, GE 2734
Principal Engineer

Distribution: (1) Addressee (via e-mail)

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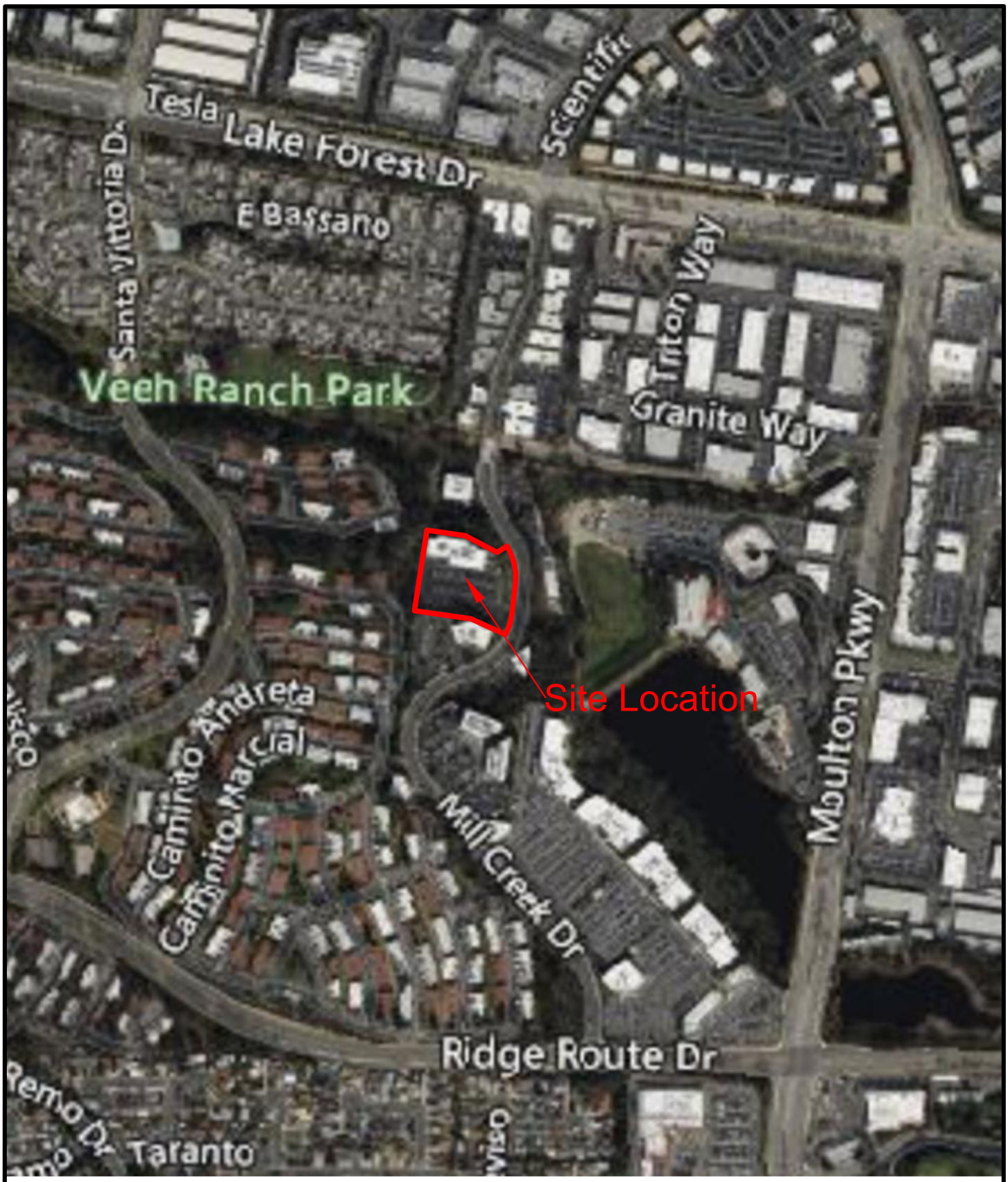
1.0 INTRODUCTION

1.1 Purpose and Scope of Services

The purpose of this preliminary geotechnical investigation was to identify and evaluate the existing geologic and geotechnical conditions at the subject site (Figure 1) and to provide preliminary geotechnical design criteria relative to the proposed multi-family development of the site. Recommendations for site grading, construction, preliminary foundation design for the proposed structures, and other relevant aspects of the proposed development are included herein to address the identified site geotechnical conditions.

Our scope-of-services for preparation of this document included:

- Review of available reports including prior geotechnical investigations, as-graded geotechnical documents, and other geotechnical related documents of the site and adjacent properties; and pertinent published geologic, geotechnical, and seismic reports and maps relative to the general vicinity (Appendix A).
- A site reconnaissance and geologic mapping of the site.
- A subsurface investigation consisting of the excavation, sampling, and logging of six small-diameter hollow-stem borings. The locations of the borings are shown on the Geotechnical Map (Figure 2). The logs of the borings are presented in Appendix B. The test borings were sampled and logged under the supervision of a licensed engineering geologist from our firm. The excavations were performed to evaluate the general characteristics of the subsurface conditions of the site including the classification of site soils and the determination of the depth to competent soil.
- Laboratory testing of representative soil samples obtained during our investigation (Appendix C).
- Review of boring logs from the geotechnical studies previously performed on the site and/or adjacent sites. The applicable boring logs are presented in Appendix D.
- Determination of seismic design parameters based on current building code requirements.
- Geotechnical analyses and evaluation of the data obtained during this study.
- Preparation of this report presenting our findings, conclusions, opinions, and recommendations including the General Earthwork and Grading Specifications for Rough Grading (Appendix E) with respect to the evaluated geotechnical conditions at the site and the proposed development.



Basemap: ESRI World Imagery Basemap, Accessed August 13, 2024

LGC

Figure 1
Site Location Map
23161 Mill Creek Drive
Laguna Hills, California

Project Name	Toll/23161 Mill Creek
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	Not-to-Scale
Date	August 15, 2024

1.2 Site and Project Description

The approximately 2.44-acre site is located on the west side of Mill Creek Drive southwest of the intersection of Mill Creek Drive and Lake Forest Drive in the northwestern portion of the City of Laguna Hills, California (Figure 1). The site is bounded by Mill Creek Drive on the east, existing business developments on the north (23091 Mill Creek Drive) and south (23201 Mill Creek Drive), and a residential development on the west. The site currently consists of one three-story commercial building in the northern portion of the site and a large, paved parking lot in the central and southern portions of the site. Additional improvements include underground utility lines, retaining walls along the south and west sides of the parking lot, landscaping, and associated improvements. A north- to east-facing slope up to approximately 40 to 45 feet in height is present on the north and east sides of the property that descends to the parking lot of 23091 Mill Creek Drive on the north and Mill Creek Drive on the east. An approximately 10 to 15-foot-tall north-facing slope is present along the south side of the property.

Review of available aerial photographs, historical Google Earth images, old topography maps, and geotechnical reports of adjacent properties (Appendix A) indicate that the site (and general vicinity) was rough graded in the late 1970's/early 1980's and the site was precise graded in 1985/1986. The as-graded geotechnical reports and grading plans specific to 23161 Mill Creek were not available at the City of Laguna Hills; and consequently, were not reviewed by us for the purposes of this study.

Prior to the grading of the site, the property was located along the north side of a northwest-southeast trending ridgeline. Mill Creek Drive along the east side of the property was the location of a small tributary canyon that was partially in-filled during the grading of the area. Based on Google Earth images, elevations of the relatively flat portion of the property range from approximately 297 to 301 feet along the north side of the property to 300 to 316 feet along the south side. Based on the original topography, current site grades, and our limited subsurface investigation, we anticipate that the prior grading of the site consisted of a cut-fill condition with shallow fills located across the site (existing parking lot area) and deeper fills along the northern side of the property (and beneath the existing building) with backfill soils behind the on-site retaining walls.

1.3 Proposed Development

We understand that the proposed development will consist of a multi-family townhome residential development consisting of nine 3- to 6-unit structures (totaling 43 units). Preliminary plans show perimeter retaining walls are being considered around the perimeter of the site consisting of a combination of block walls, pile walls, and segmental (MSE) walls ranging in height from 4 to 17 feet. Anticipated associated improvements will include asphalt concrete (AC) streets and parking areas, a gated entrance, Portland cement concrete (PCC) sidewalks, open-space areas/landscaping, underground utility lines, a storm water biofiltration system, and associated improvements.

1.4 Subsurface Investigation and Laboratory Testing

Our subsurface investigation was performed on May 8, 2024, and consisted of the excavation, sampling, and logging of six small diameter hollow-stem borings (designated Borings LGC-B-1 through LGC-B-6) excavated to depths ranging from approximately 10.5 to 20.5 feet. All of the borings were extended into competent formational material. The logs of the borings are presented in Appendix B while the approximate locations of the borings are shown on the Geotechnical Map (Figure 1). At least three days prior to the start of our subsurface investigation, the proposed boring excavation locations were staked, Underground Service Alert (USA) notified, and the applicable information provided to them. The USA Dig Alert Number for this project is A241230333.

During the subsurface investigation, representative bulk samples and relatively undisturbed samples were collected for laboratory testing, and were forwarded to EGLAB, Inc. (EGL) and to LGC Valley, Inc. for classification testing. Laboratory testing was performed on representative soil samples and included moisture/density, Atterberg Limit, sieve analysis, consolidation, expansion index, direct shear, remolded direct shear, maximum density, sulfate content, chloride content, pH, and minimum resistivity testing. A summary of the test procedures and printouts of the laboratory test results are presented in Appendix C. The moisture and density test results were presented on the boring logs included in Appendix B.

1.5 Existing As-Graded Geotechnical Conditions

Based on our review of available PDF copies of public records obtained from the City of Laguna Hills (see References - Appendix A); a number of different preliminary geotechnical investigations and as-grade reports have been prepared for adjacent properties. However, the preliminary geotechnical investigations and as-grade reports for the subject property (23161 Mill Creek Drive) and the property to the south (23201 Mill Creek Drive) were not available for our review. The findings and conclusions of the available geotechnical reports relative to 23091 Mill Creek Drive (located to the north of the subject site) are discussed below.

2.0 GEOTECHNICAL CONDITIONS

2.1 Site Geology

Based on our subsurface exploration and review of the available previous geotechnical reports for the property and pertinent geologic literature and maps (Appendix A), the bedrock unit at the site is the Tertiary-aged Sespe Formation. The bedrock is overlain by older artificial fills placed during previous development of the site. The approximate extent of the mapped geologic units present on the site is depicted on the Geotechnical Map (Figure 2). A brief description of the geologic units encountered on the site is presented below.

2.1.1 Artificial Older Fill (Afo)

Based on our review of the available geotechnical reports of the site and the general vicinity, it is our understanding that the on-site existing artificial fills (up to approximately 25+ feet in thickness) were placed and documented by Irvine Soils Engineering, Inc. (1980) and G.A. Nicoll and Associates, Inc. (1986); however, these reports were not available for our review.

Existing artificial fills were encountered in our recent geotechnical borings within the existing parking areas across the site and were found to consist of silty to clayey sands that were slightly moist and medium dense. The depths of the encountered fills ranged from approximately 1 to 5 feet in thickness. Based on the available data, the deeper existing fills are located underlying the existing structure and slope located along the northern portion of the site. Due to the existing site improvements and access issues, this deeper fill was not investigated as a part of this study.

Based on our understanding of the placement/documentation of the existing older fills and our observations and testing of the encountered fills on-site, it is our preliminary conclusion that the existing fills are considered suitable for support of the proposed structures, provided remedial removals are performed of any fills disturbed during site demolition. For confirmation purposes, an additional evaluation of the fill soils (after the existing building is demolished and removed) should be performed. This additional evaluation will need to include surface excavation (drilling), sampling, and laboratory testing to determine the competency of the existing fill soils, and suitability for support of the proposed structures. Additional remedial removal or foundation recommendations will be provided at that time, as necessary.

2.1.2 Tertiary-Aged Sespe Formation (Ts)

Based on our review of geologic maps of the site and general vicinity, the site is underlain by massive to thickly bedded non-marine gray to red pebbly sandstones and silty to clayey sandstones with interbedded siltstones and claystones of the Tertiary-aged Sespe Formation (Morton, Hauser, and Ruppert, 1999; and Morton and Miller,

2006). The results of our subsurface investigation indicated that the Sespe Formation soils encountered consisted of fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles.

2.2 Geologic Structure

Based on our review of geotechnical documents relative to the property directly north of the site, it appears that a large-diameter boring was excavated in the northern portion of the 23161 Mill Creek Drive property in 1986 by G. A. Nicoll and Associates Inc. (Lawmaster & Co, Inc., 1989). The location of the boring (Boring N-B-2) and the bedding attitudes obtained in the boring are shown on Figure 2. This information was obtained from a geotechnical investigation map of 23091 Mill Creek Drive (Lawmaster, 1989). As indicated, the bedding observed in the Sespe Formation ranges from N68W to N65E dipping 5 to 33 degrees to the south. As a result, bedding is dipping into-the-slope and is considered favorable in regard to slope stability. It should be noted that the geotechnical investigation report by G.A. Nicoll and Associates in 1986 that includes the boring log and the description of the subsurface investigation was not available for our review.

2.3 Landslides

Based on our review of aerial photographs and available geotechnical reports for the site, (Appendix A), no evidence of landsliding or other slope instability conditions were observed on-site or noted in the literature. Consequently, the potential for the existence of landslides is considered insignificant.

2.4 Groundwater

Review of available groundwater related internet web sites (Appendix A) indicates that groundwater is likely greater than 50 feet below the ground surface at the site. Groundwater is relatively shallow (generally less than 20 feet below the ground surface) in the large alluvial valley north and northeast of the site. As a result, groundwater is not expected to have a significant impact to the proposed development (provided the recommendations of this report are implemented during the design, grading, and construction of the proposed site improvements).

2.5 Surface Water and Flooding

Based on our review of the existing site grading plans and topography map of the site, sheet flow across the site is to the southeast. Surface water runoff relative to project design is the purview of the project civil engineer and should be directed away from planned structures. Due to the elevation of the site relative to drainages, flooding at the site is considered insignificant.

2.6 Faulting

The southern California region has long been recognized as being seismically active. The seismic activity results from several active faults that cross the region, all of which are related to the San Andreas transform system, a broad zone of right lateral faults that extend from Baja California to Cape Mendocino. The numerous faults in Southern California include Holocene active, pre-Holocene active, and age-undetermined faults. The definitions of fault activity terms used here are based on those developed for the Alquist-Priolo Special Studies Zone/Earthquake Zone Act of 1972 (CGS, 2018).

Holocene active faults are those faults that have had surface displacement within Holocene time (approximately the last 11,700 years) and have been included within an Alquist-Priolo Earthquake Zone. Pre-Holocene faults have not moved in the last 11,700 years but may be considered potentially active. Age-undetermined faults are faults where the recency of fault movement has not been determined and may likely be considered inactive faults.

The site is not within the currently established Alquist-Priolo Earthquake Fault Zone for fault rupture hazard (formerly Special Studies Zones for fault rupture hazard). Based on a review of geologic literature, no active faults are known to occur beneath or in the general vicinity of the project site. Accordingly, it appears that there is little probability of surface rupture due to faulting beneath the site. There are, however, several faults located in sufficiently close proximity that movement associated with them could cause significant ground motion at the site.

Regional active faults that occur within the Laguna Hills and southern California area include the Newport-Inglewood fault zone to the west and the San Joaquin Hills blind thrust fault, Whittier-Elsinore, San Jacinto, and San Andreas faults to the east. The closest known active faults to the site are the San Joaquin blind thrust Hills fault located approximately 1 mile (1.7 kilometers) to the northeast, the Newport-Inglewood fault zone located approximately 7 miles (11.5 kilometers) to the southwest, and the Elsinore fault zone located approximately 16.5 miles (26.5 kilometers) to the northeast.

The main seismic parameters to be considered when discussing the potential for earthquake-induced damage are the distances to the causative faults, earthquake magnitudes, and expected ground accelerations. Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the southern California region include soil liquefaction and dynamic settlement. Other secondary seismic effects include shallow ground rupture, seiches and tsunamis. In general, these secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and the causative fault and the on-site geology.

2.7 Seismicity and Related Effects

We have performed site-specific analysis based on these seismic parameters for the site and the on-site geologic conditions. The results of our analysis are discussed in terms of the potential seismic events that could be produced by the maximum probable earthquakes. A

maximum probable earthquake is the maximum earthquake likely to occur given the known tectonic framework.

2.7.1 Seismic Design Criteria

Based on the 2022 California Building Code (CBC) the site seismic characteristics for the project were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2022 CBC. Representative site coordinates for the project site of Latitude 33.625942º N and Longitude -117.735614º W were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (SMS and SM1) and adjusted design spectral response acceleration parameters (SDS and SD1) for Site Class C are provided in the following table.

Table 1

California Building Code Seismic Design Parameters

Selected Parameters from 2022 CBC, Section 1613 - Earthquake Loads	Seismic Design Values
Site Class (per Chapter 20 of ASCE 7)	C
Risk-Targeted Spectral Acceleration for Short Periods (S_S)	1.223g
Risk-Targeted Spectral Accelerations for 1-Second Periods (S_1)	0.439g
Site Coefficient F_a [per CBC Table 1613.2.3(1)]	1.2
Site Coefficient F_v [per CBC Table 1613.2.3(2)]	1.5
Site Modified Spectral Acceleration for Short Periods (S_{MS}) [Note: $S_{MS} = F_aS_S$]	1.467g
Site Modified Spectral Acceleration for 1-Second Periods (S_{M1}) [Note: $S_{M1} = F_vS_1$]	0.659g
Design Spectral Acceleration for Short Periods (S_{DS}) [Note: $S_{DS} = (^2/_3)S_{MS}$]	0.978g
Design Spectral Acceleration for 1-Second Periods (S_{D1}) [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.439g
Seismic Design Category (per CBC Section 1613.2.5)	D

Section 1803.5.12 of the 2022 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake ground motions, Peak Ground Acceleration (PGA) should be used for the geotechnical evaluations. The PGA_M for the site is equal to 0.617g **(**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2).

A deaggregation of the PGA based on a 2,475-year average return period indicates that an earthquake magnitude of 6.89 at approximately 3.33 km (2.07 mi) from the site would contribute the most to this ground motion (USGS, 2014).

2.7.2 Lurching and Shallow Ground Rupture

Soil lurching refers to the rolling motion on the ground surface by the passage of seismic surface waves. Effects of this nature are not likely to be significant where the thickness of soft sediments do not vary appreciably under structures. Although there are several nearby active and potentially active faults, the native soils are dense, and no active faults are known or interpreted to cross the site. Based on this data, it is our opinion that the potential for lurching or shallow rupture at the site is very low to nil.

2.7.3 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Liquefaction is typified by a buildup of pore-water pressure in the affected soil layer to a point where a total loss of shear strength occurs, causing the soil to behave as a liquid. Studies indicate that saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures.

Based on the anticipated relative density of the on-site soils and the depth to the static groundwater in the area of the proposed development; it is our opinion that the potential for liquefaction impacting the site is nil, and seismically induced settlements are considered to be negligible.

During a strong seismic event, seismically induced settlement can occur within loose to moderately dense, dry, or saturated granular soil. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement. Based on in-situ densities, and soil types, dry sand settlement and induced surface manifestations are not considered an issue at the site.

2.7.4 Tsunamis and Seiches

Due to the elevation of the proposed development at the site with respect to sea level and its distance from large open bodies of water, the potential of seiches and/or tsunami is considered to be very low.

2.8 Slope Stability

Based on the massive to thickly bedded Sespe Formation on the site, favorable (into-the-slope) geologic bedding conditions, and the construction of the proposed segmental geogrid retaining walls along the north and east sides of the property and the block and pile retaining walls along the west and south sides of the property, slope stability is not considered an issue with respect to site development. However, as part of our geotechnical review of the proposed segmental geogrid retaining walls and pile walls, a global slope stability analysis will be performed once the segmental wall designs are completed. The results will be presented in a future retaining wall plan review letter.

2.9 Expansion Potential

Expansion potential testing of representative on-site soil samples indicates that the on-site soils have a very low to low expansion potential (Appendix C). Although some of the near surface soils (Sespe Formation claystone layers) may have a medium to high expansion potential, we would anticipate the mixture and redistribution of site soils will result in a low expansion potential for the site. The as-graded soil conditions of the proposed building pads should be verified with confirmatory observation, sampling, and testing after site grading is completed and prior to the construction of the structures.

2.10 Soluble Sulfate and Corrosivity of the On-Site Soils

Laboratory testing of representative on-site soils indicated the on-site soils tested had soluble sulfate contents that ranged from 0.005 to 0.007 percent (Appendix C). As a result, the on-site soils should be considered to have a negligible degree of corrosivity to concrete and have an Exposure Class of S0 in accordance with ACI 318R-14 Table 19.3.1.1. The as-graded sulfate content of the finish grade soils on the building pads should be verified upon completion of grading.

Minimum resistivity, pH, and chloride content tests were also performed on two representative soil samples obtained during our subsurface investigation. These corrosion tests resulted in a minimum resistivity of 1,300 to 1,700 ohm-centimeters, a pH of 7.82 to 8.15, and a chloride content of 125 to 140 ppm (Appendix C). Based on these results, the on-site soils should be considered moderately corrosive to buried metals in contact with the on-site soils.

2.11 Excavation Characteristics

The site is underlain by near surface soils consisting of silty fine to coarse sands, clayey to fine sandy silts, silty clay, siltstone/claystone, and sandstone layers. It is anticipated that the on-site materials can be excavated with conventional heavy-duty construction equipment and that difficult excavation and/or blasting is not anticipated. In addition, the anticipated site excavation and the proposed construction will not have an adverse impact on the adjacent properties.

2.12 Earthwork Shrinkage and Bulking

The volume change of excavated on-site materials upon recompaction as fill is expected to vary with materials and location. Typically, the surficial soils and bedrock materials vary significantly in natural and compacted density, and therefore, accurate earthwork shrinkage/bulking estimate cannot be determined. However, the following factors (based on the results of our subsurface investigation and previous investigations of the site, laboratory testing, geotechnical analysis, and professional experience on nearby sites) are provided in Table 2 as guideline estimates. If possible, we suggest an area where site grades can be adjusted be provided as a balance area.

Table 2

Earthwork Shrinkage and Bulking Estimates

Geologic Unit	Estimated Shrinkage/Bulking
Artificial Fill and upper 1 to 2 feet of the site	3 to 7 percent shrinkage
Sespe Formation	0 to 5 percent bulking

2.12 Stormwater Infiltration/Percolation

Based on our understanding of site development, on-site storm water will flow into proprietary underground biofiltration BMP structures that will treat the storm water and then discharge it into the on-site storm drain system that is connected to the storm drain system in Mill Creek Drive. We also understand that site infiltration is not currently proposed. However, a future percolation/infiltration study may be required to determine the feasibility of storm water subsurface infiltration for the site.

Our limited subsurface investigation of the site that was performed on May 8, 2024 and consisted of the excavation, sampling, and logging of six small diameter hollow-stem borings excavated to depths ranging from approximately 10.5 to 20.5 feet, indicated the near surface soils consist of fill soils and Tertiary-Aged Sespe Formation. As encountered, the Sespe Formation soils consisted of fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles. Based on our professional experience with similar soils, infiltration of these sandy soils are likely feasible; however, the results will likely have a relatively low infiltration rate (slightly above the typical minimum required rate of 0.5 inches per hour). Infiltration into the fill soils and along the north, northeast, and east sides of the site are not recommended due to the presence of descending slopes, large retaining walls, and fill soils that will have a reduced factor-of-safety as the result of subsurface groundwater.

Once the final storm water infiltration design is determined for the site, a percolation/infiltration study (in accordance with the City of Laguna Hills/County of Orange requirements) should be performed to determine the actual percolation/infiltration rate(s) at the proposed storm water infiltration locations and appropriate factor-of-safeties.

3.0 CONCLUSIONS

Based on the results of our geotechnical investigation, evaluation, and review; it is our professional opinion that the proposed site development is feasible from a geotechnical standpoint, provided the recommendations included in this report are incorporated into the project plans and specifications, and followed during site grading and construction. Our geotechnical conclusions are as follows:

- Review of available aerial photographs, historical Google Earth images, old topography maps, and geotechnical reports of adjacent properties (Appendix A) indicate that the site (and general vicinity) was rough graded in the early 1980's and the site was precise graded in 1986. The as-graded geotechnical reports and grading plans specific to 23161 Mill Creek were not available at the City of Laguna Hills; and consequently were not reviewed by us.

- Based on our subsurface exploration and review of the available previous geotechnical reports for the property and pertinent geologic literature and maps, the bedrock unit at the site is the Tertiary-aged Sespe Formation that is overlain by artificial older fills. The fill soils are a mixture of silty to clayey sands, silty fine to coarse sands, clayey to fine sandy silts, and silty clay. The Sespe Formation generally consisted of massive to thickly bedded fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles. The fill soil layers encountered in our current geotechnical investigation were found to be competent and suitable for support of proposed structures, provided the recommendations of this report are followed during site grading and construction.

- After the removal of the existing buried underground utilities has been made, the trench locations should be surveyed, and the excavations should be replaced with fill soils compacted to a minimum 90 percent relative compaction (based on ASTM D1557). Where these trenches are located within the limits of the proposed multi-family building foundation footprints, special consideration should be made as the majority of the site is cut and the trenches will create cut/fill transition conditions. Mitigation measures may include overexcavation of the upper 5 feet of the pad and replacement with compacted fill or backfilling the trenches with a 2-sack sand/cement slurry.

- The existing on-site soils appear to be suitable material for use as fill provided, they are relatively free of rocks (larger than 8 inches in maximum dimension), organic material, and debris.

- The on-site formational material is anticipated to be massive to thickly bedded. The bedding observed in the Sespe Formation ranges from N68W to N65E dipping 5 to 33 degrees to the south (Lawmaster & Co, Inc., 1989). As a result, bedding is dipping into-the-slope and is considered favorable in regard to slope stability.

- There are no known landslides or other slope instability issues impacting the site.

- Review of available groundwater related internet web sites (Appendix A) indicates that groundwater is likely greater than 50 feet below the ground surface at the site. Groundwater was not encountered during our recent subsurface investigation. Consequently, groundwater is not expected to have an impact on the proposed development.

- Based on the topography of the site, surface water is anticipated to flow across the sheet-graded pad from the west to southeast.

- Due to the elevation of the site relative to existing drainages, flooding at the site is not considered an issue for the site.

- Active or potentially active faults are not known to exist on the site.

- The site is not located within the Alquist-Priolo Earthquake Fault Zone (CGS, 2018). The closest known Holocene active faults to the site are the San Joaquin blind thrust Hills fault located approximately 1 mile (1.7 kilometers) to the northeast, the Newport-Inglewood fault zone located approximately 7 miles (11.5 kilometers) to the southwest, and the Elsinore fault zone located approximately 16.5 miles (26.5 kilometers) to the northeast.

- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults.

- Based on the relatively dense nature of the proposed compacted fill soils and existing formational material and lack of a permanent shallow groundwater condition, liquefaction and/or dynamic settlement at the site is considered very low to nil.

- Due to the elevation of the proposed development at the site with respect to sea level and its distance from large open bodies of water, the potential of seiches and/or tsunami is considered to be nil.

- Based on the massive to thickly bedded Sespe Formation on the site, generally favorable geologic bedding conditions, and the construction of the proposed segmental geogrid retaining walls along the north and west sides of the property, slope stability is not considered an issue with respect to site development. However, as part of our geotechnical review of the proposed geogrid retaining walls and pile walls, a global slope stability analysis will be performed once the wall designs are completed. The results will be presented in a future retaining wall plan review letter.

- Expansion potential testing of representative samples of the on-site soils indicate those soils have a very low to low expansion potential (Appendix C). Although some of the near surface soils may have a medium to high expansion potential, most of the soils on the site have a low expansion potential. The as-graded soil conditions of the proposed building pads should be verified with confirmatory observation, sampling, and testing after site grading is completed and prior to the construction of the structures.

- Laboratory testing of representative on-site soils indicated the on-site soils should be considered to have a negligible degree of corrosivity to concrete and have an Exposure Class of S0 in accordance with ACI 318R-14 Table 19.3.1.1.

- Minimum resistivity, pH, and chloride content tests were also performed on the two representative soil samples obtained during our subsurface investigation and these results indicate the on-site soils should be considered moderately corrosive to buried metals in contact with the on-site soils.

- It is anticipated that the on-site materials can be excavated with conventional heavy-duty construction equipment and that difficult excavation and/or blasting is not anticipated.

- The anticipated site excavation and the proposed construction will not have an adverse impact on the adjacent properties.

- The multi-family residential structures may be designed to be supported by post-tension or mat foundation systems.

- In order to reduce the potential for differential settlement in areas of cut/fill transitions, we recommend the upper 5 feet of the building pad be overexcavated and replaced with properly compacted fill to mitigate the transition condition beneath the proposed structure. This condition is likely along the north and west sides of the property, where existing buried utility lines that are abandoned and the trenches replace with compacted fill, and possibly in the eastern portion of the site along the property boundary.

- Based on our professional experience with similar soils, infiltration of the on-site sandy formational soils are likely feasible; however, a percolation/infiltration study (in accordance with the City of Laguna Hills/County of Orange requirements) should be performed to determine the actual percolation/infiltration rate(s) at the proposed storm water infiltration locations and appropriate factor-of-safeties.

4.0 RECOMMENDATIONS

4.1 Site Earthwork

We anticipate that earthwork at the site will consist of site preparation and remedial grading and construction of site perimeter retaining walls followed by construction of the proposed slab-on-grade type foundations and associated improvements. We recommend that earthwork on-site be performed in accordance with the recommendations herein, the City of Laguna Hills grading requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix E. In case of conflict, the recommendations in the following sections shall supersede those included as part of Appendix E.

4.1.1 Site Preparation

Prior to grading of the area to receive structural fill or engineered structures, the ground surface should be cleared of obstructions, debris, potentially compressible material (such as undocumented fill soils, dry, disturbed, or desiccated documented fill and formational material and stripped of vegetation). Vegetation and debris should be removed and properly disposed of offsite. Holes resulting from the removal of buried obstructions or utilities, which extend below finished site grades, should be replaced with suitable compacted fill material. Areas to receive fill and/or other surface improvements should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition, and recompacted to at least 90 percent relative compaction (based on American Standard of Testing and Materials [ASTM] Test Method D1557).

4.1.2 Removal and Recompaction

The upper portion of the site is underlain by potentially compressible/collapsible or unsuitable soils (i.e., desiccated existing fills, and formational material) which may settle under the addition of water, under the surcharge of fill, and/or foundation loads. Compressible materials not removed by the planned grading should be excavated to competent material (as determined by the geotechnical consultant) and replaced with compacted fill soils. From a geotechnical perspective, soil that is removed may be placed as fill provided the material is relatively free from rocks (greater than 8-inches in maximum dimension), organic material and construction debris; is moisture-conditioned or dried (as needed) to obtain above-optimum moisture content; and then recompacted prior to additional fill placement or construction.

All disturbed or desiccated fills underlying or within the influence of the proposed development should be removed to competent soils. The actual depth and extent of the required removals should be determined during grading operations by the geotechnical consultant; however, the estimated remedial removals are as follows: we anticipate removals of up to 3 feet below existing grades; however, localized, deeper removals should be anticipated where deemed necessary by the geotechnical consultant based on observations during grading.

4.1.3 Cut/Fill Transition Condition

In order to reduce the potential for differential settlement of proposed buildings located across cut/fill transitions, we recommend the entire cut portion of the transition building pads be overexcavated to a minimum depth of 5 feet and replaced with properly compacted fill to mitigate the transition condition beneath the proposed structure; or the building foundations deepened so that all foundation footings are founded on formational material. Where existing buried utility lines that will be abandoned are located with the limits of the proposed building foundation footprint, special consideration should be made as the majority of the site is likely cut and the trenches will create cut/fill transition conditions. Mitigation measures may include overexcavation of the upper 5 feet of the pad and replacement with compacted fill or backfilling the trenches with a 2-sack sand/cement slurry.

4.1.4 Shrinkage/Bulking

Based on the encountered site soils; the existing fills and upper 1 to 2 feet of the site is anticipated to shrink while the formational materials are anticipated to bulk. The preliminary estimated shrinkage and bulking factors are presented in Table 2 (in Section 2.12 of this report). The value ranges are preliminary rough estimates which will vary with depth of removal, stripping losses, field conditions at the time of grading, etc. In addition, handling losses is not included in the estimates. If possible, we suggest an area where site grades can be adjusted be provided as a balance area.

4.1.5 Temporary Excavation Stability

In general, all excavations should be performed in accordance with project plans, specifications, and all Occupational Safety and Health Administration (OSHA) requirements. Excavations should be laid back or shored in accordance with OSHA requirements before personnel or equipment are allowed to enter. Soil conditions should be mapped and frequently checked by a representative of LGC to verify conditions are as anticipated. The contractor shall be responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination with the geotechnical engineer should be maintained to facilitate construction while providing safe excavations. Excavation safety is the responsibility of the contractor.

Temporary excavations may be cut vertically up to five feet. Excavations over five feet should be slot-cut, shored, or cut no steeper than 1:1 (horizontal to vertical) slope gradient. If a block wall along the western property line adjacent to the existing off -site building is planned, shoring of the western property line will need to be provided to for support of the wall backcut and to maintain lateral support for the off-site structure. Surface water should be diverted away from any exposed cut, and not be allowed to pond on top of the excavations. Temporary cuts should not be left open for an extended period of time. Planned temporary conditions should be reviewed by the geotechnical consultant of record in order to reduce the potential for sidewall failure. The geotechnical consultant may provide recommendations for controlling the length of sidewall exposed.

4.1.6 Temporary Shoring

The following preliminary geotechnical parameters may be utilized by the shoring consultant for design of the temporary shoring system along the southern property boundary, as necessary. Temporary shoring is generally considered to have a service life of two years or less. The geotechnical conditions outside of the perimeter of the proposed site have not been investigated as part of this report. The recommendations provided herein with regard to shoring of the proposed excavation are based on assumed conditions, extrapolated from the data gathered from our review of the subject site and adjacent sites. The shoring designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.

Prior to construction, the contractor should verify underground clearance of any existing utility lines or structures that must be removed or protected in place during construction, or may conflict with any proposed shoring system. Any tieback anchors and/or soil nails that extend beyond the site property limits will require permission from the adjacent property owner. Special attention will be required to protect existing settlement sensitive improvement in close proximity to the proposed excavation, such as any adjacent structures or streets located along the boundary of the site.

Typical cantilever temporary shoring, where deflection of the shoring will not impact the performance of adjacent structures or streets, may be designed using the active equivalent fluid pressures of 40 pounds per square foot (psf) per foot of depth (or pcf) for a level condition, and a 50 pcf for a 2:1 (horizontal to vertical) sloping condition. Braced (i.e. internal bracing -rakers) or tied-back shoring is recommended in areas where the shoring will be located close to existing structures or streets in order to limit shoring defections or required due to the proposed depth of excavation. Braced or tied-back shoring with a level backfill may be designed using an active trapezoidal soil pressure of 24H in pounds per square foot (psf) per foot of depth (or pcf) for level condition and 30 pcf for a 2:1 (horizontal to vertical) sloping condition, where H is equal to the depth in feet of the excavation being shored (shape of the trapezoid should be 0.2H, 0.6H, 0.2H).

Any building, equipment, or traffic loads located within a 1:1 (horizontal to vertical) projection from the base of the shoring should be added to the applicable lateral earth pressure. A minimum additional uniform lateral pressure of 100 psf for the upper 10 feet should be added to the appropriate lateral earth pressures to account for typical vehicle traffic loading. The proposed shoring should be designed for a maximum shoring deflection of up to 1-inch adjacent to the street (non-surcharged condition) and up to a maximum of 0.5-inches adjacent to existing buildings (surcharged condition). Surcharge loads on basement walls and shoring systems from existing structures located within the 1:1 (h:v) surcharge influence zone of the excavation, shoring, and basement should be determined and considered in the design.

If temporary gravity grouted tie-backs are used anchors may be designed using a preliminary bond stress of 400 pounds per square foot (psf), and if pressure/post-grouted tieback anchors are used, anchors may be designed using a preliminary bond

stress of up to 2,500 pounds per square foot (psf). However, the tieback designer should make an independent evaluation in order to verify the preliminary bond stress is adequate for site conditions. Tieback bond stress should be verified by field testing. Tieback anchors should be designed, constructed, and tested in accordance with the requirements of the Post-Tensioning Institute (PTI).

For design purposes, tieback should obtain their load-carrying capacity from the soil behind a plane taken to be 3 horizontal feet from the bottom of the shoring facing and inclined at an angle of 60 degrees measured from the horizontal extending to the top of the excavation. Passive resistance of soldier piles (drilled or driven) may be assumed to be an equivalent fluid pressure of 350 pcf to a maximum value of 3,500 psf. The passive earth pressure may be increased by 100 percent for isolated piles. Piles with spacing greater than 3 times of pile diameter can be considered as isolated piles. In order to develop full lateral resistance, firm contact between the soldier pile and undisturbed soils must be assured. For vertical shoring capacity, an allowable skin friction of 500 psf may be used for the portion of pier below the proposed development excavation. End bearing should be neglected. Drilling of shafts for solider piles may require casing or drilling mud to prevent caving.

Due to the nature of the site soils, it is expected that continuous lagging between soldier piles will be required. The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. However, it is recommended that the lagging be designed for the full design active fluid pressure but be limited to a maximum of 400 psf. Therefore, the design lagging pressure should consider a parabolic earth pressure distribution with an active equivalent fluid pressure of 40 pounds per square foot (psf) per foot of depth (or pcf) up to a maximum of 400 psf. The maximum span for lagging for this project should be 10 feet.

The components of the shoring system should be designed by a California licensed structural and/or civil engineer specializing in the design of shoring systems. Field pullout testing should be performed during construction to verify the estimated pullout resistance used in the design and/or post grout tubes should be used to ensure adequate design capacities are obtained. Ultimately, it is the specialty contractor's responsibility to obtain the required pullout capacity, which may require design and/or field modifications. LGC should review the shoring plans prior to construction to verify that geotechnical recommendations are properly implemented into the project plans.

It is highly recommended that a program of documentation and monitoring be devised and put into practice before the onset of any groundwork. The contractor should establish survey points on the shoring, adjacent streets, and neighboring buildings within 100 feet of the excavation perimeter prior to any excavation. These survey points should be used to monitor the movement of the shoring and existing improvements during construction excavation.

The monitoring program should include, but not necessarily be limited to detailed documentation of the existing improvements, buildings and utilities around the excavation, with particular attention to any distress that is already present prior to the start of work. A licensed surveyor should be retained to establish monuments on the shoring and the surrounding ground prior to excavation. Such monuments should be monitored for horizontal and vertical movement during construction. Results of the monitoring program should be provided immediately to the project structural (shoring) engineer and LGC for review and evaluation.

4.1.7 Fill Placement and Compaction

From a geotechnical perspective, the on-site soils are suitable for use as compacted fill, provided they are screened of rocks greater than 8-inches in maximum dimension, organic material, and construction debris. Areas prepared to receive structural fill and/or other surface improvements should be scarified to a minimum depth of 6-inches, brought to at least optimum-moisture content, and recompacted to at least 90 percent relative compaction (based on ASTM Test Method D1557). The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts generally not exceeding 8-inches in loose thickness. Placement and compaction of fill should be performed in accordance with local grading ordinances under the observation and testing of the geotechnical consultant.

If possible, imported soils should contain no materials over 3- to 8-inches in maximum dimension and have a very low to low expansion potential.

4.1.8 Trench Backfill and Compaction

The on-site soils may generally be suitable as trench backfill provided, they are screened of rocks and other material over 3- to 6-inches in diameter and organic matter. Trench backfill should be compacted in uniform lifts (generally not exceeding 8-inches in compacted thickness) by mechanical means to at least 90 percent relative compaction (per ASTM Test Method D1557).

If trenches are shallow and the use of conventional equipment may result in damage to the utilities; clean sand, having sand equivalent (SE) of 30 or greater, should be used to bed and shade the utilities. Sand backfill should be densified. The densification may be accomplished by jetting or flooding and then tamping to ensure adequate compaction. A representative from LGC should observe, probe, and test the backfill to verify compliance with the project specifications.

4.2 Foundation Design

4.2.1 General Foundation Selection

Recommendations for preliminary foundation design and construction are presented

herein. Based on the results of representative expansion potential laboratory testing of the representative on-site soils, the proposed structures should be designed for a low or medium expansion potential (i.e., a 20 to 90 Expansion Index). The following post-tension and mat slab foundation recommendations are provided.

The information and recommendations presented in this section are not meant to supersede design by the project structural engineer or civil engineer specializing in the structural design nor impede those recommendations by a corrosion consultant. Should conflict arise, modifications to the foundation design provided herein can be provided.

4.2.2 Bearing Capacity

Shallow foundations may be designed for a maximum allowable bearing capacity of 2,000 lb/ft^2 (gross), for continuous footings a minimum of 18-inches wide and 12-inches deep; and spread footings 24-inches wide and 18-inches deep, into certified compacted fill or competent formational material. A factor of safety greater than 3 was used in evaluating the above bearing capacity value. This value may be increased by 300 psf for each additional foot in depth and 150 psf for each additional foot of width to a maximum value of 4,000 psf.

Lateral forces on footings may be resisted by passive earth resistance and friction at the bottom of the footing. Foundations may be designed for a coefficient of friction of 0.35, and a passive earth pressure of 250 $lb/ft^2/ft$. The passive earth pressure incorporates a factor-of-safety of greater than 1.5.

All footing excavations should be cut square and level as much as possible, and should be free of sloughed materials including sand, rocks and gravel, and trash debris. Subgrade soils should be pre-moistened for the assumed medium or high expansion potential (to be confirmed at the completion of grading). These allowable bearing pressures are applicable for level (ground slope equal to or flatter than 5:1[horizontal to vertical]) conditions only.

Bearing values indicated above are for total dead loads and frequently applied live loads. The above vertical bearing may be increased by one-third for short durations of loading which will include the effect of wind or seismic forces.

4.2.3 Post-Tension Foundation

Based on our review, the site may be considered suitable for the support of the proposed structure using a post-tensioned slab-on-grade foundation system for the anticipated low to medium expansion potential. The following section summaries our recommendations for the foundation system. Table 3 contains the geotechnical recommendations for the construction of a PT slab-on-grade foundation. The structural engineer should design the foundation system based on these parameters including the foundation settlement as indicated in the following section to the allowable deflection criteria determined by the structural engineer/architect.

As indicated above, the underslab vapor/moisture retarder (i.e., an equivalent

capillary break method) may consist of a minimum 15-mil vapor barrier in conformance with ASTM E 1745 Class A material, placed in general conformance with ASTM E1643, underlain by a minimum 1-inch of sand, as needed. The sand layer requirements above the vapor barrier are the purview of the foundation engineer/structural engineer and should be provided in accordance with ACI Publication 302 “Guide for Concrete Floor and Slab Construction”. These recommendations must be confirmed (and/or altered) by the foundation engineer, based upon the performance expectations of the foundation. Ultimately, the design of the moisture retarder system and recommendations for concrete placement and concrete mix design, which will address bleeding, shrinkage, and curling are the purview of the foundation engineer, in consideration of the project requirements provided by the architect and developer. The underslab vapor/moisture retarder described above is considered a suitable alternative in accordance with the Capillary Break Section 4.505.2.1 of the CAL Green code.

Table 3

Preliminary Geotechnical Parameters for Post-Tensioned Foundation Design

Parameter	Value	
Expansion Classification (Assumed to be confirmed at the completion of grading):	Low and Medium Expansion	
Thornthwaite Moisture Index (from Figure 3.3):	-20	
Constant Soil Suction (from Figure 3.4):	PF 3.6	
Center Lift Edge moisture variation distance (from Figure 3.6), e_m: Center lift, y_m:	**Low** 9.0 feet 0.35 inches	**Medium** 9.0 feet 0.5 inches
Edge Lift Edge moisture variation distance (from Figure 3.6), e_m: Edge lift, y_m:	**Low** 5.2 feet 0.65 inches	**Medium** 5.0 feet 1.1 inches
Expansion Potential:	**Low (21-50)**	**Medium (51-90)**
Soluble Sulfate Content for Design of Concrete Mix in Contact with Site Soils in Accordance with American Concrete Institute Standard 318, Section 4.3:	Negligible Exposure (Exposure Class S0)	
Corrosivity of Earth Materials to Ferrous Metals:	Corrosive	
Modulus of Subgrade Reaction, k (assuming presaturation as indicated below):	100 pci (low) 85 pci (medium to high)	

Additional Recommendations:

1. Presaturate slab subgrade to at least 1.2 times optimum moisture to minimum depth of 12 for low expansion potential and at least 1.2 times optimum moisture to a minimum depth of 18 inches below ground surface for medium expansion potential.
2. Install a 15-mil moisture/vapor barrier in direct contact with the concrete (unless superseded by the Structural/Post-tension Engineer*) with minimum 1 inches of sand below the moisture/vapor barrier.
3. Minimum perimeter foundation embedment below finish grade for moisture cut off should be 12 and 18 inches, respectively for low and medium expansion potentials, respectively.
4. Minimum slab thickness should be 5 inches.

* The above sand and moisture/vapor barrier recommendations are traditionally included with geotechnical foundation recommendations although they are generally not a major factor influencing the geotechnical performance of the foundation. The sand and moisture/vapor barrier requirements are the purview of the foundation engineer/corrosion engineer (in accordance with ACI Publication 302 "Guide for Concrete Floor and Slab Construction") and the homebuilder to ensure that the concrete cures more evenly than it would otherwise, is protected from corrosive environments, and moisture penetration of through the floor is acceptable to future homeowners. Therefore, the recommendations provided herein may be superseded by the requirements of the previously mentioned parties.

4.2.4 Mat Foundations

A mat foundation can be used for support of proposed residential buildings. An

allowable soil bearing pressure of 1,500 psf may be used for the design of the mat at the surface under the slab area.
for the design of the mat at the surface under the slab area.

The allowable bearing value is for total dead loads and frequently applied live loads and may be increased by one-third for short durations of loading which will include the effect of wind or seismic forces. A coefficient of vertical subgrade reaction, k, of 85 pounds per cubic inch (pci) may be used to evaluate the pressure distribution beneath the mat foundation.

The magnitude of total and differential settlements of the mat foundation will be a function of the structural design and stiffness of the mat. Based on assumed structural loads, we estimate that total static settlement will be on the order of an inch at the center of the mat foundation. Post construction differential settlement can be taken as one-half of the maximum estimated settlement.

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. Foundations may be designed for a coefficient of friction of 0.35.

Coordination with the structural engineer will be required in order to ensure structural loads are adequately distributed throughout the mat foundation to avoid localized stress concentrations resulting in potential settlement. The foundation plan should be reviewed by LGC to confirm preliminary estimated total and differential static settlements.

4.2.5 Foundation Settlement

Based on our current understanding of the project, the results of our site investigation and the recommended remedial grading with shallow foundations embedded into compacted fills or competent bedrock, we estimate the post-construction static settlement of the site to be less than 1-inch with a differential settlement of approximately of 0.5-inches in 30 feet.

For buildings located above the proposed segmental wall, with a portion of the building underlain by the geogrid reinforced soils, the proposed foundation should be designed for a minimum of a medium expansion potential and for a differential settlement of up to 2-inches in 30 feet. Recommendations to reduce the potential for differential settlements in the vicinity of the segmental walls are provided herein in Section 4.4.

4.2.6 Building Clearance and Foundation Setbacks

All building foundations located close to slopes should have a minimum setback per Figure 1808.7.1 of the 2022 CBC. The setback distances should be measured from competent materials on the outer slope face, excluding any weathered and loose materials.

Per the 2022 CBC Section 1808.7.1 and Figure 1808.7.1, building clearance from the

toe of an ascending slope should be equal one-half of the total slope height to a maximum setback of 15 feet. Retaining walls may be constructed at the base of the slope to achieve the required building clearances.

Per the 2022 CBC Section 1808.7.2 and Figure 1808.7.1, the building foundation constructed on or near a descending slope should be setback or deepened to provide a minimum footing setback equal to the total height of slope (H) divided by 3 (H/3). The footing setback should be a minimum of 5 feet for slopes up to 15 feet in height and vary up to 40 feet for slopes up to 120 feet in height. The footing setbacks should be measured from the edge of the footing to the competent materials on the outer slope face.

4.3 Lateral Earth Pressures for Retaining Walls

The following lateral earth pressures may be used for the design of any future site retaining walls. Due to the expansive nature of some of the on-site clayey formational materials, we recommend site retaining walls be backfilled with either the very low expansive bedrock or sandy soils (with minus 3-inch rock) or approved select soils. Approved select soils should consist of clean, granular soils (less than 15 percent passing the No. 200 sieve) of very low expansion potential (expansion index 20 or less based on UBC. 18-2). The recommended lateral pressures for approved select soils for level or sloping backfill are presented in Table 4.

Table 4

Lateral Earth Pressures for Retaining Walls

Conditions	Equivalent Fluid Weight (pcf)		
	Level Backfill	2:1 Backfill Sloping Upwards	Dynamic Load Increment (pcf) *
	Approved Select Material	Approved Select Material	
Active	35	50	Level -$10H^2$ 2H:1V - $17H^2$
At Rest	55	80	$16H^2$
Passive	250	--	--

* For walls with greater than 6-feet in backfill height, the above seismic earth pressure should be added to the static pressures given in the table above. The seismic earth pressure should be considered as a triangular distribution with the resultant acting at 0.4H in relation to the base of the retaining wall footing (where H is the retained height). The incremental seismic load was determined in general accordance with the standard of practice in the industry for determining earth pressures as a result of seismic events.

For design purposes, the recommended equivalent fluid pressure for each case for walls founded above the static ground water and backfilled with approved select soils is provided in Table 4. The equivalent fluid pressure values assume free-draining conditions. If conditions other than those assumed above are anticipated, the equivalent fluid pressure values should be provided on an individual-case basis by the geotechnical engineer. Surcharge loading effects from the adjacent structures should be evaluated by the geotechnical and structural engineers.

Retaining wall structures should be provided with appropriate drainage and appropriately waterproofed. The outlet pipe should be sloped to drain to a suitable outlet. Typical wall drainage design is illustrated in Figure 3. It should be noted that the recommended subdrain does not provide protection against seepage through the face of the wall and/or efflorescence. Efflorescence is generally a white crystalline powder (discoloration) that results when water, which contains soluble salts, migrates over a period of time through the face of a retaining wall and evaporates. If such seepage or efflorescence is undesirable, retaining walls should be waterproofed to reduce this potential.

Lateral earth pressures are provided as equivalent fluid unit weights, in psf/ft of depth or pcf. These values do not contain an appreciable factor of safety. A soil unit weight of 120 pcf may be assumed for calculating the actual weight of soil. For sliding resistance, a friction coefficient of 0.35 may be used at the concrete and soil interface. Wall footings should be designed in accordance with structural considerations. Refer to Section 4.2.2 for passive resistance and allowable soil bearing.

4.4 Segmental Retaining Wall Recommendations

Segmental retaining walls that may be constructed on the site are anticipated to have a level or up to a 2:1 (horizontal to vertical) sloping backfill above the walls. The zone of influence for geogrid-reinforced modular block walls is defined by a 1:1 (horizontal to vertical) projection from the heel of the bottom geogrid to the finished ground surface overlying the wall. Any building or vehicle loads within this zone should be considered in the wall design.

The following geotechnical parameters presented in Table 5 may be utilized by the wall engineer in design of the on-site segmental walls. Design of segmental retaining walls should be per the National Concrete Masonry Association (NCMA) guidelines (or equivalent guidelines).

Table 5 Design Soil Strength Parameters for Segmental Retaining Walls			
	Cohesion (psf)	**Friction Angle Peak/Ultimate (Degrees)**	**Unit Weight (pcf)**
Infill (Reinforced) Soil	50	35/30	120
Retained (Backfill) Soil	100	35/30	120
Foundation Soil	100	35/30	120

The design acceleration of 0.411g (or 2/3 PGAm), should be used for the proposed design. A Pseudo-Static Coefficient of 0.28g should be used for Slope Stability Analysis. Once the wall designer designs the wall considering external, internal, and local wall stability, LGC will then check the global slope stability. Where global slope stability is the controlling factor, additional geogrid will be added to the design and/or the geogrid will be lengthened, as needed. Thus, the final design is expected to satisfy both the "conventional method" of modular wall design as well as global slope stability.

All excavations should be made in accordance with Cal OSHA, as a general guideline. The backfill soils (having an expansion index less than 30 per UBC. 18-I-B) should be compacted to at least 90 percent relative compaction (based on ASTM Test Methods D2922 and D3017). The walls should be constructed and backfilled as soon as possible after back-cut excavation. Prolonged exposure of back-cut slopes may result in some localized slope instability. Excavation safety is the sole responsibility of the contractor.

The subject walls may be backfilled using the on-site native soils. For closed face walls we recommend a minimum 1-foot-wide drainage gallery be constructed immediately behind the face of the wall using Class II Permeable material and augmented with a perforated 4-inch PVC pipe, or per the wall manufactures specifications. This drainage layer and drain is not a requirement for open faced walls. The remainder of the wall may be backfilled using the on-site native soils. The subject segmental retaining walls should be constructed founded onto competent soils (i.e., compacted fills or competent native soils), or per manufactures specifications. For preliminary purposes, the allowable bearing capacities to be used in the wall design is 1,500 pounds per square foot.

From a geotechnical perspective, the on-site soils are generally suitable for use as compacted fill, provided they are screened of rocks greater than 8 inches in maximum dimension, organic materials, and construction debris. Fill soils should be brought to at least optimum-moisture content, and recompacted to at least 90 percent relative compaction (based on ASTM Test Method D1557). The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts generally not exceeding 8 inches in compacted thickness. Placement and compaction of fill should be performed in accordance with local grading ordinances under full-time observation

and testing of the geotechnical consultant. The geotechnical consultant shall review and approve all fill materials, including on-site and import materials.

Prior to placement of the geogrid, the surface of the compacted fill shall be prepared such that it has a maximum variation of 6 vertical inches over a distance of 15 feet. Each geogrid layer shall be pulled taut and secured in-place prior to placing backfill material on the geogrid. The geogrid layers shall be continuous and no splice and/or connection system will be accepted. The contractor shall not operate tracked construction equipment directly upon the geogrid reinforcement but shall use rubber tired equipment. All passes with tracked equipment for the purposes of obtaining compaction shall be done in straight lines and shall minimize the turning movements of the equipment to reduce the potential for displacing and/or damaging the geo-grids.

The manufacturer shall provide the owner with quality control testing for each lot of blocks which are shipped to the site. The contractor shall install the block per the manufacturer's recommended procedures.

All excavations should be made in accordance with Cal OSHA, as a general guideline. All excavations should be made at 1:1 inclinations or flatter. Once excavation has been initiated, the segmental retaining wall should be constructed as soon as possible after back-cut excavation. Prolonged exposure of back-cut slopes may result in some localized slope instability. Excavations should be planned so that they are not initiated without sufficient time to backfill them prior to weekends, holidays, or forecasted rain. ***Excavation safety is the sole responsibility of the contractor.***

We recommend the contractors proposed plan of operations be reviewed by this office prior to initiation of work and closely monitored by representatives of this office during excavation and construction.

A backdrain should be installed at the heel of the wall back-cut consisting of a 4-inch PVC pipe surrounded by ¾-inch crushed rock and wrapped in a filter fabric and outletted through the wall face or to another suitable outlet. If water seepage is encountered along the wall back-cut, a continuous chimney drain consisting of a one-foot layer Caltrans Class II permeable material shall be placed at the heel along the back-cut behind the geogrid, as necessary. The chimney drains should be outletted through the backdrain at the heel of the cut. The outlet pipes should be constructed at the low points of the subdrains and have a minimum 2 percent fall to the outlet location. Additional subdrains may be needed if seepage and/or areas of potential seepage are encountered during grading operations.

Positive drainage of surface water away from the base and top of the proposed segmental retaining walls are important. A concrete V-ditch shall be constructed behind the top of each of the proposed walls to prevent surface water from infiltrating the backfill soil. The V-ditch shall be designed and placed by the project civil engineer in accordance with the local codes.

Where proposed residential structures are located above the proposed segmental walls, where the proposed reinforced zones will encroach into the proposed buildings, the following recommendations should be considered in the design and site construction. The fill behind the wall within the reinforced zone should be comprised of on-site sandy granular soils with

a low expansion potential. Sandy/granular soils will interlock with the geogrid layers which is expected to reduce the potential for long-term, creep-type lateral deformation of the segmental wall, beyond the initial elastic deformation. As a result, the long-term differential settlement potential behind/above the segmental wall is expected to be reduced. Further, the backcut for wall construction should be excavated at a gradient no steeper than 2:1 (horizontal to vertical). This will help reduce the differential fill thickness beneath the proposed structures. The fills outside the reinforced zone should also consist of soils with relatively low expansion potentials and should be compacted to a minimum 93 percent relative compaction.

4.5 Soldier Pile Wall Recommendations

The following preliminary geotechnical parameters may be utilized by the soldier pile wall consultant for design of the permanent wall system. The recommendations provided herein with regard to the proposed wall design are based on assumed conditions, extrapolated from the data gathered from our site investigation and geotechnical analysis. The wall designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.
based on assumed conditions, extrapolated from the data gathered from our site investigation and geotechnical analysis. The wall designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.

Prior to construction, the contractor should verify underground clearance of any existing utility lines or structures that must be removed or protected in place during construction or may conflict with any proposed foundation system.

Typical cantilever soldier pile wall design, where deflection of the wall will not impact the performance of adjacent structures or streets, may be designed using the active equivalent fluid pressures of 40 pounds per square foot (psf) per foot of depth (or pcf). Restrained walls (with soil nails or tied-back) is recommended to limit defections or required due to the proposed wall height. Restrained or tied-back shoring with a level backfill may be designed using an active trapezoidal soil pressure of 38H in pounds per square foot (psf), where H is equal to the depth in feet of the wall (shape of the trapezoid should be 0.2H, 0.6H, 0.2H) or may be designed using an active triangular soil pressure of 60 pounds per square foot (psf). Any building, equipment, or traffic loads located within a 1:1 (horizontal to vertical) projection from the base of the wall should be added to the applicable lateral earth pressure. A minimum additional uniform lateral pressure of 100 psf for the upper 10 feet should be added to the appropriate lateral earth pressures to account for typical vehicle traffic loading.
the appropriate lateral earth pressures to account for typical vehicle traffic loading.
he appropriate lateral earth pressures to account for typical vehicle traffic loading.

A seismic earth pressure of 17 pcf should be added to the static pressures given in Table 4 above. The seismic earth pressure should be considered as an inverted triangular distribution with the resultant acting at 0.6H in relation to the base of the retaining wall footing (where H is the retained height).

Passive resistance of soldier piles may be assumed to be an equivalent fluid pressure of 350 pcf for level and 150 pcf for sloping down conditions to a maximum value of 3,500 psf. The passive earth pressure may be increased by 100 percent for isolated piles. Piles with spacing greater than 3 times of pile diameter can be considered as isolated piles. In order to develop the full lateral resistance, firm contact between the soldier pile and undisturbed soils must be assured. For vertical capacity, an allowable skin friction of 500 psf may be used for the embedded depth. End bearing should be neglected.

4.6 Preliminary Pavement Recommendations

Preliminary pavement sections utilizing asphalt concrete (AC), Portland Cement Concrete Pavement PCCP), and vehicular concrete pavers, are presented in the following sections.

4.6.1 Asphalt Concrete (AC) Pavement

Based on an assumed R-value of 7 (obtained during the preliminary investigation of an adjacent property), we utilized an assumed R-Value of 7 and recommend the following preliminary minimum street sections for Traffic Indices of 5, 6, and 7 (as indicated in Table 6). These recommendations should be confirmed with R-value testing of representative near-surface soils at the completion of grading. Final AC sections should be confirmed by the project civil engineer based upon the projected Traffic Index. In addition, additional sections can be provided based on other traffic indices.

Table 6

Preliminary AC Pavement Design Sections

Assumed Traffic Index	5	6	7
R-Value Subgrade	7	7	7
AC Thickness	4.0 inches	4.0 inches	4.0 inches
Aggregate Base Thickness	7.0 inches	12.0 inches	15.0 inches

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction –SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Aggregate base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.6.2 Portland Cement Concrete Pavement

Portland Cement Concrete Pavement (PCCP) may be designed using a minimum of 8-inches of Portland Cement Concrete over 8-inches of compacted aggregate base.

The modulus of rupture of the PCCP should be a minimum of 500 pounds per square inch (psi) at 28 days. Contraction joints should be placed at maximum 15-foot spacing. Where the outer edge of a concrete pavement connects to an asphalt pavement, the concrete slab should be thickened by 50 percent at a taper not to exceed a slope of 1 in 10. In addition, additional sections can be provided based on other desired anticipated traffic loadings.

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction - SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.6.3 Vehicular Concrete Paver Pavement

Typical vehicular pavers are 3-1/8 inches in thickness and the manufacturers usually recommend that the pavers be underlain by a 1-inch-thick sand layer. Based on ASCE 58-10 for interlocking pavers and considering a Traffic Index (TI) of 6 and an R-Value of 7 for the subgrade soils, we recommend that the vehicular pavers and sand layer be underlain by a minimum of 16-inches of aggregate base.

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction –SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent per ASTM- D1557. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.7 Nonstructural Concrete Flatwork

Preliminary nonstructural concrete flatwork designs are presented in the following sections. Portland Cement Concrete (PCC) flatwork (such as sidewalks, walkways, patios, entryways, etc.) have a high potential for cracking due to changes in soil volume related to soil-moisture fluctuations because these slabs are typically much thinner than foundation slabs and are not reinforced with the same dynamics as foundation elements. To reduce the potential for excessive cracking and lifting, concrete may be designed in accordance with the minimum guidelines outlined in Table 7. These guidelines will reduce the potential for irregular cracking and promote cracking along construction joints but will not eliminate all cracking

or lifting. Thickening the concrete and/or adding reinforcement will further reduce cosmetic distress.

Table 7

Nonstructural Concrete Flatwork

	Private Sidewalks	Patio/Entryways
Minimum Thickness (in inches)	4	5
Presaturation	Presoak to 12-inches prior to placement	Presoak to 12-inches prior to placement
Reinforcement	--	No. 3 at 24 inches on centers or 6x6 No. 6 by No. 6 Welded Wire Mesh
Crack Control	Saw cut or deep tool joint to a minimum of 1/3 the concrete thickness	Saw cut or deep tool joint to a minimum of 1/3 the concrete thickness
Maximum Joint Spacing	5 feet	6 feet
Aggregate Base	--	2 inches

4.8 Corrosivity to Concrete and Metal

The National Association of Corrosion Engineers (NACE) defines corrosion as "a deterioration of a substance or its properties because of a reaction with its environment." From a geotechnical viewpoint, the "environment" is the prevailing foundation soils and the "substances" are the reinforced concrete foundations or various buried metallic elements such as rebar, piles, pipes, etc., which are in direct contact with or within close vicinity of the foundation soil.

In general, soil environments that are detrimental to concrete have high concentrations of soluble sulfates and/or pH values of less than 5.5. ACI 318R-14 Table 19.3.1.1, provides specific guidelines for the concrete mix design when the soluble sulfate content of the soils exceeds 0.1 percent by weight or 1,000 ppm. The minimum amount of chloride ions in the soil environment that are corrosive to steel, either in the form of reinforcement protected by concrete cover, or plain steel substructures such as steel pipes or piles, is 500 ppm per California Test 532.

Laboratory testing of representative on-site soils indicated that the on-site soils tested are

classified as having a Sulfate Exposure Class of S0 (per Table 19.3.1.2 of the ACI 318-19). As a preliminary recommendation, concrete in contact with on-site soils should be designed in accordance with ACI 318-19 Table 19.3.2.1 for the S0/negligible or not applicable category. It is also our opinion that on-site soil should be considered moderately corrosive to buried metals. Site grading will redistribute the materials, which may result in soils with different corrosion potentials. Therefore, the as-graded soil conditions should be verified with confirmatory sampling and testing during the grading phase of the project.

Despite the minimum recommendation above, LGC is not a corrosion-engineering firm. Therefore, we recommend that after site grading, consultation with a competent corrosion engineer be initiated to evaluate the actual corrosion potential of the site and to provide recommendations to reduce the corrosion potential with respect to the proposed improvements, as necessary. The recommendations of the corrosion engineer may supersede the above requirements.

4.9 Freestanding Walls

Freestanding wall footings should be founded a minimum of 24-inches below the lowest adjacent grade. To reduce the potential for unsightly cracks, we recommend inclusion of construction joints at 10- to 20-foot intervals.

Due to the potential creep of soils, where free standing walls are constructed close to a top-of-slope, some tilt of the wall should be anticipated. To reduce the amount of tilt, a combination of grade beam and caisson foundations may be used to support the wall. The system should consist of a minimum of 12-inch diameter caissons placed at 8 feet maximum on centers, and each 8 feet long and connected together at top with 12-inch by 12-inch grade beam.

4.10 Control of Surface Water and Drainage Control

Positive drainage of surface water away from structures is very important. No water should be allowed to pond adjacent to buildings. Positive drainage may be accomplished by providing drainage away from the building at a gradient of at least 2-percent for a distance of at least 5 feet, and further maintained by a swale or drainage path at a gradient of at least 1-percent. Where necessary, drainage paths may be shortened by use of area drains and collector pipes.

Planters with open bottoms adjacent to buildings should be avoided. Planters should not be designed adjacent to buildings unless provisions for drainage, such as catch basins, liners, and/or area drains, are made. Overwatering must be avoided.

4.11 Construction Observation and Testing

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC.

Geotechnical observation and testing should be performed by the geotechnical consultant during site excavations, subgrade for slab/foundation, backfill of utility trenches, preparation of any subgrade and placement of aggregate base, or when any unusual soil conditions are encountered at the site. Grading plans, foundation plans, and final project drawings should be reviewed by this office prior to construction.

5.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made, and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control.

Legend

Afo	Artificial Older Fill
Ts	Tertiary-aged Sespe Formation, circled where buried
?	Approximate limits of fill, queried where uncertain
B-6 TD=10.5'	Approximate Boring Location by LGC Valley (2024)
L-B-2 TD=60'	Approximate Boring Location by Lawmaster & Co. (1986)
N-B-2 TD=?	Approximate Boring Location by G. A. Nichol (1986)
N68W 33	Approximate Bedding Attitude

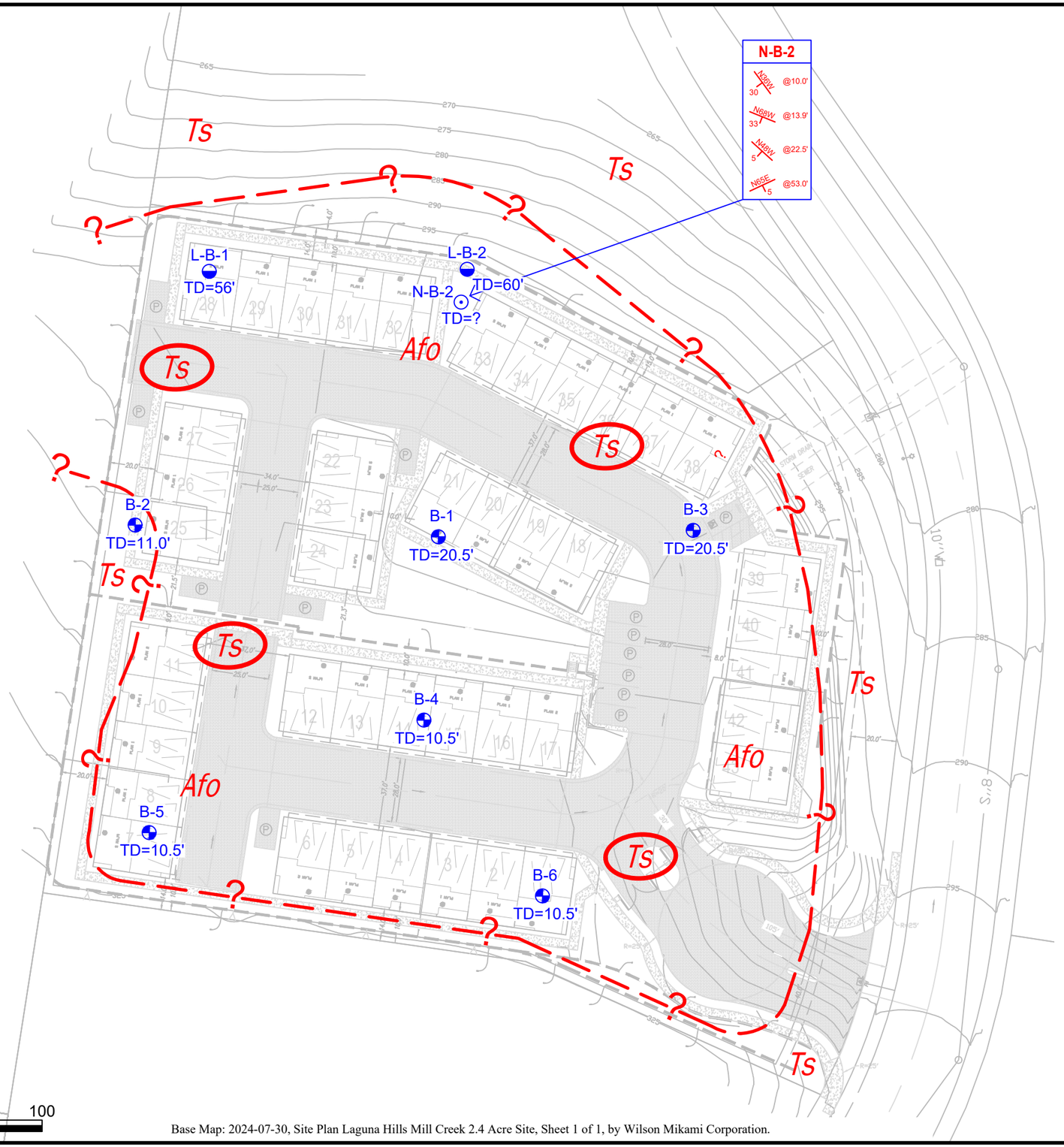
Geotechnical Map

23161 Mill Creek Drive
Laguna Hills, California

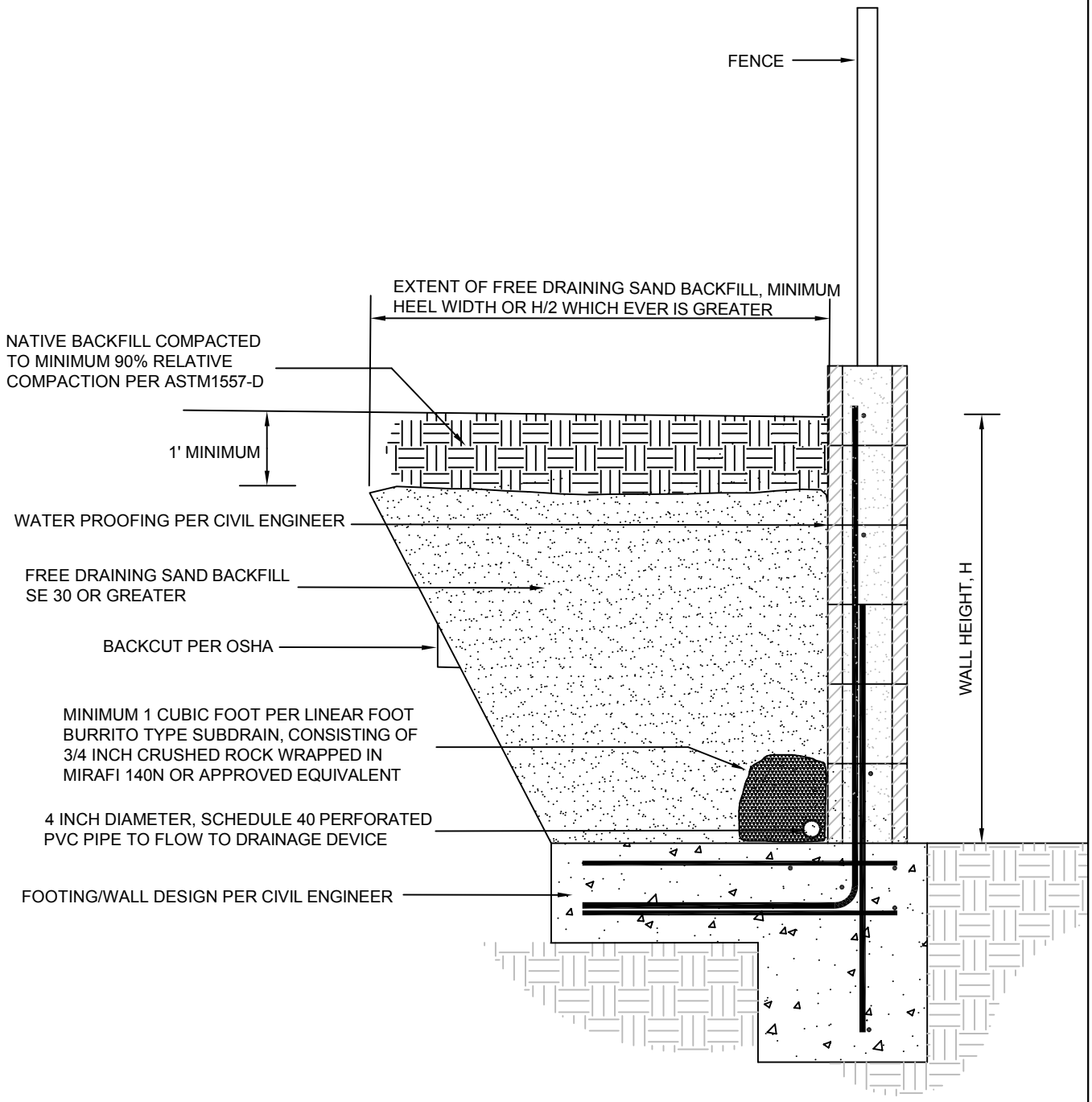
Project Name	Toll/23161 Mill Creek
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	1" = 50'
Date	August 15, 2024

LGC

Figure 2



Base Map: 2024-07-30, Site Plan Laguna Hills Mill Creek 2.4 Acre Site, Sheet 1 of 1, by Wilson Mikami Corporation.



LGC

Figure 3: Retaining Wall Detail, Sand Backfill

Project Name	Toll/Laguna Hills
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	Not-To-Scale
Date	August 15, 2024

APPENDIX A

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APPENDIX B

<u>Geotechnical Boring Logs (Current Study)</u>

Geotechnical Boring Log B-1

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +298 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
298	0							@ 0' 4.5-inches of asphalt concrete over 8-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			B1 @1'-5'					@ 1' Silty to clayey fine to medium SAND, very minor gravel; red brown to dark brown, damp, medium dense	COR, AL, EI
293	5		1	50/6"	110.9	6.9	CL/SM	**Sespe Formation (Ts):**	
			2	50/6"	110.5	8.2	SM	@ 5' Silty fine to medium sandy CLAYSTONE to silty fine to coarse SANDSTONE, very minor gravel; dark brown to red brown, damp, hard to very dense	
288	10		3	50/2"	114.2	2.0		@ 6' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
			B2 @10'-15'					@ 10' Silty fine to medium SANDSTONE, minor gravel; pale red brown, slightly damp, very dense; sample disturbed - rock in sampler	
283	15		4	50/6"				@ 15' Silty fine to medium SANDSTONE, minor gravel; red brown, damp, very dense	DS
278	20		5	50/4"					
								Total Depth = 20.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-2

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +306 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
306	0							@ 0' 5.5-inches of asphalt concrete over 6-inches of aggregate base	
			1 B1 @1'-6'	50/6"	111.3	14.0	SM	**Sespe Formation (Ts):** @ 1' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
301	5		2	86/8.5"	111.7	12.4		@ 5' Becomes a very silty fine to medium SANDSTONE	
296	10		3	88/9"	116.0	12.2	SM/ML	@ 10' Silty fine SANDSTONE to fine sandy SILTSTONE; red brown to dark red brown, damp, very dense to hard	

Total Depth = 11 Feet
No Ground Water Encountered
Backfilled 5/8/2024
with Native Soil and Concrete Plug

LGC

■ = Ring Sample
⊠ = SPT

LGC VALLEY, INC.
THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-3

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +297 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
297	0							@ 0' 5.5-inches of asphalt concrete over 8-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			1 B1 @1'-6'	69	119.3	5.7	SM	@ 1.1' Silty fine to coarse SAND, minor gravel and minor clay; red brown, damp, medium dense	
292	5		2	82	119.6	4.2		**Sespe Formation (Ts):** @ 2.5' Silty fine to coarse SANDSTONE, very minor gravel and minor clay; red brown, damp, dense	
			3	50/6"	119.1	7.5		@ 5' Silty fine to coarse SANDSTONE, very minor gravel; red brown, damp, dense	
287	10		4	50/6"	110.4	5.7		@ 10' Increase in coarse sand	
282	15		5	50/5"					
277	20		6	50/5"				@ 20' Decrease in coarse sand	
								Total Depth = 20.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil & Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-4

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +308 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
308	0							@ 0' 3-inches of asphalt concrete over 5-inches of aggregate base	EI, RDS, COR
			B1 @1'-3'				SC/SM		
			1	50/6"	113.4	12.1		**Artificial Fill, Older (Afo):** @ 0.8' Silty fine to medium SAND, very minor gravel; dark red brown, damp, medium dense @ 1.5' Clayey fine to coarse SAND, very minor gravel; dark brown to red brown, damp, medium dense	CN
303	5		2	86/9"	113.9	8.8	SM		
								Sespe Formation (Ts): @ 3' Silty fine to coarse SANDSTONE; pale red brown, damp, very dense	
298	10		3	50/6"	110.3	9.4		@ 10' Becomes a very silty fine to coarse SANDSTONE	
								Total Depth = 10.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-5

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +317 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
								Logged By: MET Sampled By: MET	
317	0							@ 0' 8-inches of Asphalt over 5-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			1	52	115.8	13.4		@ 1.1' Silty fine to medium SAND, very minor gravel, slightly clayey; red brown, damp, medium dense	CN
							SM		
312	5		2	85/9"	115.6	9.6		**Sespe Formation (Ts):**	
								@3.5' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
			3	50/6"	111.3	8.4		@7.5' Becomes a silty fine to medium SANDSTONE	
307	10		4	50/6"	105.2	6.5	SW	@10' Fine to coarse SANDSTONE; red brown to gray brown, damp, very dense	

Total Depth = 10.5 Feet
No Ground Water Encountered
Backfilled 5/8/2024
with Native Soil and Concrete Plug

LGC

■ = Ring Sample
⊠ = SPT

LGC VALLEY, INC.
THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-6

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +312 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
312	0							@ 0' 8-inches of asphalt concrete over 5-inches of aggregate base	
							SW	**Artificial Fill, Older (Afo):**	
			1 B1 @2.5'-5'	86/11"	118.1	6.0	SW	@ 1.1' Silty fine to coarse gravelly SAND, minor fine cobbles; dark red brown, damp, medium dense	SA, SE
307	5		2	80/8.5"	111.9	9.9	SM	**Sespe Formation (Ts):** @ 2.5' Silty fine to coarse gravelly SANDSTONE, minor fine cobbles; red brown, damp, very dense	
								@ 5' Silty fine to coarse SANDSTONE, very minor gravel; red brown, damp, very dense	
302	10		3	50/6"	105.1	9.8			
								Total Depth = 10.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

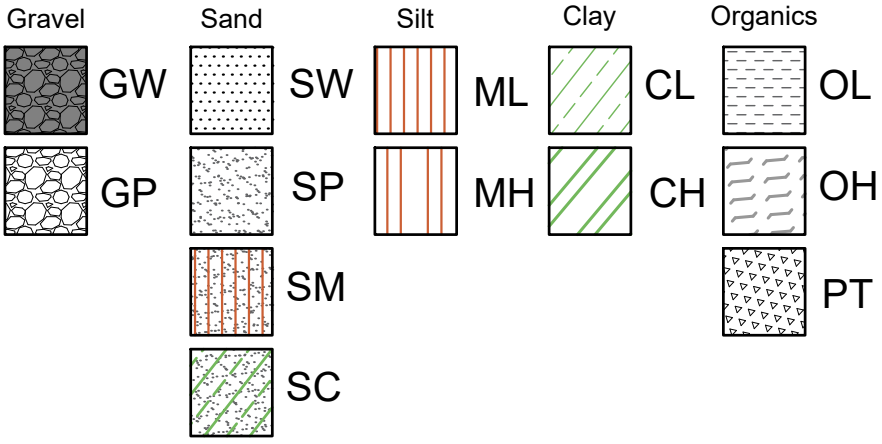
■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Key to Boring Logs



Symbol	Laboratory Test
SA	Sieve Analysis
H	Hydrometer Anlysis
SHA	Sieve & Hydrometer Analysis
-200	Percent Passing #200 Sieve
AL	Atterburge Limits
MAX	Maximum Density
DS	Undisturbed Direct Shear
RDS	Remolded Direct Shear
SE	Sand Equivalent
EI	Expansion Index
P	Permeability
CN	Consolidation
COL	Collapse
UC	Unconfined Compression
S	Sulfate Content
pHR	pH & Resistivity
COR	Corrosion Suite (pH, Resistivity, Chloride, Sulfate)
RV	R-Value

APPENDIX C

Laboratory Testing Procedures and Test Results (Current Study)

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type, and the results are presented on the following pages. LGC has reviewed the laboratory test data, procedures, and results with respect to the subject site, concurs with, and accepts responsibility as geotechnical engineer of record for their work (laboratory testing).

Soil Classification: Soils were classified according to the Unified Soil Classification System (USCS) in accordance with ASTM Test Methods D2487 and D2488. This system relies on the Atterberg limits and grain size distribution of a soil. The soil classifications (or group symbol) are shown on the laboratory test data and boring logs.

Atterberg Limits: The liquid and plastic limits ("Atterberg limits") were determined in accordance with ASTM Test Method D4318 for engineering classification of fine-grained material and presented on the following table:

Sample Location	Sample Description	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	27	15	12

Chloride Content: Chloride content was tested in accordance with CTM 422. The results are presented below:

Sample Location	Sample Description	Chloride Content (ppm)	Potential Degree of Chloride Attack*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	125	Negligible
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	140	Negligible

* Extrapolation from California Test Method 532, Method for Estimating the Time to Corrosion of Reinforced Concrete Substructures and previous experience.

Consolidation: Consolidation tests were performed on selected, relatively undisturbed ring samples (per Modified ASTM Test Method D2435). Samples (2.42 inches in diameter and 1 inch in height) were placed in a consolidometer and increasing loads were applied. The samples were allowed to consolidate under "double drainage" and total deformation for each loading step was recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curves are presented on the attached figures at the end of this appendix.

Direct Shear (Remolded or Undisturbed): Direct shear tests were performed on selected remolded and/or undisturbed samples, which were soaked for a minimum of 24 hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately 1 hour prior to application of shearing force. The samples were tested under various normal loads, a motor-driven, strain-controlled, direct-shear testing apparatus at a strain rate of less than 0.001 to 0.5 inch per minute (depending upon the soil type). The test results are presented on the following table and/or on the attached figures at the end of this appendix.

Sample Location	Sample Description	Peak/Ultimate Friction Angle (degrees)	Peak/Ultimate Apparent Cohesion (psf)
B-1 #4 @15'	Undisturbed	29/29	278/96
B-4 #B1 @ 1-3'	Clayey fine to medium SAND (Remolded)	30/30	227/198

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, UBC Standard No. 18-I-B and/or ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below:

Sample Location	Sample Description	Expansion Index	Expansion Potential
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	14	Very Low
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	38	Low

Laboratory Testing Procedures and Test Results (Current Study) (continued)

Maximum Dry Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM Test Method D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-4 #B1 @ 1-3’	Clayey fine to medium SAND	133.5	8.0

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings. The results of these tests are presented on the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Sieve Analysis: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve. The portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D422 (CTM 202). The sieve analysis curve is presented on the attached figure at the end of this appendix. The percent passing the #200 sieve is presented on the following table:

Sample Location	Sample Description	Percent Passing #200 Sieve
B-6 #B1 @2.5-5’	Silty fine to coarse gravelly SAND	26.5

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The electrical resistivity of a soil is a measure of its resistance to the flow of electrical current. As a result of soil's resistivity decreases corrosivity increases. The results are presented in the table below:

Sample Location	Sample Description	pH	Minimum Resistivity (ohms-cm)	Potential Degree of Corrosivity*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	7.82	1,700	Moderately Corrosive
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	8.15	1,300	Moderately Corrosive

* NACE Corrosion Basics, 1984.

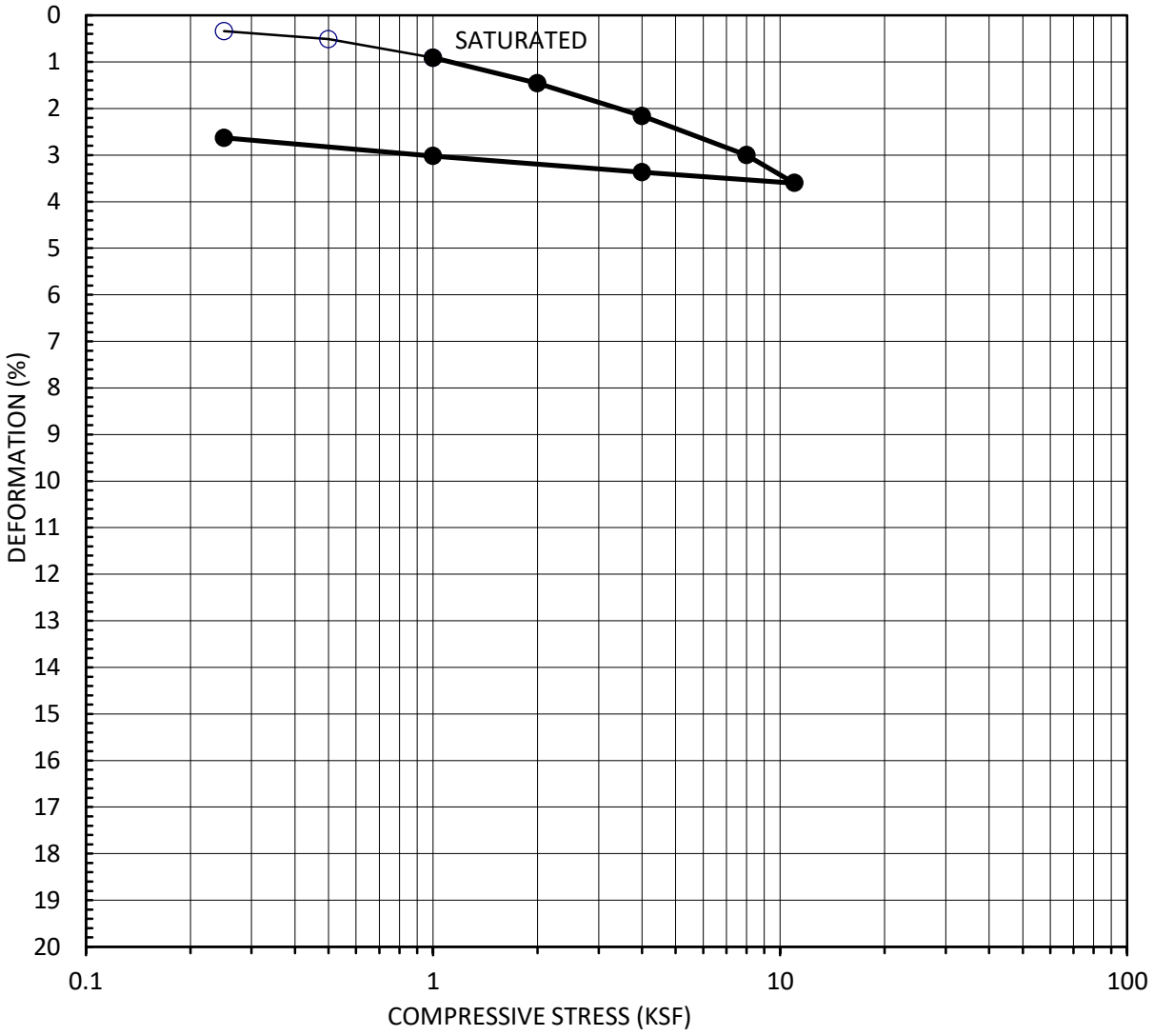
Sand Equivalent: The sand equivalent (SE) of selected samples was determined in accordance with ASTM D2419. The sand equivalent results are used to determine the applicability of material for use as backfill and to assess whether flooding or jetting is a suitable compaction method. The results are presented in the table below:

Sample Location	Sample Description	Sand Equivalent Value
B-6 #B1 @2.5-5'	Silty fine to coarse gravelly SAND	14

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below:

Sample Location	Sample Description	Sulfate Content (% by weight)	Exposure Class (Exposure Severity)*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	0.007	S0 (Not Applicable)
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	0.005	S0 (Not Applicable)

* Per ACI 318-19 Table 19.3.2.1 (ACI, 2019).



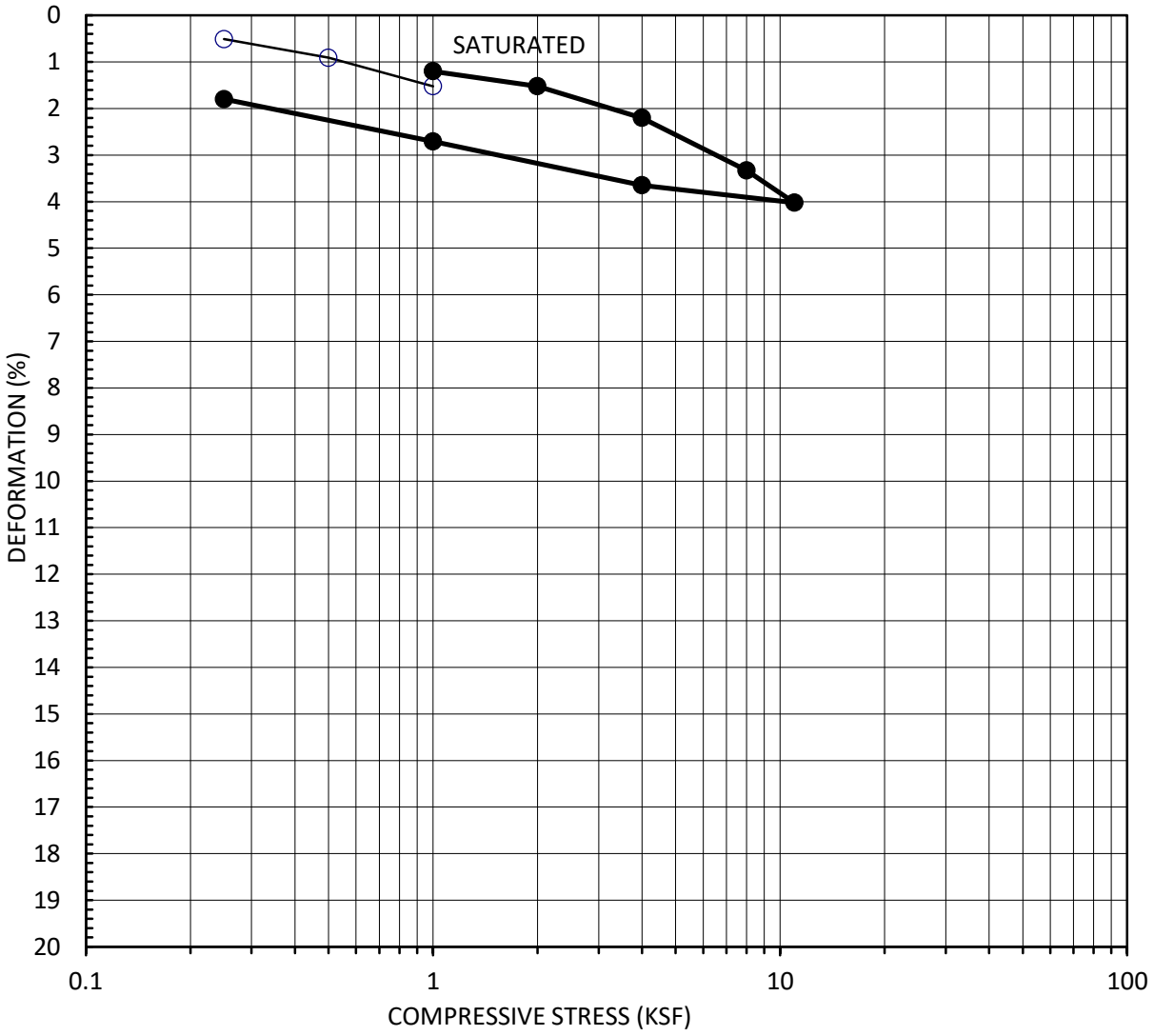
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density (PCF)	Init. Void Ratio
○	B-4	1	2.5	SM	12.1	115.1	0.463

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client: LGC Valley, Inc.
Job No.: 244006-01
EGLAB Project No.: 24-059-009

CONSOLIDATION

08/24 (ASTM D2435) Figure



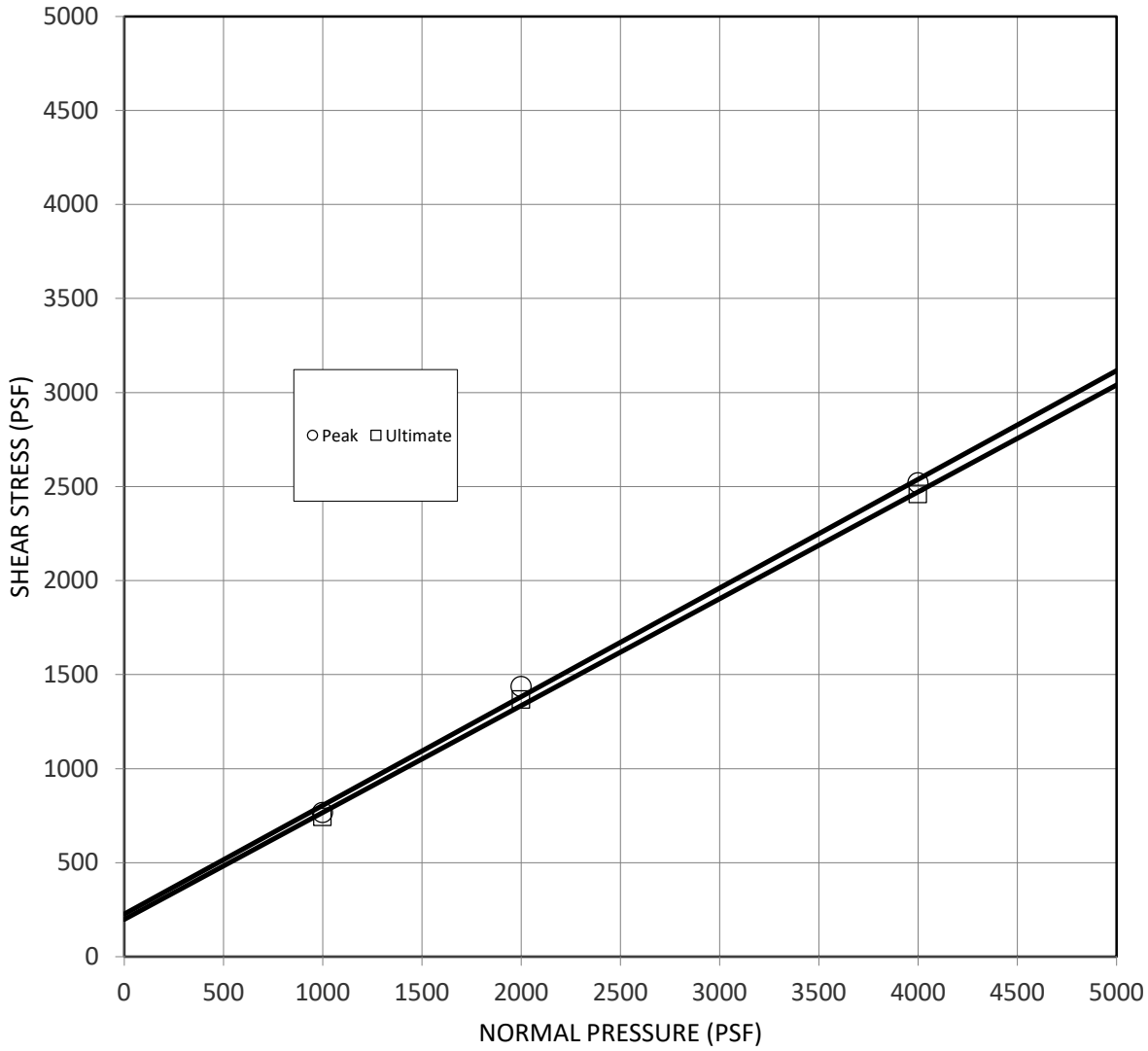
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density (PCF)	Init. Void Ratio
○	B-5	1	2.5	CL/SC	13.4	118.4	0.423

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client: LGC Valley, Inc.
Job No.: 244006-01
EGLAB Project No.: 24-059-009

CONSOLIDATION

08/24 (ASTM D2435) Figure



Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-1	4	15.0	Ring	SM	○	227	30
					□	198	30

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
1000	7.9	21.8	102.8	92
2000	7.9	21.3	103.5	92
4000	7.9	20.3	104.8	90

EGLAB, INC.

Project Name: Toll / Mill Creek 2

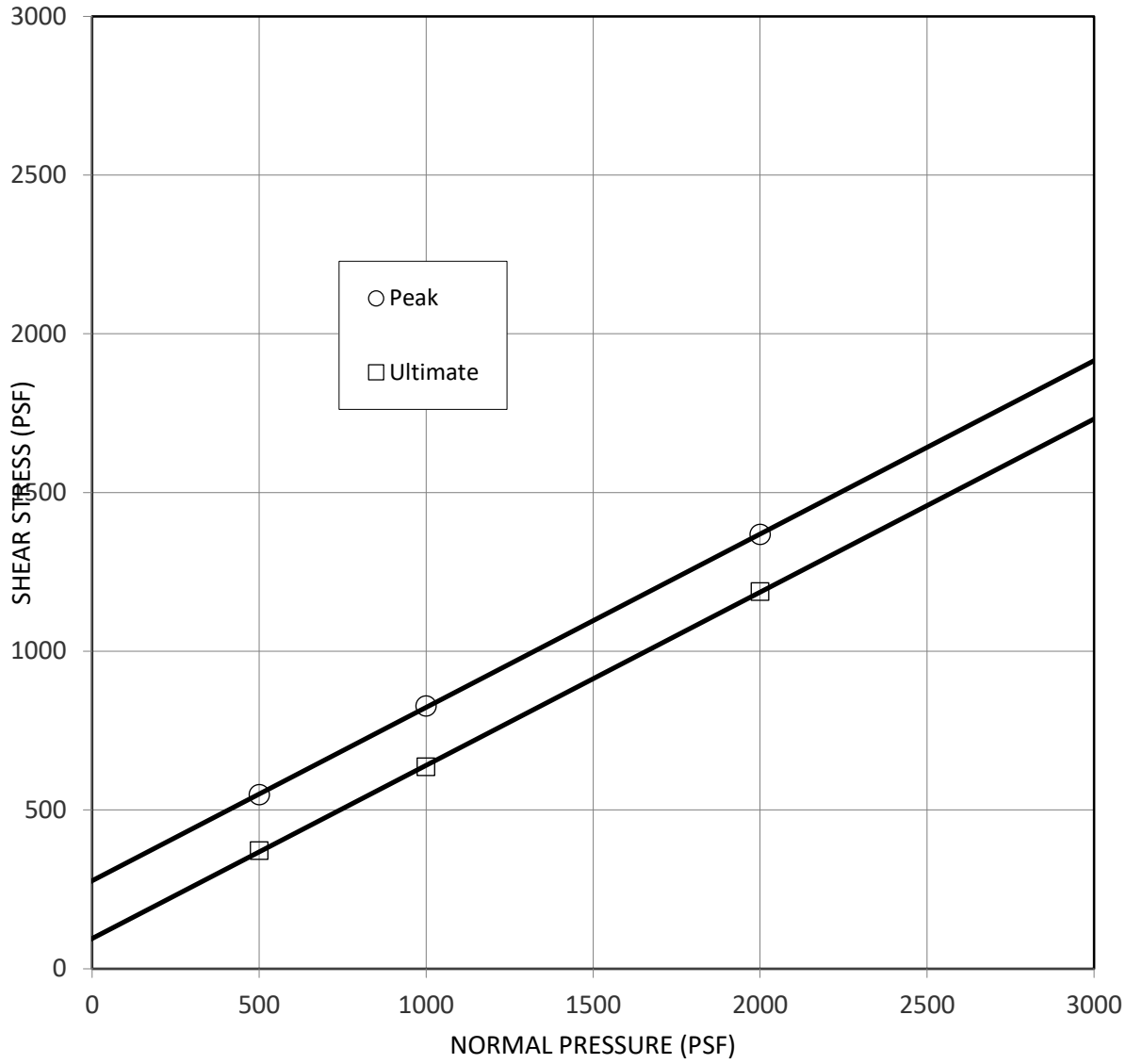
Client: LGC Valley, Inc.

Project No.: 244006-01

EGLAB Project No.: 24-059-009

DIRECT SHEAR

08/24 (ASTM D3080) Figure



Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-4	B1	1.0-3.0	Bulk	SC	○	278	29
					□	96	29

Note: Sample was remolded to **90 %** maximum relative density and optimum moisture

Maximum Dry Density: **133.5 pcf** Optimum Moisture: **8.0 %**

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)
500	7.8	19.5
1000	7.8	19.0
2000	7.8	18.1

EGLAB, INC.

Project Address:
Toll / Mill Creek 2

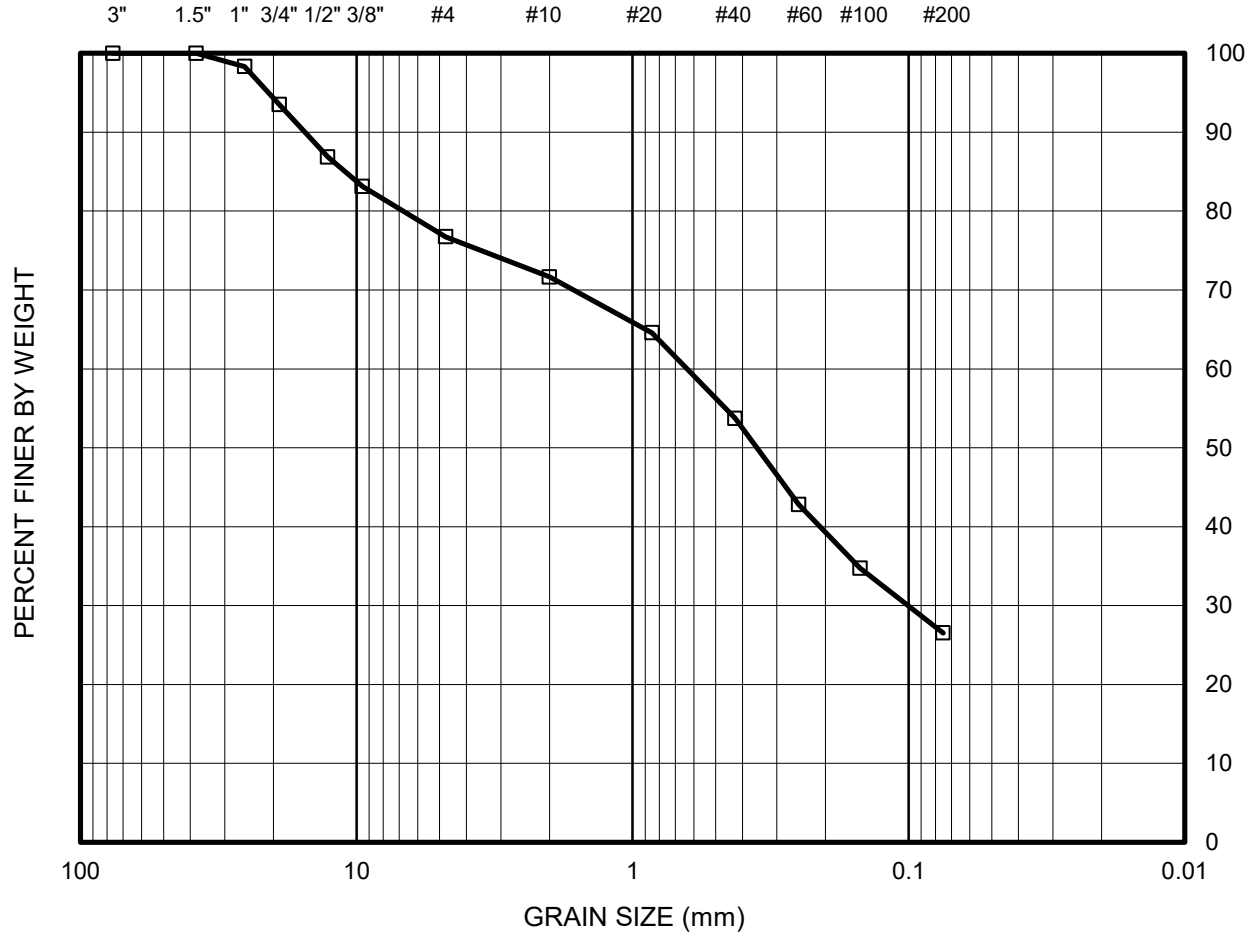
Client: LGC Valley, Inc.
Project No.: 244006-01
EGLAB Project No.: 24-059-009

DIRECT SHEAR

08/24 (ASTM D3080) Figure

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COAR	MEDIUM	FINE	

U.S STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER



SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	LIQUID LIMIT	PLASTICITY INDEX
☐	B-6	B1	2.5-5.0	Bulk	SC	N/A	N/A

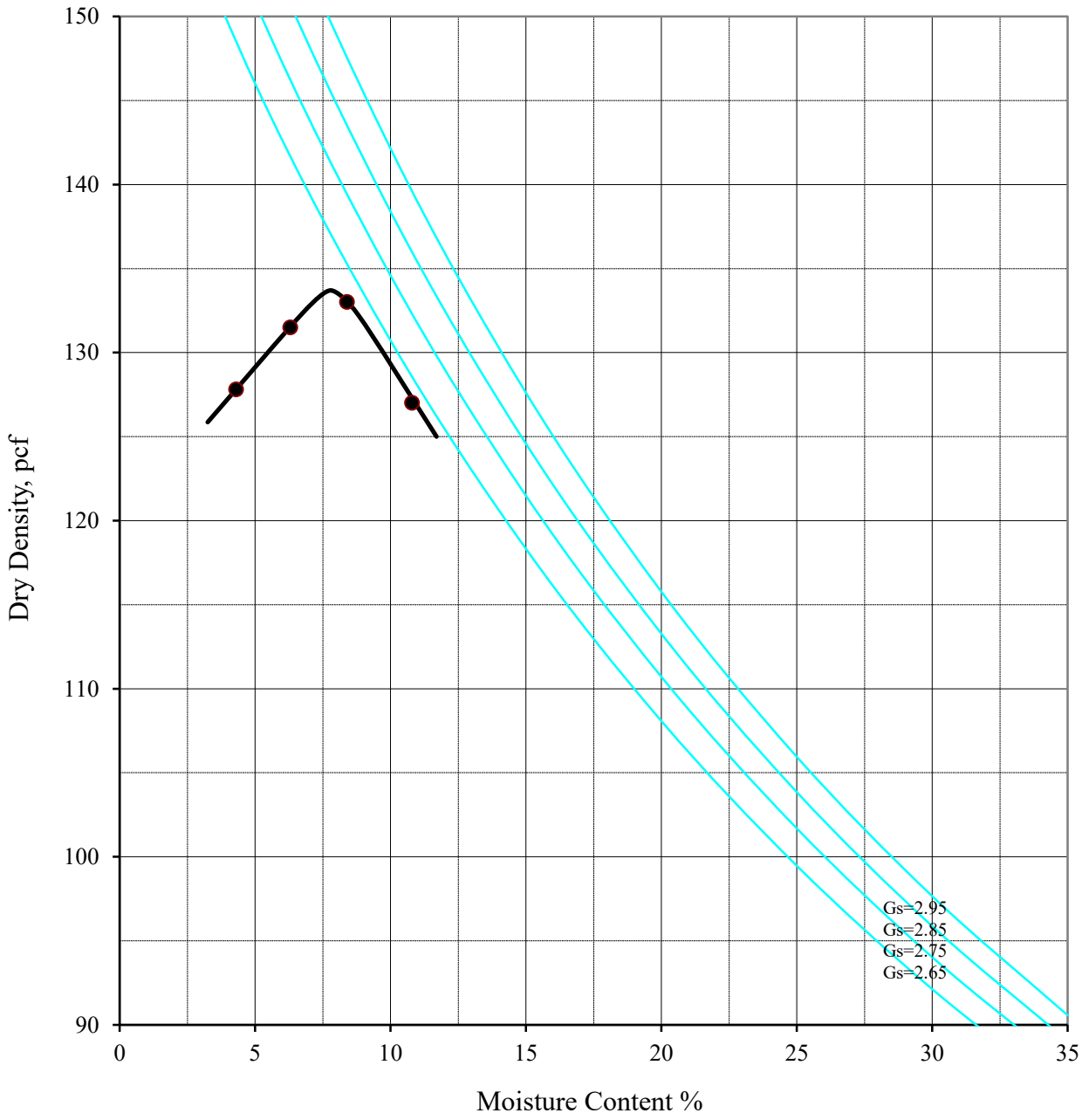
Gravel:	23.3%
Sand:	50.2%
Fine:	26.5%

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client Job No.: 244006-01
Client Name: LGC Valley, Inc.
EGLAB Project No.: 24-059-009

GRAIN SIZE DISTRIBUTION CURVE

08/07/24 (ASTM D422) FIGURE



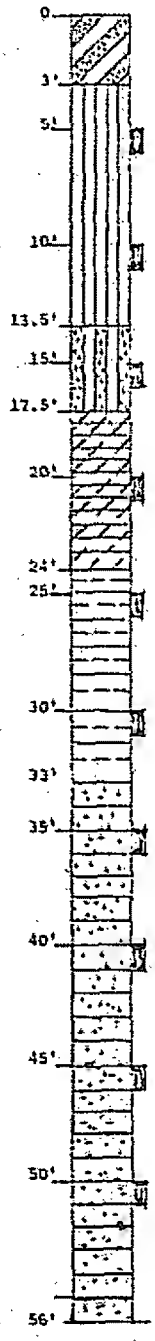
Method "A"

Maximum Dry Density = **133.5** pcf Optimum Moisture Content = **8.0** %	Boring No: B-4 Sample: B1 Depth : 1.0-3.0 feet Description : Clayey sand (SC), reddish brown, trace of gravel
EGLAB, INC.	Project Name: Toll / Mill Creek 2 Client Name: LGC Valley, Inc.
Modified Proctor **(ASTM D1557)**	Job No.: 244006-01 EGLAB Project No.: 24-059-009 Date : Aug-24 Figure

APPENDIX D

Previous Geotechnical Borings Logs (by Others)

TEST BORING LOG



Soil Classification	% Moisture	Dry Density, pcf	U.S.C.
FILL: Brown/reddish brown CLAYEY SAND			SC
NATURAL: Brown/reddish brown SANDY SILT, nemo clay (32/50/18) @ 5'	10	125	ML
	15	113	
Light reddish brown SILTY FINE-MEDIUM SAND	6	111	SM
BEDROCK: Brown/reddish brown CLAYSTONE, weathered	20	112	
Brown/reddish brown SILSTONE (30/50/14) @ 25'	11	112	
	13	114	
Reddish brown/gray SANDSTONE	10	115	
	9	121	
Light gray SANDSTONE	9	111	
	7	111	

NO GROUNDWATER
NO CAVING

LEGEND:

U - Undisturbed core sample

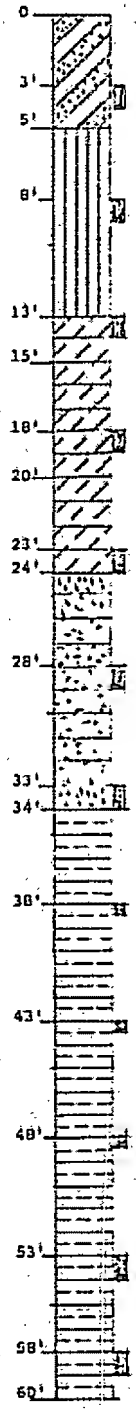
(%Sand/% Silt/% Clay) @ sample depth

U.S.C. - Unified Soil Classification System Group Symbol

PLATE B-1

FILE NO. 85-10789
H. V. LAWMASTER & CO., INC.

TEST BORING LOG



Soil Classification	% Moisture	Dry Density, pcf	U.S.C.
FILL: Brown/reddish brown CLAYEY SAND with silt			SC
	11	115	
NATURAL: Brown/reddish brown SANDY SILT, some clay (32/50/18) @ 8'			ML
	12	112	
BEDROCK: Brown/reddish brown CLAYSTONE	10	121	
	11	119	
	12	102	
Light grayish brown SANDSTONE			
	10	102	
	14	114	
Yellowish brown SILTSTONE/SANDSTONE			
	5	111	
	6	114	
	10	115	
	8	116	
	11	113	

NO GROUNDWATER
NO CAVING

PLATE B-2

FILE NO. 85-10789
H. V. LAWMASTER & CO., INC.

APPENDIX E

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent: These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record: Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation, and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading,

the number of "equipment" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 10 percent organic matter. Nesting of organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing: Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free from oversize

material and the working surface is reasonably uniform, flat, and free from uneven features that would inhibit uniform compaction.

2.3 ***Overexcavation:*** In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured, or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 ***Benching:*** Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 ***Evaluation/Acceptance of Fill Areas:*** All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 ***General:*** Material to be used as fill shall be essentially free from organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 ***Oversize:*** Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversized material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 ***Import:*** If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined, and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers: Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning: Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557-91).

4.3 Compaction of Fill: After each layer has been moisture conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557-91). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes: In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheeps-foot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557-91.

4.5 Compaction Testing: Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing: Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations: The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with

sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

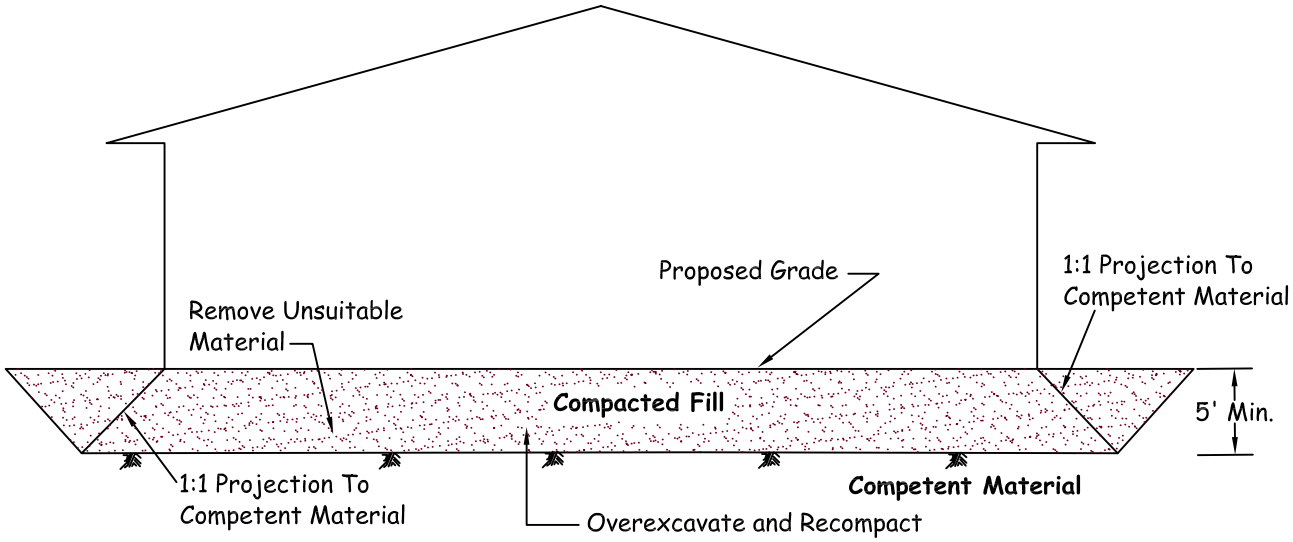
7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

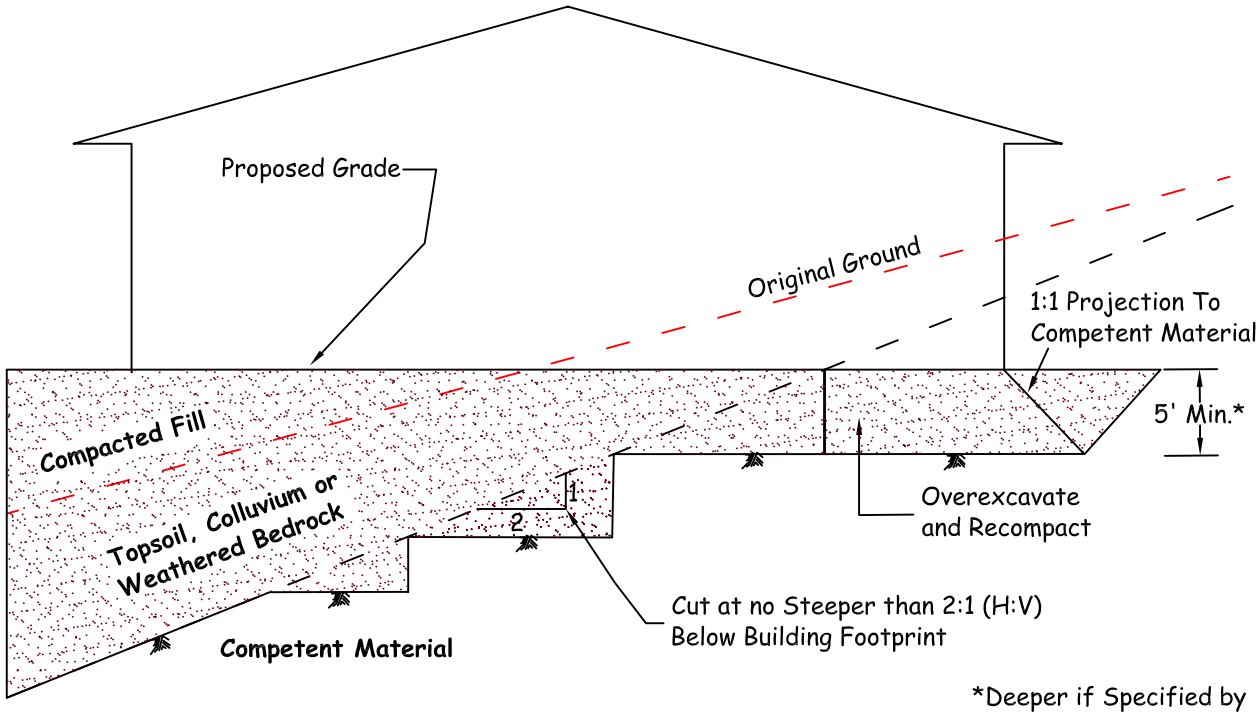
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

Cut/Fill Transition Lot



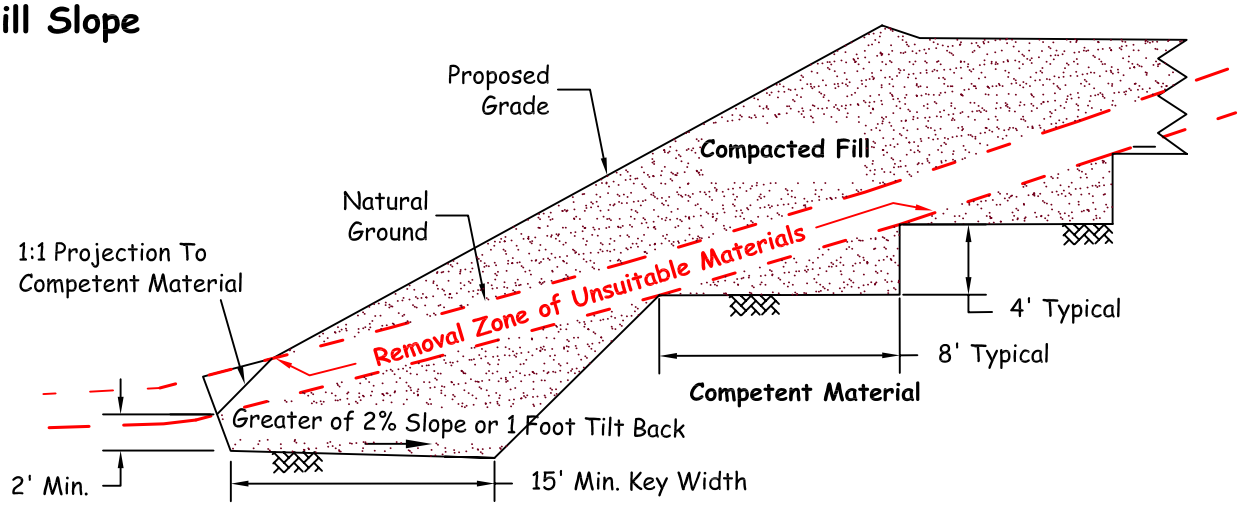
*Deeper if Specified by Soils Engineer

LGC

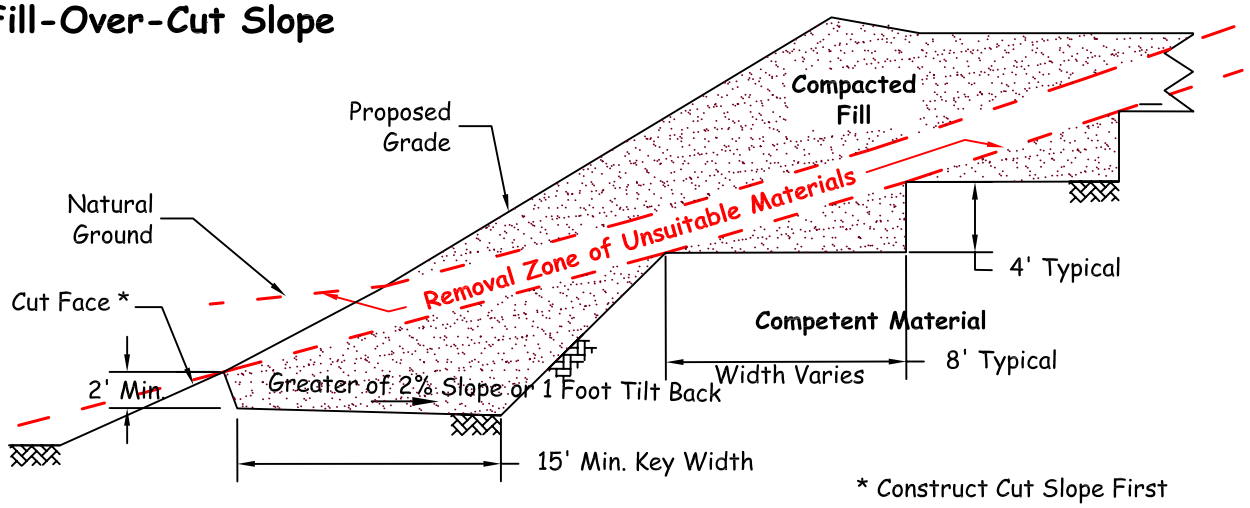
CUT AND TRANSITION LOT OVEREXCAVATION DETAIL

11/26/02

Fill Slope

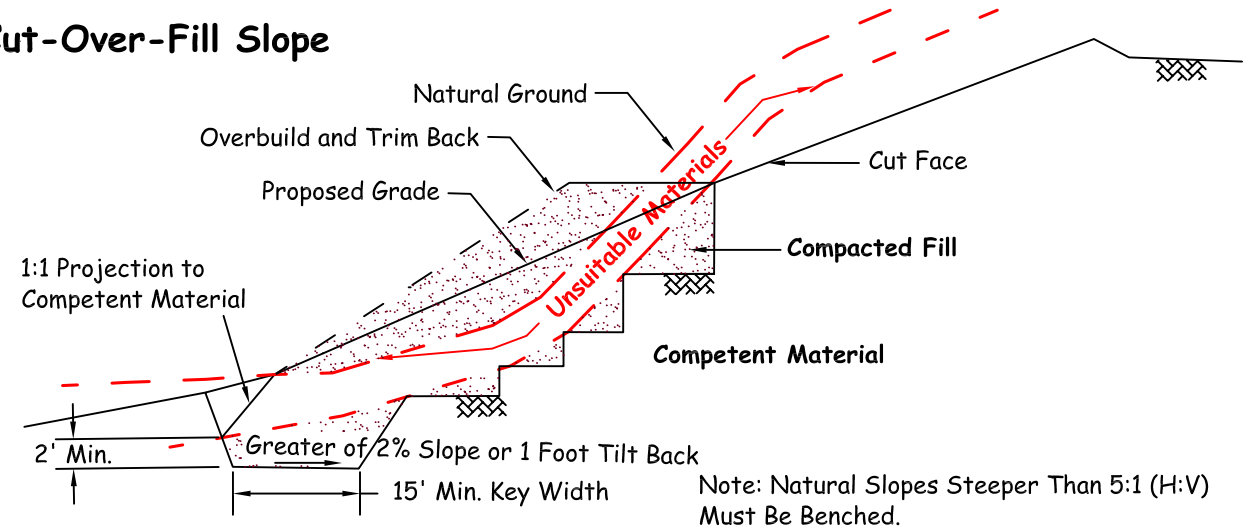


Fill-Over-Cut Slope



* Construct Cut Slope First

Cut-Over-Fill Slope

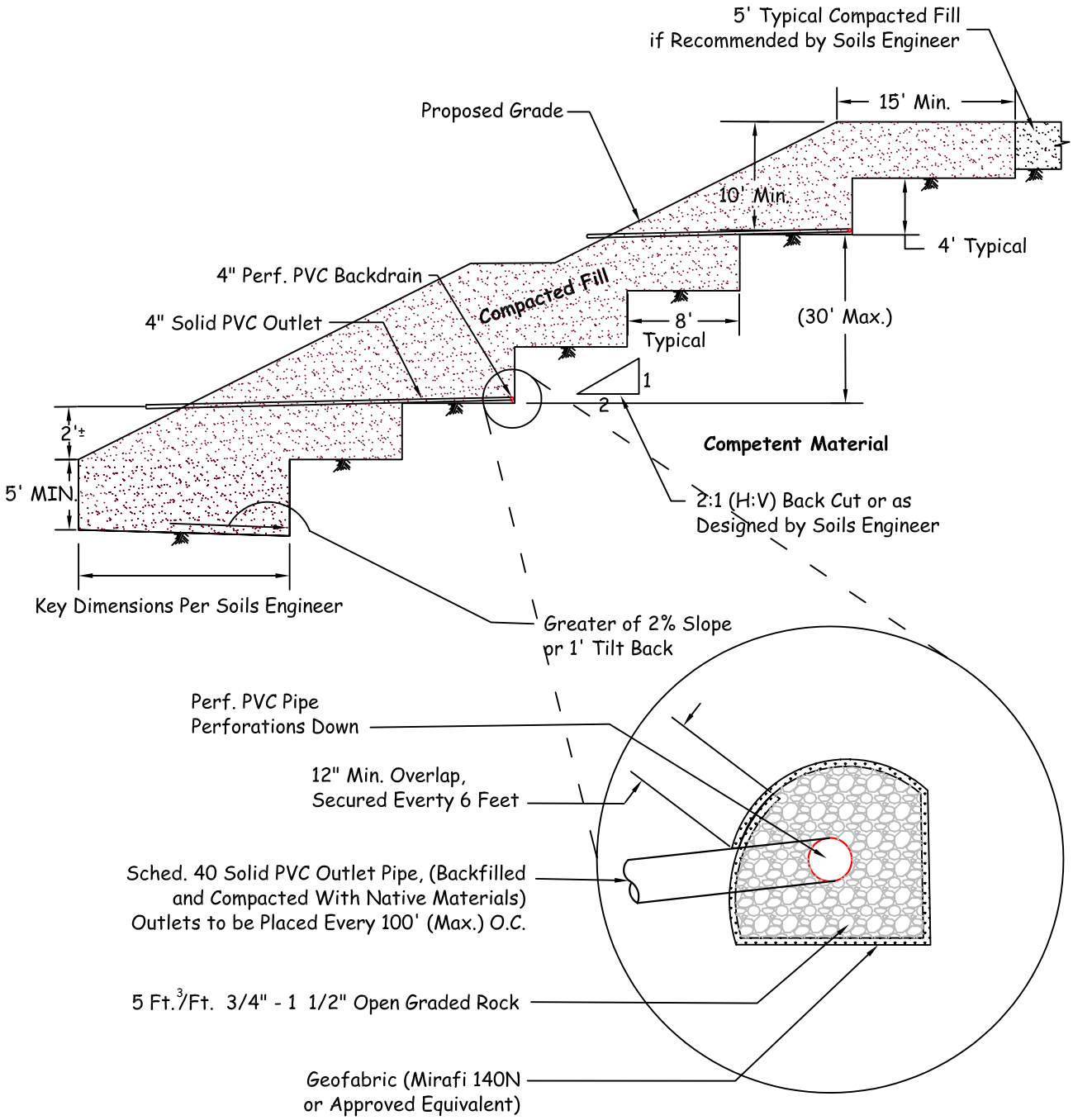


Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

LGC

KEYING AND BENCHING

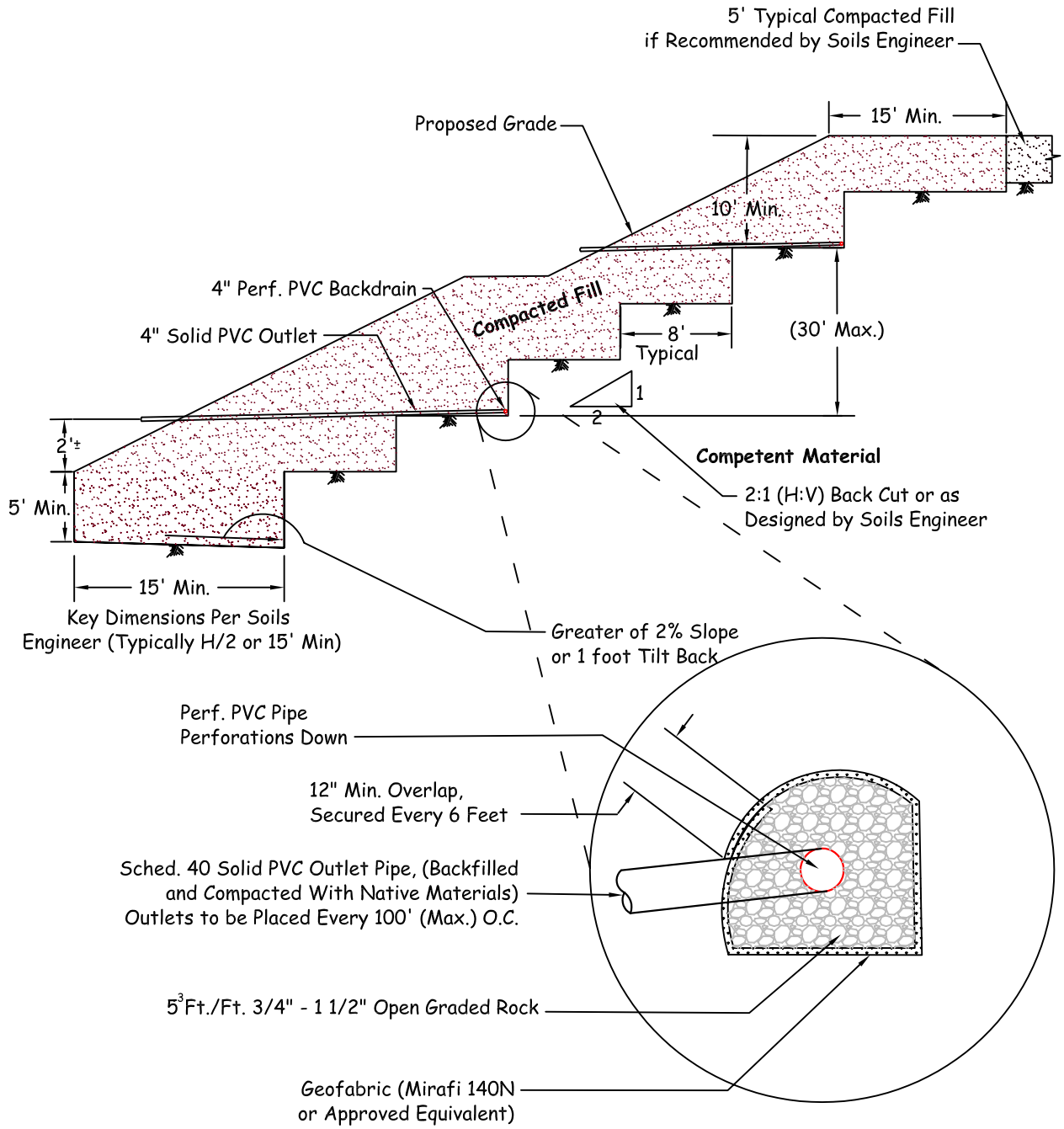
11/26/02



LGC

TYPICAL BUTTRESS DETAIL

11/26/02



LGC

TYPICAL STABILIZATION FILL DETAIL

11/26/02

Attachment G

Preliminary Drainage Report

23161 MILL CREEK PROJECT

CITY OF LAGUNA HILLS

PRELIMINARY HYDROLOGY REPORT

Prepared for:

Toll Brothers
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Irvine, CA 92602

January, 2025

Prepared by:
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B. Proposed Condition Rational Method Q25 and Q100 Hydrology and Hydrology Map

C. Existing Condition Unit Hydrograph analysis for a 100 Year -24 Hour Storm Event

D. Proposed Condition Unit Hydrograph analysis for a 100 Year- 24 Hour Storm Event

I. INTRODUCTION

A. PROJECT DESCRIPTION:

Toll Brothers is proposing the development of a 2.4 acre site within the City of Laguna Hills, at Mill Creek Drive (Refer to Project Location Map, Figure 1). The site will consist of 18 duplex units, 36 residences.

The existing project site is currently a commercial building and parking lot and surface drains through a series of v-gutters down the drive entrance on onto Mill Creek Drive. There are currently no underground storm drain pipes.

The drainage from the project is collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site.

B. PURPOSE:

This drainage report is intended to analyze the proposed drainage facilities associated with the project improvements and determine that the receiving facilities are not overburdened.

C. METHODOLOGY:

The existing and proposed conditions were analyzed utilizing the Advanced Engineering Software (AES) package for Orange County (RATSCX) (ref. 2). A rational method hydrology analysis was performed on both the existing pre-development, and proposed post-development condition for the 25 and 100-year storm events. The results are summarized in the table below and included in Appendix A and B of this report.

Existing Condition	Area (ac)	Q25 (cfs)	Q100 (cfs)
Sub-area A	2.2	8.0	10.3
Sub-area B	0.2	0.9	1.1
Total	**2.4**	**8.9**	**11.4**
Proposed Condition			
Sub-area A	0.9	3.4	4.4
Sub-area B	1.5	5.4	7.0
Total	**2.4**	**8.8**	**11.4**

The storm volumes were analyzed using the Civil D unit hydrograph (ref 3) module for Orange County. The point precipitation values were taken from NOAA Atlas 14 for the Laguna Hills area. The unit hydrograph results can be found in Appendix C (existing) and D (proposed) and are summarized below:

Existing Condition-Unit Hydrograph

Storm Event	Storm Duration	Total Tribuary Area (ac)	Pervious Percent Ap	Total Storm Volume (ac-ft)
100-Year	24 Hour	2.4 ac	22%	1.054 ac-ft

Proposed Condition-Unit Hydrograph

Storm Event	Storm Duration	Total Tribuary Area (ac)	Pervious Percent Ap	Total Storm Volume (ac-ft)
00-Year	24 Hour	2.4 ac	26%	1.048 ac-ft

The storm volume and peak flow rates in the existing condition does not exceed the expected storm volume or peak flow rates in the proposed condition and no on-site detention is required.

D. CONCLUSION:

These analyses and calculations confirm that the proposed development does not overburden the downstream drainage facility or increase flow onto Mill Creek Drive and no on-site detention is required. Additionally, protection of onsite structures will be maintained for the 100-year storm event.

II. REFERENCES

1. Orange County Hydrology Manual, 1986/1996 Addendum
2. Advanced Engineering Software (AES) RATSCX, 2016
3. Civil Design Software (CIVILD), 2018

PROJECT LOCATION

PROJECT LOCATION

FIGURE MAP 1

Map Scale: 1:1,170 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County and Part of Riverside County, California
Survey Area Data: Version 17, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 17, 2023—Feb 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
104	Alo variant clay, 15 to 30 percent slopes	D	1.1	27.4%
105	Alo variant clay, 30 to 50 percent slopes	D	2.9	72.6%
173	Myford sandy loam, 2 to 9 percent slopes	C	0.0	0.0%
Totals for Area of Interest			**4.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

NOAA Atlas 14, Volume 6, Version 2
Location name: Laguna Hills, California, USA*
Latitude: 33.6246°, Longitude: -117.7362°
Elevation: 350 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.128 (0.107-0.154)	0.171 (0.143-0.206)	0.230 (0.192-0.277)	0.279 (0.231-0.340)	0.349 (0.279-0.440)	0.404 (0.316-0.522)	0.463 (0.352-0.614)	0.525 (0.388-0.717)	0.613 (0.433-0.875)	0.684 (0.466-1.01)
10-min	0.183 (0.154-0.220)	0.245 (0.206-0.295)	0.329 (0.275-0.398)	0.400 (0.331-0.487)	0.500 (0.400-0.631)	0.579 (0.453-0.748)	0.663 (0.505-0.879)	0.752 (0.556-1.03)	0.878 (0.621-1.26)	0.980 (0.668-1.45)
15-min	0.221 (0.186-0.266)	0.296 (0.249-0.357)	0.398 (0.333-0.481)	0.484 (0.401-0.589)	0.604 (0.483-0.763)	0.701 (0.548-0.905)	0.802 (0.611-1.06)	0.910 (0.672-1.24)	1.06 (0.751-1.52)	1.18 (0.808-1.76)
30-min	0.312 (0.262-0.375)	0.417 (0.350-0.503)	0.560 (0.468-0.677)	0.681 (0.564-0.830)	0.850 (0.680-1.07)	0.986 (0.771-1.27)	1.13 (0.859-1.50)	1.28 (0.946-1.75)	1.50 (1.06-2.14)	1.67 (1.14-2.47)
60-min	0.420 (0.352-0.505)	0.562 (0.471-0.677)	0.754 (0.631-0.911)	0.916 (0.759-1.12)	1.14 (0.915-1.45)	1.33 (1.04-1.72)	1.52 (1.16-2.02)	1.72 (1.27-2.36)	2.01 (1.42-2.87)	2.25 (1.53-3.33)
2-hr	0.600 (0.504-0.722)	0.799 (0.670-0.962)	1.07 (0.896-1.29)	1.30 (1.08-1.59)	1.64 (1.31-2.07)	1.91 (1.49-2.47)	2.20 (1.68-2.92)	2.51 (1.86-3.44)	2.97 (2.10-4.24)	3.34 (2.28-4.95)
3-hr	0.739 (0.620-0.889)	0.979 (0.821-1.18)	1.31 (1.10-1.58)	1.60 (1.32-1.95)	2.01 (1.61-2.54)	2.35 (1.83-3.03)	2.71 (2.06-3.59)	3.10 (2.29-4.24)	3.67 (2.60-5.24)	4.14 (2.82-6.14)
6-hr	1.03 (0.867-1.24)	1.36 (1.14-1.64)	1.82 (1.52-2.20)	2.22 (1.84-2.70)	2.78 (2.22-3.52)	3.24 (2.54-4.19)	3.74 (2.85-4.96)	4.28 (3.16-5.84)	5.05 (3.57-7.22)	5.70 (3.88-8.44)
12-hr	1.36 (1.14-1.63)	1.80 (1.51-2.17)	2.40 (2.01-2.90)	2.91 (2.41-3.55)	3.63 (2.90-4.59)	4.21 (3.29-5.44)	4.82 (3.67-6.39)	5.47 (4.04-7.47)	6.39 (4.52-9.12)	7.13 (4.86-10.6)
24-hr	1.78 (1.57-2.06)	2.37 (2.09-2.74)	3.17 (2.79-3.68)	3.84 (3.35-4.48)	4.77 (4.04-5.76)	5.51 (4.57-6.78)	6.28 (5.09-7.92)	7.10 (5.60-9.19)	8.24 (6.24-11.1)	9.16 (6.71-12.8)
2-day	2.19 (1.94-2.53)	2.93 (2.59-3.39)	3.93 (3.46-4.56)	4.78 (4.17-5.58)	5.96 (5.04-7.19)	6.91 (5.73-8.50)	7.90 (6.40-9.96)	8.95 (7.06-11.6)	10.4 (7.90-14.1)	11.6 (8.52-16.2)
3-day	2.42 (2.14-2.79)	3.24 (2.86-3.74)	4.36 (3.84-5.06)	5.31 (4.64-6.20)	6.65 (5.63-8.03)	7.73 (6.41-9.52)	8.86 (7.18-11.2)	10.1 (7.94-13.0)	11.8 (8.93-15.9)	13.2 (9.65-18.4)
4-day	2.60 (2.30-3.01)	3.50 (3.09-4.05)	4.72 (4.16-5.48)	5.76 (5.03-6.73)	7.24 (6.12-8.73)	8.42 (6.98-10.4)	9.67 (7.83-12.2)	11.0 (8.68-14.3)	12.9 (9.78-17.4)	14.5 (10.6-20.1)
7-day	2.98 (2.63-3.44)	4.01 (3.54-4.64)	5.42 (4.77-6.29)	6.62 (5.78-7.74)	8.33 (7.04-10.0)	9.70 (8.04-11.9)	11.2 (9.03-14.1)	12.7 (10.0-16.5)	14.9 (11.3-20.1)	16.7 (12.2-23.3)
10-day	3.22 (2.85-3.72)	4.35 (3.84-5.03)	5.90 (5.20-6.84)	7.22 (6.30-8.44)	9.09 (7.69-11.0)	10.6 (8.79-13.0)	12.2 (9.87-15.4)	13.9 (11.0-18.0)	16.3 (12.4-22.0)	18.3 (13.4-25.5)
20-day	3.86 (3.41-4.46)	5.27 (4.65-6.09)	7.20 (6.34-8.35)	8.85 (7.73-10.3)	11.2 (9.48-13.5)	13.1 (10.9-16.1)	15.1 (12.3-19.1)	17.3 (13.6-22.4)	20.4 (15.5-27.5)	22.9 (16.8-32.0)
30-day	4.56 (4.03-5.26)	6.24 (5.50-7.21)	8.56 (7.54-9.93)	10.6 (9.22-12.3)	13.4 (11.3-16.2)	15.7 (13.0-19.3)	18.2 (14.7-22.9)	20.8 (16.4-27.0)	24.6 (18.7-33.2)	27.8 (20.3-38.7)
45-day	5.39 (4.76-6.22)	7.36 (6.50-8.51)	10.1 (8.90-11.7)	12.5 (10.9-14.6)	15.9 (13.4-19.1)	18.6 (15.5-23.0)	21.6 (17.5-27.2)	24.8 (19.6-32.1)	29.5 (22.3-39.7)	33.3 (24.4-46.4)
60-day	6.24 (5.51-7.20)	8.47 (7.47-9.79)	11.6 (10.2-13.4)	14.3 (12.5-16.7)	18.2 (15.4-21.9)	21.4 (17.7-26.3)	24.8 (20.1-31.3)	28.5 (22.5-37.0)	34.0 (25.7-45.8)	38.4 (28.2-53.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

III. APPENDICES

APPENDIX A

EXISTING CONDITION RATIONAL METHOD AND HYDROLOGY MAP

25-YEAR

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1557

                          Analysis prepared by:

                             Wilson Mikami, Inc
                         9 CORPORATE PARK, SUITE 100
                               IRVINE, CA 92606
                                (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPERTY                                             *
* EXISTING CONDITION 25-YEAR HYDROLOGY                                     *
* BY KAM 091524                                                            *
 ****************************************************************************

  FILE NAME: EX_MC2.DAT
  TIME/DATE OF STUDY: 12:57 09/16/2024
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   203.00
  ELEVATION DATA: UPSTREAM(FEET) =    316.50  DOWNSTREAM(FEET) =    304.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.18      0.20     0.100    75    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.78
  TOTAL AREA(ACRES) =      0.18   PEAK FLOW RATE(CFS) =      0.78

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  304.00  DOWNSTREAM ELEVATION(FEET) =  299.70
  STREET LENGTH(FEET) =   185.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 10.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   5.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.14
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.24
    HALFSTREET FLOOD WIDTH(FEET) =    5.58
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.66
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.63
  STREET FLOW TRAVEL TIME(MIN.) =   1.16   Tc(MIN.) =    6.16
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.287
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.19      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.73
  EFFECTIVE AREA(ACRES) =      0.37    AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.4        PEAK FLOW RATE(CFS) =       1.42

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.25   HALFSTREET FLOOD WIDTH(FEET) =   6.31
  FLOW VELOCITY(FEET/SEC.) =  2.75   DEPTH*VELOCITY(FT*FT/SEC.) =   0.69
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.16
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.287
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.96      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.96      SUBAREA RUNOFF(CFS) =    3.69
  EFFECTIVE AREA(ACRES) =      1.33   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
```

```
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       5.11

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.70  DOWNSTREAM(FEET) =    296.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   119.00   CHANNEL SLOPE =  0.0311
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =   7.500
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.55      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       6.13
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   5.70
  AVERAGE FLOW DEPTH(FEET) =   0.38   TRAVEL TIME(MIN.) =   0.35
  Tc(MIN.) =    6.51
  SUBAREA AREA(ACRES) =     0.55       SUBAREA RUNOFF(CFS) =    2.05
  EFFECTIVE AREA(ACRES) =      1.88     AREA-AVERAGED Fm(INCH/HR) =   0.02
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       7.00

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.40   FLOW VELOCITY(FEET/SEC.) =   5.84
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     507.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.51
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.27      0.20     1.000    81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.27      SUBAREA RUNOFF(CFS) =    0.96
  EFFECTIVE AREA(ACRES) =      2.15   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        2.1       PEAK FLOW RATE(CFS) =       7.96

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    70.00
  ELEVATION DATA: UPSTREAM(FEET) =    302.00  DOWNSTREAM(FEET) =    272.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
```

```
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 NATURAL FAIR COVER
 "CHAPARRAL,BROADLEAF"      D        0.21      0.20     1.000    81    5.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA RUNOFF(CFS) =      0.87
 TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      0.87
================================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        0.2  TC(MIN.) =      5.00
 EFFECTIVE AREA(ACRES) =      0.21  AREA-AVERAGED Fm(INCH/HR)=  0.20
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 1.000
 PEAK FLOW RATE(CFS)   =       0.87
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

100-YEAR

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1557

                          Analysis prepared by:

                             Wilson Mikami, Inc
                         9 CORPORATE PARK, SUITE 100
                               IRVINE, CA 92606
                                (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPERTY                                            *
* EXISTING CONDITION 100-YEAR HYDROLOGY                                   *
* BY KAM 091524                                                           *
 ****************************************************************************

  FILE NAME: EX_MC2.DAT
  TIME/DATE OF STUDY: 12:57 09/16/2024
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   203.00
  ELEVATION DATA: UPSTREAM(FEET) =    316.50  DOWNSTREAM(FEET) =    304.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.18      0.20     0.100    91    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      1.00
  TOTAL AREA(ACRES) =      0.18   PEAK FLOW RATE(CFS) =      1.00

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  304.00  DOWNSTREAM ELEVATION(FEET) =  299.70
  STREET LENGTH(FEET) =   185.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 10.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   5.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.47
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.25
    HALFSTREET FLOOD WIDTH(FEET) =    6.38
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.80
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.71
  STREET FLOW TRAVEL TIME(MIN.) =   1.10   Tc(MIN.) =    6.10
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.520
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.19      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.94
  EFFECTIVE AREA(ACRES) =      0.37    AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.4        PEAK FLOW RATE(CFS) =       1.83

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.27   HALFSTREET FLOOD WIDTH(FEET) =   7.18
  FLOW VELOCITY(FEET/SEC.) =  2.89   DEPTH*VELOCITY(FT*FT/SEC.) =   0.78
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.10
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.520
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.96      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.96      SUBAREA RUNOFF(CFS) =    4.75
  EFFECTIVE AREA(ACRES) =      1.33   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
```

```
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       6.58

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.70  DOWNSTREAM(FEET) =    296.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   119.00   CHANNEL SLOPE =  0.0311
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =   7.500
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.357
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.55      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       7.90
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.07
  AVERAGE FLOW DEPTH(FEET) =   0.42   TRAVEL TIME(MIN.) =   0.33
  Tc(MIN.) =    6.43
  SUBAREA AREA(ACRES) =     0.55       SUBAREA RUNOFF(CFS) =    2.64
  EFFECTIVE AREA(ACRES) =      1.88     AREA-AVERAGED Fm(INCH/HR) =   0.02
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       9.03

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.44   FLOW VELOCITY(FEET/SEC.) =   6.28
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     507.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.43
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.357
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.27      0.20     1.000    95
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.27      SUBAREA RUNOFF(CFS) =    1.25
  EFFECTIVE AREA(ACRES) =      2.15   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        2.1       PEAK FLOW RATE(CFS) =      10.28

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    70.00
  ELEVATION DATA: UPSTREAM(FEET) =    302.00  DOWNSTREAM(FEET) =    272.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
```

```
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.21      0.20     1.000    95    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      1.13
  TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      1.13
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        0.2  TC(MIN.) =      5.00
  EFFECTIVE AREA(ACRES) =      0.21  AREA-AVERAGED Fm(INCH/HR)=  0.20
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 1.000
  PEAK FLOW RATE(CFS)   =       1.13
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

HYDROLOGY MAP

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

- WATERSHED BOUNDARY
- SUB-AREA BOUNDARY
- FLOWLINE AND DIRECTION OF FLOW
- A5 / 0.30 — SUBAREA LABEL; AREA (ACRES)
- (20) — NODE NUMBER

Q25	25-YEAR PEAK FLOW IN CFS
Q100	100-YEAR PEAK FLOW IN CFS
WS 100	100-YEAR PEAK FLOW WATER SURFACE ELEVATION
QCONF	100-YEAR CONFLUENCE PEAK FLOW IN CFS
TC	TIME OF CONCENTRATION (100-YEAR STORM) IN MIN
MIN	MINUTES
CFS	CUBIC FEET PER SECOND
EG	EXISTING GRADE ELEVATION
FG	FINISH GRADE ELEVATION
FS	FINISH SURFACE ELEVATION
FL	FLOW LINE ELEVATION
INV.	INVERT OF PIPE
L=870'	LENGTH OF FLOWPATH IN FEET
L_p=92'	LENGTH OF PIPE IN FEET

NO.	DATE	REVISIONS

DESIGNED BY:	ES
DRAFTED BY:	ES
CHECKED BY:	KM
DATE:	9/24

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
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LAGUNA HILLS
KHOSHBIN MILL CREEK PROPERTY
EXISTING CONDITION HYDROLOGY MAP

PROJECT NO. 10501.00

SHEET 1 OF 1

S:\10501.00\dwg\PREX0004_EXISTING HYDROLOGY.dwg 9/16/24

APPENDIX B
PROPOSED CONDITION RATIONAL METHOD AND HYDROLOGY MAP

25-YEAR

```
******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                           Analysis prepared by:

                              Wilson Mikami, Inc
                          9 CORPORATE PARK, SUITE 100
                                IRVINE, CA 92606
                                 (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPOSED CONDITION HYDROLOGY                        *
* 25-YEAR HYDROLOGY                                                       *
* BY KAM 011525                                                           *
 ****************************************************************************

  FILE NAME: KOSH.DAT
  TIME/DATE OF STUDY: 16:11 01/15/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   240.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    309.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.456
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.174
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.10      0.20     0.100    75    6.46
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.37
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.37

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     11.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.46
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.174
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.24      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.24      SUBAREA RUNOFF(CFS) =    0.89
  EFFECTIVE AREA(ACRES) =      0.34   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.27

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   303.20  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    47.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.69
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.27
  PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =    6.59
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.59
  RAINFALL INTENSITY(INCH/HR) =   4.12
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
  EFFECTIVE STREAM AREA(ACRES) =       0.34
  TOTAL STREAM AREA(ACRES) =       0.34
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.27

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     13.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   254.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    308.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.326
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.222
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  D        0.10      0.20     0.100    75    6.33
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.38
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.38

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.33
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.222
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"        D        0.26      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    0.98
  EFFECTIVE AREA(ACRES) =      0.36   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       1.36

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.70  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    11.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.23
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.36
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    6.36
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     265.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.36
  RAINFALL INTENSITY(INCH/HR) =   4.21
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
```

```
  EFFECTIVE STREAM AREA(ACRES) =       0.36
  TOTAL STREAM AREA(ACRES) =       0.36
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.36

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        1.27    6.59    4.124  0.20( 0.03) 0.17       0.3      10.00
      2        1.36    6.36    4.211  0.20( 0.03) 0.17       0.4      10.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        2.60    6.36    4.211  0.20( 0.03) 0.17       0.7      10.00
      2        2.60    6.59    4.124  0.20( 0.03) 0.17       0.7      10.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       2.60    Tc(MIN.) =     6.36
  EFFECTIVE AREA(ACRES) =       0.69   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.7
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     14.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.50  DOWNSTREAM(FEET) =   296.20
  FLOW LENGTH(FEET) =   103.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.59
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.60
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    6.50
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     14.00 =     390.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     14.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.50
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.157
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.14      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.52
  EFFECTIVE AREA(ACRES) =      0.83   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       3.07

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     15.00 IS CODE =  31
----------------------------------------------------------------------------
```

```
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.20  DOWNSTREAM(FEET) =   294.30
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.60
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.07
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    6.57
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     15.00 =     435.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     15.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.57
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.131
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.10      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.37
  EFFECTIVE AREA(ACRES) =      0.93   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.15
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       3.42

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   294.30  DOWNSTREAM(FEET) =   292.30
  FLOW LENGTH(FEET) =    50.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.70
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.42
  PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    6.65
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     16.00 =     485.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   262.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    301.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.414
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.189
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 D        0.13      0.20     0.100    75    6.41
```

```
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.49
  TOTAL AREA(ACRES) =      0.13   PEAK FLOW RATE(CFS) =      0.49

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.41
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.189
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.06      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.23
  EFFECTIVE AREA(ACRES) =      0.19   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.71

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.41
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.189
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.26      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    0.97
  EFFECTIVE AREA(ACRES) =      0.45   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       1.68

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     22.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.70  DOWNSTREAM(FEET) =   296.50
  FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.23
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.68
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    6.48
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     22.00 =     283.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     22.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
 MAINLINE Tc(MIN.) =    6.48
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.165
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.14      0.20     0.100    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.52
 EFFECTIVE AREA(ACRES) =      0.59   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.14
 TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.20

****************************************************************************
 FLOW PROCESS FROM NODE     22.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   296.50  DOWNSTREAM(FEET) =   296.30
 FLOW LENGTH(FEET) =    22.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.51
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.20
 PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    6.55
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     305.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.55
 RAINFALL INTENSITY(INCH/HR) =   4.14
 AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.14
 EFFECTIVE STREAM AREA(ACRES) =       0.59
 TOTAL STREAM AREA(ACRES) =       0.59
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.20

****************************************************************************
 FLOW PROCESS FROM NODE     20.00 TO NODE     23.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
 ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    300.80

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 D        0.07      0.20     0.100    75    5.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      0.30
```

```
 TOTAL AREA(ACRES) =      0.07   PEAK FLOW RATE(CFS) =      0.30

****************************************************************************
 FLOW PROCESS FROM NODE     23.00 TO NODE     23.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.00
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.18      0.20     0.200    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.77
 EFFECTIVE AREA(ACRES) =      0.25   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
 TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       1.08

****************************************************************************
 FLOW PROCESS FROM NODE     23.00 TO NODE     24.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.80  DOWNSTREAM(FEET) =   297.60
 FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.64
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.08
 PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    5.08
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     24.00 =     194.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.08
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.783
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.03      0.20     0.100    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.03      SUBAREA RUNOFF(CFS) =    0.13
 EFFECTIVE AREA(ACRES) =      0.28   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.20

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.60  DOWNSTREAM(FEET) =   296.30
 FLOW LENGTH(FEET) =   245.00   MANNING'S N =  0.010
```

```
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.85
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.20
  PIPE TRAVEL TIME(MIN.) =   1.06    Tc(MIN.) =    6.14
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.14
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.295
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.20      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.20      SUBAREA RUNOFF(CFS) =    0.77
  EFFECTIVE AREA(ACRES) =      0.48   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       1.84

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.14
  RAINFALL INTENSITY(INCH/HR) =   4.30
  AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.18
  EFFECTIVE STREAM AREA(ACRES) =       0.48
  TOTAL STREAM AREA(ACRES) =       0.48
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.84

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        2.20    6.55    4.141  0.20( 0.03) 0.14       0.6      20.00
      2        1.84    6.14    4.295  0.20( 0.04) 0.18       0.5      20.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        3.98    6.14    4.295  0.20( 0.03) 0.16       1.0      20.00
      2        3.97    6.55    4.141  0.20( 0.03) 0.16       1.1      20.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       3.98    Tc(MIN.) =     6.14
  EFFECTIVE AREA(ACRES) =       1.03   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
```

```
 TOTAL AREA(ACRES) =        1.1
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.14
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.295
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.12      0.20     0.200    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.46
 EFFECTIVE AREA(ACRES) =      1.15   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       4.42

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   296.30  DOWNSTREAM(FEET) =   274.00
 FLOW LENGTH(FEET) =    60.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  25.71
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       4.42
 PIPE TRAVEL TIME(MIN.) =   0.04    Tc(MIN.) =    6.18
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     499.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.18
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.280
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL FAIR COVER
 "CHAPARRAL,BROADLEAF"      D        0.28      0.20     1.000    81
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA AREA(ACRES) =    0.28      SUBAREA RUNOFF(CFS) =    1.03
 EFFECTIVE AREA(ACRES) =      1.43   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.33
 TOTAL AREA(ACRES) =        1.5       PEAK FLOW RATE(CFS) =       5.44
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        1.5  TC(MIN.) =      6.18
 EFFECTIVE AREA(ACRES) =      1.43  AREA-AVERAGED Fm(INCH/HR)=  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.328
 PEAK FLOW RATE(CFS)   =       5.44
```

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	5.44	6.18	4.280	0.20(0.07)	0.33	1.4	20.00
2	5.37	6.59	4.127	0.20(0.06)	0.32	1.5	20.00

END OF RATIONAL METHOD ANALYSIS

100-YEAR

```
******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                           Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPOSED CONDITION HYDROLOGY                        *
* 100-YEAR HYDROLOGY                                                      *
* BY KAM 011525                                                           *
 ****************************************************************************

  FILE NAME: KOSH.DAT
  TIME/DATE OF STUDY: 16:11 01/15/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                     --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   240.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    309.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.456
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.344
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.10      0.20     0.100    91     6.46
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.48
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.48

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     11.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.46
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.344
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)   (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.24      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.24      SUBAREA RUNOFF(CFS) =    1.15
  EFFECTIVE AREA(ACRES) =      0.34   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.62

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   303.20  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    47.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.11
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.62
  PIPE TRAVEL TIME(MIN.) =   0.13    Tc(MIN.) =    6.58
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.58
  RAINFALL INTENSITY(INCH/HR) =   5.28
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
  EFFECTIVE STREAM AREA(ACRES) =       0.34
  TOTAL STREAM AREA(ACRES) =       0.34
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.62

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     13.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   254.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    308.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.326
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.407
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  D        0.10      0.20      0.100    91    6.33
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.48
  TOTAL AREA(ACRES) =      0.10   PEAK FLOW RATE(CFS) =      0.48

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.33
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.407
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"        D        0.26      0.20      0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    1.26
  EFFECTIVE AREA(ACRES) =      0.36   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       1.74

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.70  DOWNSTREAM(FEET) =   302.50
  FLOW LENGTH(FEET) =    11.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.68
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.74
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    6.35
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     265.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.35
  RAINFALL INTENSITY(INCH/HR) =   5.39
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.17
```

```
  EFFECTIVE STREAM AREA(ACRES) =       0.36
  TOTAL STREAM AREA(ACRES) =       0.36
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.74

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        1.62    6.58    5.285  0.20( 0.03) 0.17       0.3      10.00
      2        1.74    6.35    5.394  0.20( 0.03) 0.17       0.4      10.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        3.34    6.35    5.394  0.20( 0.03) 0.17       0.7      10.00
      2        3.33    6.58    5.285  0.20( 0.03) 0.17       0.7      10.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       3.34    Tc(MIN.) =     6.35
  EFFECTIVE AREA(ACRES) =       0.69   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.7
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     287.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     14.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   302.50  DOWNSTREAM(FEET) =   296.20
  FLOW LENGTH(FEET) =   103.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.42
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.34
  PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =    6.49
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     14.00 =     390.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     14.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.49
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.328
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.14      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.67
  EFFECTIVE AREA(ACRES) =      0.83   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       3.95

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     15.00 IS CODE =  31
----------------------------------------------------------------------------
```

```
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.20  DOWNSTREAM(FEET) =   294.30
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.010
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.33
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.95
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    6.56
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     15.00 =     435.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     15.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    6.56
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.297
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.10      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.47
  EFFECTIVE AREA(ACRES) =      0.93   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.15
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       4.40

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   294.30  DOWNSTREAM(FEET) =   292.30
  FLOW LENGTH(FEET) =    50.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.42
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.40
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    6.63
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     16.00 =     485.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
================================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   262.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    301.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.414
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.364
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 D        0.13      0.20     0.100    91    6.41
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
```

```
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.63
  TOTAL AREA(ACRES) =      0.13   PEAK FLOW RATE(CFS) =      0.63

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.41
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.364
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.06      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.29
  EFFECTIVE AREA(ACRES) =      0.19   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.91

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     21.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.41
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.364
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.26      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.26      SUBAREA RUNOFF(CFS) =    1.25
  EFFECTIVE AREA(ACRES) =      0.45   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       2.16

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     22.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.70  DOWNSTREAM(FEET) =   296.50
  FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.58
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.16
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    6.48
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     22.00 =     283.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     22.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.48
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.334
```

```
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.14      0.20      0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =     0.14      SUBAREA RUNOFF(CFS) =     0.67
  EFFECTIVE AREA(ACRES) =      0.59   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.14
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.82

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.50  DOWNSTREAM(FEET) =   296.30
  FLOW LENGTH(FEET) =    22.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.84
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.82
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    6.54
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     305.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.54
  RAINFALL INTENSITY(INCH/HR) =   5.31
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.14
  EFFECTIVE STREAM AREA(ACRES) =       0.59
  TOTAL STREAM AREA(ACRES) =       0.59
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.82

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     23.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    300.80

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  D        0.07      0.20      0.100    91    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.39
  TOTAL AREA(ACRES) =      0.07   PEAK FLOW RATE(CFS) =      0.39
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     23.00 TO NODE     23.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.00
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"        D        0.18      0.20     0.200    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    1.00
 EFFECTIVE AREA(ACRES) =      0.25   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
 TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       1.38

****************************************************************************
 FLOW PROCESS FROM NODE     23.00 TO NODE     24.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.80  DOWNSTREAM(FEET) =   297.60
 FLOW LENGTH(FEET) =    21.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.96
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.38
 PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    5.07
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     24.00 =     194.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.07
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.138
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  D        0.03      0.20     0.100    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.03      SUBAREA RUNOFF(CFS) =    0.17
 EFFECTIVE AREA(ACRES) =      0.28   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.54

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   297.60  DOWNSTREAM(FEET) =   296.30
 FLOW LENGTH(FEET) =   245.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   5.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.12
```

```
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.54
  PIPE TRAVEL TIME(MIN.) =   0.99    Tc(MIN.) =    6.06
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.06
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.541
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.20      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.20      SUBAREA RUNOFF(CFS) =    0.99
  EFFECTIVE AREA(ACRES) =      0.48   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       2.38

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.06
  RAINFALL INTENSITY(INCH/HR) =   5.54
  AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.18
  EFFECTIVE STREAM AREA(ACRES) =       0.48
  TOTAL STREAM AREA(ACRES) =       0.48
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.38

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        2.82    6.54    5.305  0.20( 0.03) 0.14       0.6      20.00
      2        2.38    6.06    5.541  0.20( 0.04) 0.18       0.5      20.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        5.11    6.06    5.541  0.20( 0.03) 0.16       1.0      20.00
      2        5.09    6.54    5.305  0.20( 0.03) 0.16       1.1      20.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       5.11    Tc(MIN.) =     6.06
  EFFECTIVE AREA(ACRES) =       1.03   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        1.1
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     439.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.06
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.541
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"        D        0.12      0.20     0.200    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.59
 EFFECTIVE AREA(ACRES) =      1.15   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       5.69

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   296.30  DOWNSTREAM(FEET) =   274.00
 FLOW LENGTH(FEET) =    60.00   MANNING'S N =  0.010
 ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   3.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  27.61
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.69
 PIPE TRAVEL TIME(MIN.) =   0.04    Tc(MIN.) =    6.10
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     499.00 FEET.

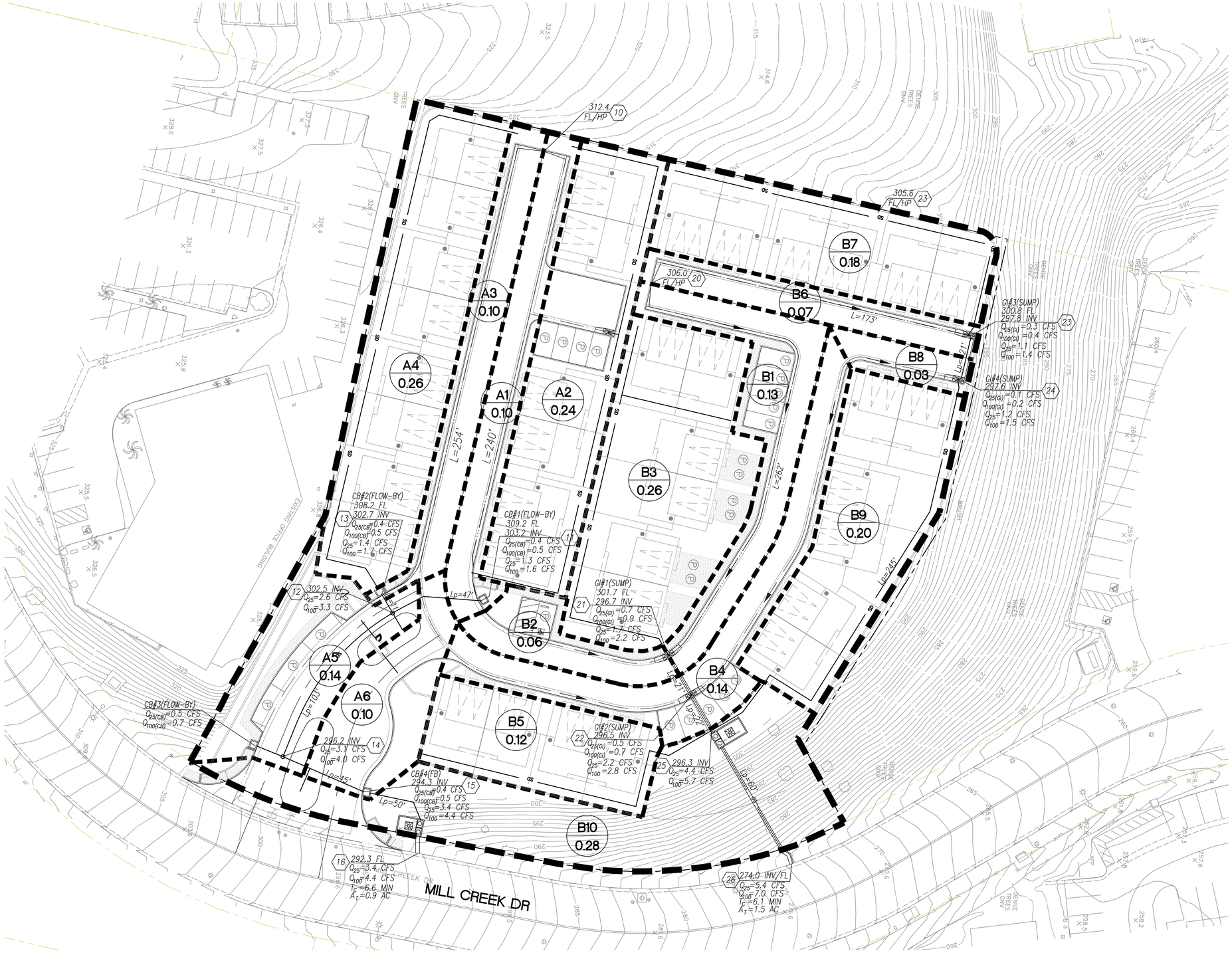
****************************************************************************
 FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.10
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.522
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL FAIR COVER
 "CHAPARRAL,BROADLEAF"       D        0.28      0.20     1.000    95
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA AREA(ACRES) =    0.28      SUBAREA RUNOFF(CFS) =    1.34
 EFFECTIVE AREA(ACRES) =      1.43   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.33
 TOTAL AREA(ACRES) =        1.5       PEAK FLOW RATE(CFS) =       7.01
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        1.5  TC(MIN.) =      6.10
 EFFECTIVE AREA(ACRES) =      1.43  AREA-AVERAGED Fm(INCH/HR)=  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.329
 PEAK FLOW RATE(CFS)   =       7.01

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
```

1	7.01	6.10	5.522	0.20(0.07)	0.33	1.4	20.00
2	6.91	6.58	5.288	0.20(0.06)	0.32	1.5	20.00

END OF RATIONAL METHOD ANALYSIS

HYDROLOGY MAP



LEGEND

- WATERSHED BOUNDARY
- SUB-AREA BOUNDARY
- FLOWLINE AND DIRECTION OF FLOW
- A5 / 0.30 — SUBAREA LABEL / AREA (ACRES)
- (20) — NODE NUMBER

Q25	25-YEAR PEAK FLOW IN CFS
Q100	100-YEAR PEAK FLOW IN CFS
WS 100	100-YEAR PEAK FLOW WATER SURFACE ELEVATION
QCONF	100-YEAR CONFLUENCE PEAK FLOW IN CFS
TC	TIME OF CONCENTRATION (100-YEAR STORM) IN MIN
MIN	MINUTES
CFS	CUBIC FEET PER SECOND
EG	EXISTING GRADE ELEVATION
FG	FINISH GRADE ELEVATION
FS	FINISH SURFACE ELEVATION
FL	FLOW LINE ELEVATION
INV.	INVERT OF PIPE
L=870'	LENGTH OF FLOWPATH IN FEET
L=92'	LENGTH OF PIPE IN FEET

NO.	DATE	REVISIONS

DESIGNED BY:	ES
DRAFTED BY:	ES
CHECKED BY:	KM
DATE:	1/25

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
T: 949-679-0090

LAGUNA HILLS
KHOSHBIN MILL CREEK PROPERTY
PROPOSED CONDITION HYDROLOGY MAP

PROJECT NO. 10501.00

SHEET 1 OF 1

S:\10501.00\dwg\PREX0005_PROPOSED HYDROLOGY.dwg 1/15/25

APPENDIX C

UNIT HYDROGRAPH
EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 01/17/25 File Name exkosh.out

++

Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6615

KHOSHBIN MILL CREEK
EXISTING CONDITION UNIT HYDROGRAPH 100-YEAR 24-HOUR
BY KAM 011525

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used
++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
75.0	2.4	1.00	D	0.200	0.220	0.044

Area-averaged adjusted loss rate Fm (In/Hr) = 0.044

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.53	0.220	75.0	91.0	0.99	0.816
1.87	0.780	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.927
Area-averaged low loss fraction, Yb = 0.073
++
Direct entry of lag time by user
Watershed area = 2.40(Ac.)
Catchment Lag time = 0.085 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 97.6944
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.044(In/Hr)
Average low loss rate fraction (Yb) = 0.073 (decimal)
FOOTHILL S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)

Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 2.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
(K = 29.02 (CFS))		
1	13.614	3.952
2	69.070	16.096
3	87.941	5.478
4	95.642	2.235
5	98.353	0.787
6	99.235	0.256
7	99.824	0.171
8	100.000	0.051

Total soil rain loss = 0.35(In)
Total effective rainfall = 5.28(In)
Peak flow rate in flood hydrograph = 10.00(CFS)

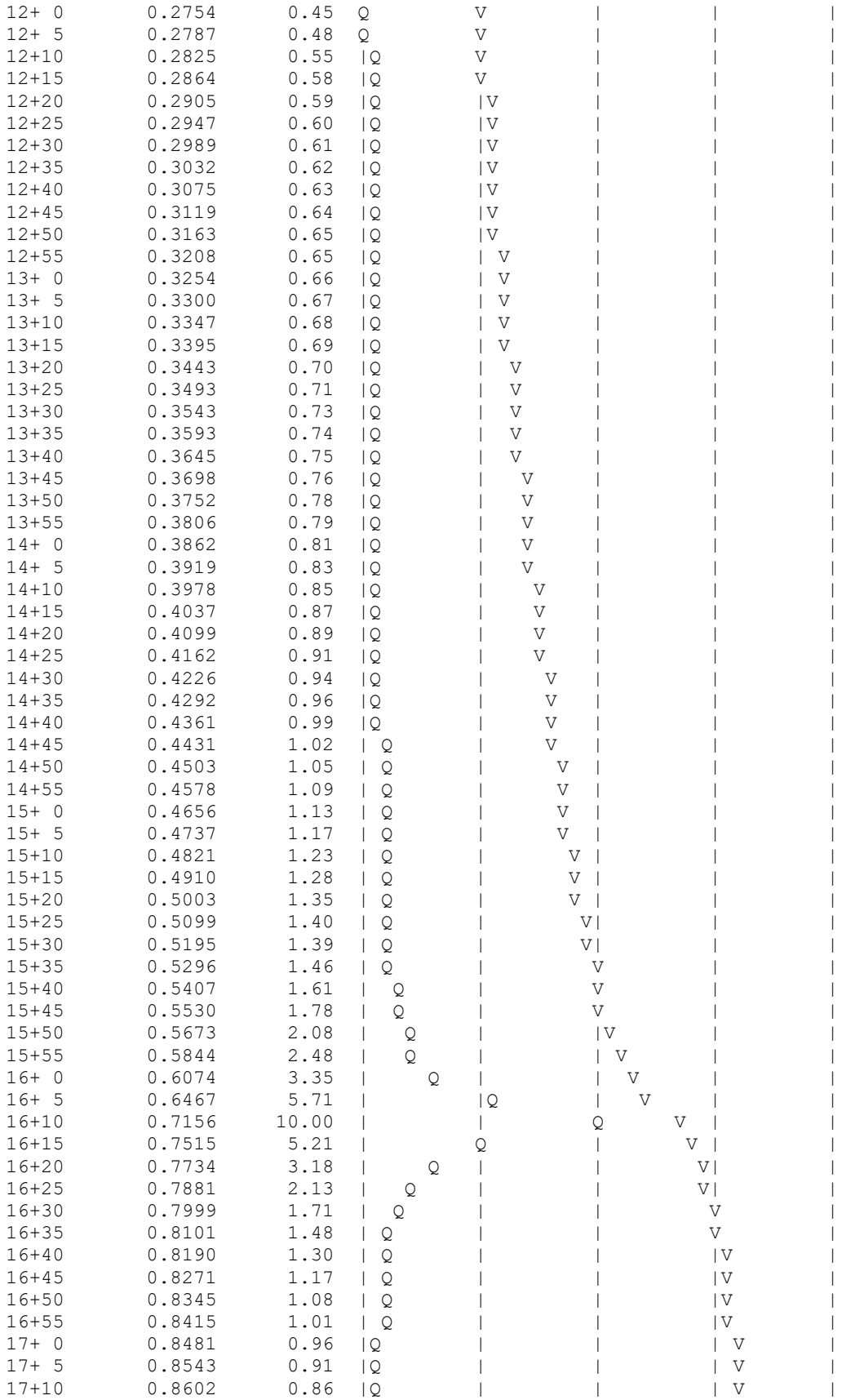
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0002	0.03	Q				
0+10	0.0011	0.14	Q				
0+15	0.0023	0.17	Q				
0+20	0.0036	0.19	Q				
0+25	0.0049	0.19	Q				
0+30	0.0063	0.20	Q				
0+35	0.0077	0.20	Q				
0+40	0.0090	0.20	Q				
0+45	0.0104	0.20	Q				
0+50	0.0118	0.20	Q				
0+55	0.0132	0.20	Q				
1+ 0	0.0146	0.20	Q				
1+ 5	0.0160	0.20	Q				
1+10	0.0174	0.20	Q				
1+15	0.0188	0.20	Q				
1+20	0.0202	0.21	Q				
1+25	0.0216	0.21	Q				

1+30	0.0230	0.21	Q	|	|	|	|
1+35	0.0245	0.21	Q	|	|	|	|
1+40	0.0259	0.21	Q	|	|	|	|
1+45	0.0273	0.21	QV	|	|	|	|
1+50	0.0288	0.21	QV	|	|	|	|
1+55	0.0302	0.21	QV	|	|	|	|
2+ 0	0.0317	0.21	QV	|	|	|	|
2+ 5	0.0332	0.21	QV	|	|	|	|
2+10	0.0346	0.21	QV	|	|	|	|
2+15	0.0361	0.21	QV	|	|	|	|
2+20	0.0376	0.21	QV	|	|	|	|
2+25	0.0390	0.22	QV	|	|	|	|
2+30	0.0405	0.22	QV	|	|	|	|
2+35	0.0420	0.22	QV	|	|	|	|
2+40	0.0435	0.22	QV	|	|	|	|
2+45	0.0450	0.22	QV	|	|	|	|
2+50	0.0465	0.22	QV	|	|	|	|
2+55	0.0481	0.22	QV	|	|	|	|
3+ 0	0.0496	0.22	QV	|	|	|	|
3+ 5	0.0511	0.22	QV	|	|	|	|
3+10	0.0526	0.22	QV	|	|	|	|
3+15	0.0542	0.22	Q V	|	|	|	|
3+20	0.0557	0.22	Q V	|	|	|	|
3+25	0.0573	0.23	Q V	|	|	|	|
3+30	0.0588	0.23	Q V	|	|	|	|
3+35	0.0604	0.23	Q V	|	|	|	|
3+40	0.0620	0.23	Q V	|	|	|	|
3+45	0.0636	0.23	Q V	|	|	|	|
3+50	0.0652	0.23	Q V	|	|	|	|
3+55	0.0667	0.23	Q V	|	|	|	|
4+ 0	0.0683	0.23	Q V	|	|	|	|
4+ 5	0.0700	0.23	Q V	|	|	|	|
4+10	0.0716	0.23	Q V	|	|	|	|
4+15	0.0732	0.24	Q V	|	|	|	|
4+20	0.0748	0.24	Q V	|	|	|	|
4+25	0.0764	0.24	Q V	|	|	|	|
4+30	0.0781	0.24	Q V	|	|	|	|
4+35	0.0797	0.24	Q V	|	|	|	|
4+40	0.0814	0.24	Q V	|	|	|	|
4+45	0.0831	0.24	Q V	|	|	|	|
4+50	0.0847	0.24	Q V	|	|	|	|
4+55	0.0864	0.24	Q V	|	|	|	|
5+ 0	0.0881	0.25	Q V	|	|	|	|
5+ 5	0.0898	0.25	Q V	|	|	|	|
5+10	0.0915	0.25	Q V	|	|	|	|
5+15	0.0932	0.25	Q V	|	|	|	|
5+20	0.0949	0.25	Q V	|	|	|	|
5+25	0.0967	0.25	Q V	|	|	|	|
5+30	0.0984	0.25	Q V	|	|	|	|
5+35	0.1001	0.25	Q V	|	|	|	|
5+40	0.1019	0.25	Q V	|	|	|	|
5+45	0.1037	0.26	Q V	|	|	|	|
5+50	0.1054	0.26	Q V	|	|	|	|
5+55	0.1072	0.26	Q V	|	|	|	|
6+ 0	0.1090	0.26	Q V	|	|	|	|
6+ 5	0.1108	0.26	Q V	|	|	|	|
6+10	0.1126	0.26	Q V	|	|	|	|
6+15	0.1144	0.26	Q V	|	|	|	|
6+20	0.1163	0.27	Q V	|	|	|	|
6+25	0.1181	0.27	Q V	|	|	|	|
6+30	0.1200	0.27	Q V	|	|	|	|
6+35	0.1218	0.27	Q V	|	|	|	|
6+40	0.1237	0.27	Q V	|	|	|	|

6+45	0.1256	0.27	Q	V	|	|	|	|
6+50	0.1274	0.27	Q	V	|	|	|	|
6+55	0.1293	0.28	Q	V	|	|	|	|
7+ 0	0.1313	0.28	Q	V	|	|	|	|
7+ 5	0.1332	0.28	Q	V	|	|	|	|
7+10	0.1351	0.28	Q	V	|	|	|	|
7+15	0.1371	0.28	Q	V	|	|	|	|
7+20	0.1390	0.28	Q	V	|	|	|	|
7+25	0.1410	0.29	Q	V	|	|	|	|
7+30	0.1430	0.29	Q	V	|	|	|	|
7+35	0.1449	0.29	Q	V	|	|	|	|
7+40	0.1470	0.29	Q	V	|	|	|	|
7+45	0.1490	0.29	Q	V	|	|	|	|
7+50	0.1510	0.29	Q	V	|	|	|	|
7+55	0.1530	0.30	Q	V	|	|	|	|
8+ 0	0.1551	0.30	Q	V	|	|	|	|
8+ 5	0.1572	0.30	Q	V	|	|	|	|
8+10	0.1592	0.30	Q	V	|	|	|	|
8+15	0.1613	0.30	Q	V	|	|	|	|
8+20	0.1634	0.31	Q	V	|	|	|	|
8+25	0.1656	0.31	Q	V	|	|	|	|
8+30	0.1677	0.31	Q	V	|	|	|	|
8+35	0.1698	0.31	Q	V	|	|	|	|
8+40	0.1720	0.31	Q	V	|	|	|	|
8+45	0.1742	0.32	Q	V	|	|	|	|
8+50	0.1764	0.32	Q	V	|	|	|	|
8+55	0.1786	0.32	Q	V	|	|	|	|
9+ 0	0.1808	0.32	Q	V	|	|	|	|
9+ 5	0.1831	0.33	Q	V	|	|	|	|
9+10	0.1853	0.33	Q	V	|	|	|	|
9+15	0.1876	0.33	Q	V	|	|	|	|
9+20	0.1899	0.33	Q	V	|	|	|	|
9+25	0.1922	0.34	Q	V	|	|	|	|
9+30	0.1946	0.34	Q	V	|	|	|	|
9+35	0.1969	0.34	Q	V	|	|	|	|
9+40	0.1993	0.34	Q	V	|	|	|	|
9+45	0.2017	0.35	Q	V	|	|	|	|
9+50	0.2041	0.35	Q	V	|	|	|	|
9+55	0.2065	0.35	Q	V	|	|	|	|
10+ 0	0.2090	0.36	Q	V	|	|	|	|
10+ 5	0.2114	0.36	Q	V	|	|	|	|
10+10	0.2139	0.36	Q	V	|	|	|	|
10+15	0.2164	0.36	Q	V	|	|	|	|
10+20	0.2190	0.37	Q	V	|	|	|	|
10+25	0.2215	0.37	Q	V	|	|	|	|
10+30	0.2241	0.38	Q	V	|	|	|	|
10+35	0.2267	0.38	Q	V	|	|	|	|
10+40	0.2294	0.38	Q	V	|	|	|	|
10+45	0.2320	0.39	Q	V	|	|	|	|
10+50	0.2347	0.39	Q	V	|	|	|	|
10+55	0.2374	0.39	Q	V	|	|	|	|
11+ 0	0.2401	0.40	Q	V	|	|	|	|
11+ 5	0.2429	0.40	Q	V	|	|	|	|
11+10	0.2457	0.41	Q	V	|	|	|	|
11+15	0.2485	0.41	Q	V	|	|	|	|
11+20	0.2514	0.41	Q	V	|	|	|	|
11+25	0.2542	0.42	Q	V	|	|	|	|
11+30	0.2572	0.42	Q	V	|	|	|	|
11+35	0.2601	0.43	Q	V	|	|	|	|
11+40	0.2631	0.43	Q	V	|	|	|	|
11+45	0.2661	0.44	Q	V	|	|	|	|
11+50	0.2692	0.44	Q	V	|	|	|	|
11+55	0.2723	0.45	Q	V	|	|	|	|



12+ 0	0.2754	0.45	Q V | | |
12+ 5	0.2787	0.48	Q V | | |
12+10	0.2825	0.55	|Q V | | |
12+15	0.2864	0.58	|Q V | | |
12+20	0.2905	0.59	|Q |V | | |
12+25	0.2947	0.60	|Q |V | | |
12+30	0.2989	0.61	|Q |V | | |
12+35	0.3032	0.62	|Q |V | | |
12+40	0.3075	0.63	|Q |V | | |
12+45	0.3119	0.64	|Q |V | | |
12+50	0.3163	0.65	|Q |V | | |
12+55	0.3208	0.65	|Q | V | | |
13+ 0	0.3254	0.66	|Q | V | | |
13+ 5	0.3300	0.67	|Q | V | | |
13+10	0.3347	0.68	|Q | V | | |
13+15	0.3395	0.69	|Q | V | | |
13+20	0.3443	0.70	|Q | V | | |
13+25	0.3493	0.71	|Q | V | | |
13+30	0.3543	0.73	|Q | V | | |
13+35	0.3593	0.74	|Q | V | | |
13+40	0.3645	0.75	|Q | V | | |
13+45	0.3698	0.76	|Q | V | | |
13+50	0.3752	0.78	|Q | V | | |
13+55	0.3806	0.79	|Q | V | | |
14+ 0	0.3862	0.81	|Q | V | | |
14+ 5	0.3919	0.83	|Q | V | | |
14+10	0.3978	0.85	|Q | V | | |
14+15	0.4037	0.87	|Q | V | | |
14+20	0.4099	0.89	|Q | V | | |
14+25	0.4162	0.91	|Q | V | | |
14+30	0.4226	0.94	|Q | V | | |
14+35	0.4292	0.96	|Q | V | | |
14+40	0.4361	0.99	|Q | V | | |
14+45	0.4431	1.02	| Q | V | | |
14+50	0.4503	1.05	| Q | V | | |
14+55	0.4578	1.09	| Q | V | | |
15+ 0	0.4656	1.13	| Q | V | | |
15+ 5	0.4737	1.17	| Q | V | | |
15+10	0.4821	1.23	| Q | V | | |
15+15	0.4910	1.28	| Q | V | | |
15+20	0.5003	1.35	| Q | V | | |
15+25	0.5099	1.40	| Q | V| | |
15+30	0.5195	1.39	| Q | V| | |
15+35	0.5296	1.46	| Q | V | |
15+40	0.5407	1.61	| Q | V | |
15+45	0.5530	1.78	| Q | V | |
15+50	0.5673	2.08	| Q | |V | |
15+55	0.5844	2.48	| Q | | V | |
16+ 0	0.6074	3.35	| Q | | V | |
16+ 5	0.6467	5.71	| |Q | V | |
16+10	0.7156	10.00	| | Q V | |
16+15	0.7515	5.21	| Q | V | |
16+20	0.7734	3.18	| Q | | V| |
16+25	0.7881	2.13	| Q | | V| |
16+30	0.7999	1.71	| Q | | V |
16+35	0.8101	1.48	| Q | | V |
16+40	0.8190	1.30	| Q | | |V |
16+45	0.8271	1.17	| Q | | |V |
16+50	0.8345	1.08	| Q | | |V |
16+55	0.8415	1.01	| Q | | |V |
17+ 0	0.8481	0.96	|Q | | | V |
17+ 5	0.8543	0.91	|Q | | | V |
17+10	0.8602	0.86	|Q | | | V |

17+15	0.8659	0.82	Q			V
17+20	0.8713	0.79	Q			V
17+25	0.8766	0.76	Q			V
17+30	0.8816	0.73	Q			V
17+35	0.8865	0.71	Q			V
17+40	0.8913	0.69	Q			V
17+45	0.8959	0.67	Q			V
17+50	0.9004	0.65	Q			V
17+55	0.9047	0.63	Q			V
18+ 0	0.9090	0.62	Q			V
18+ 5	0.9130	0.59	Q			V
18+10	0.9165	0.51	Q			V
18+15	0.9198	0.47	Q			V
18+20	0.9229	0.45	Q			V
18+25	0.9259	0.44	Q			V
18+30	0.9289	0.43	Q			V
18+35	0.9317	0.42	Q			V
18+40	0.9346	0.41	Q			V
18+45	0.9373	0.40	Q			V
18+50	0.9400	0.39	Q			V
18+55	0.9427	0.38	Q			V
19+ 0	0.9453	0.38	Q			V
19+ 5	0.9478	0.37	Q			V
19+10	0.9503	0.36	Q			V
19+15	0.9528	0.36	Q			V
19+20	0.9552	0.35	Q			V
19+25	0.9576	0.35	Q			V
19+30	0.9599	0.34	Q			V
19+35	0.9622	0.34	Q			V
19+40	0.9645	0.33	Q			V
19+45	0.9667	0.33	Q			V
19+50	0.9689	0.32	Q			V
19+55	0.9711	0.32	Q			V
20+ 0	0.9733	0.31	Q			V
20+ 5	0.9754	0.31	Q			V
20+10	0.9775	0.30	Q			V
20+15	0.9795	0.30	Q			V
20+20	0.9816	0.30	Q			V
20+25	0.9836	0.29	Q			V
20+30	0.9856	0.29	Q			V
20+35	0.9875	0.28	Q			V
20+40	0.9895	0.28	Q			V
20+45	0.9914	0.28	Q			V
20+50	0.9933	0.28	Q			V
20+55	0.9952	0.27	Q			V
21+ 0	0.9970	0.27	Q			V
21+ 5	0.9988	0.27	Q			V
21+10	1.0007	0.26	Q			V
21+15	1.0025	0.26	Q			V
21+20	1.0042	0.26	Q			V
21+25	1.0060	0.26	Q			V
21+30	1.0077	0.25	Q			V
21+35	1.0095	0.25	Q			V
21+40	1.0112	0.25	Q			V
21+45	1.0129	0.25	Q			V
21+50	1.0145	0.24	Q			V
21+55	1.0162	0.24	Q			V
22+ 0	1.0178	0.24	Q			V
22+ 5	1.0195	0.24	Q			V
22+10	1.0211	0.23	Q			V
22+15	1.0227	0.23	Q			V
22+20	1.0243	0.23	Q			V
22+25	1.0259	0.23	Q			V

```
   22+30       1.0274      0.23  Q         |          |          |       V |
   22+35       1.0290      0.23  Q         |          |          |       V |
   22+40       1.0305      0.22  Q         |          |          |        V|
   22+45       1.0320      0.22  Q         |          |          |        V|
   22+50       1.0336      0.22  Q         |          |          |        V|
   22+55       1.0351      0.22  Q         |          |          |        V|
   23+ 0       1.0366      0.22  Q         |          |          |        V|
   23+ 5       1.0380      0.21  Q         |          |          |        V|
   23+10       1.0395      0.21  Q         |          |          |        V|
   23+15       1.0410      0.21  Q         |          |          |        V|
   23+20       1.0424      0.21  Q         |          |          |        V|
   23+25       1.0438      0.21  Q         |          |          |        V|
   23+30       1.0453      0.21  Q         |          |          |        V|
   23+35       1.0467      0.21  Q         |          |          |        V|
   23+40       1.0481      0.20  Q         |          |          |        V|
   23+45       1.0495      0.20  Q         |          |          |        V|
   23+50       1.0509      0.20  Q         |          |          |        V|
   23+55       1.0523      0.20  Q         |          |          |        V|
   24+ 0       1.0536      0.20  Q         |          |          |        V|
-------------------------------------------------------------------------
```

APPENDIX D

UNIT HYDROGRAPH
PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 01/17/25 File Name PRKOSH.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6615

KHOSHBIN MILL CREEK DEVELOPMENT
PROPOSED CONDITION UNIT HYDROGRAPH 100-YEAR 24 HOUR STORM EVENT
BY KAM 011525

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used
++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
75.0	2.4	1.00	D	0.200	0.260	0.052

Area-averaged adjusted loss rate Fm (In/Hr) = 0.052

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.62	0.260	75.0	91.0	0.99	0.816
1.78	0.740	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.921
Area-averaged low loss fraction, Yb = 0.079
++
User entry of time of concentration = 0.088 (hours)
Watershed area = 2.40(Ac.)
Catchment Lag time = 0.070 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 118.3712
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.052(In/Hr)
Average low loss rate fraction (Yb) = 0.079 (decimal)
FOOTHILL S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)

Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 2.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
(K = 29.02 (CFS))		
1	20.855	6.053
2	76.963	16.285
3	92.690	4.565
4	97.911	1.515
5	99.199	0.374
6	100.000	0.233

Total soil rain loss = 0.38(In)
Total effective rainfall = 5.25(In)
Peak flow rate in flood hydrograph = 10.00(CFS)

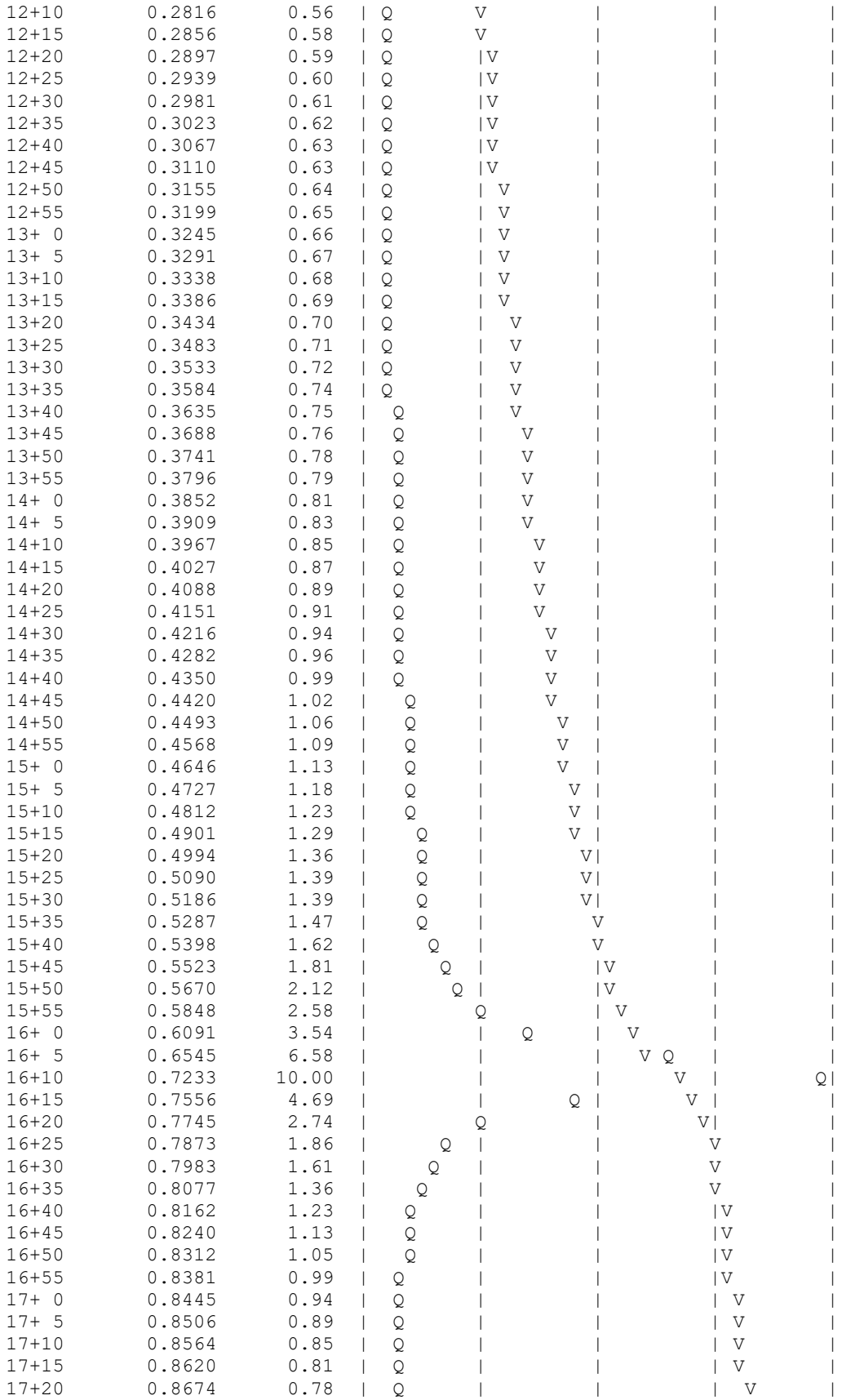
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0013	0.15	Q				
0+15	0.0026	0.18	Q				
0+20	0.0039	0.19	Q				
0+25	0.0052	0.19	Q				
0+30	0.0066	0.20	Q				
0+35	0.0079	0.20	Q				
0+40	0.0093	0.20	Q				
0+45	0.0107	0.20	Q				
0+50	0.0121	0.20	Q				
0+55	0.0134	0.20	Q				
1+ 0	0.0148	0.20	Q				
1+ 5	0.0162	0.20	Q				
1+10	0.0176	0.20	Q				
1+15	0.0190	0.20	Q				
1+20	0.0204	0.20	Q				
1+25	0.0218	0.20	Q				
1+30	0.0232	0.21	Q				
1+35	0.0247	0.21	Q				

1+40	0.0261	0.21	Q	|	|	|	|
1+45	0.0275	0.21	QV	|	|	|	|
1+50	0.0290	0.21	QV	|	|	|	|
1+55	0.0304	0.21	QV	|	|	|	|
2+ 0	0.0318	0.21	QV	|	|	|	|
2+ 5	0.0333	0.21	QV	|	|	|	|
2+10	0.0348	0.21	QV	|	|	|	|
2+15	0.0362	0.21	QV	|	|	|	|
2+20	0.0377	0.21	QV	|	|	|	|
2+25	0.0392	0.21	QV	|	|	|	|
2+30	0.0406	0.21	QV	|	|	|	|
2+35	0.0421	0.22	QV	|	|	|	|
2+40	0.0436	0.22	QV	|	|	|	|
2+45	0.0451	0.22	QV	|	|	|	|
2+50	0.0466	0.22	QV	|	|	|	|
2+55	0.0481	0.22	QV	|	|	|	|
3+ 0	0.0496	0.22	QV	|	|	|	|
3+ 5	0.0512	0.22	QV	|	|	|	|
3+10	0.0527	0.22	Q V	|	|	|	|
3+15	0.0542	0.22	Q V	|	|	|	|
3+20	0.0558	0.22	Q V	|	|	|	|
3+25	0.0573	0.22	Q V	|	|	|	|
3+30	0.0589	0.23	Q V	|	|	|	|
3+35	0.0604	0.23	Q V	|	|	|	|
3+40	0.0620	0.23	Q V	|	|	|	|
3+45	0.0636	0.23	Q V	|	|	|	|
3+50	0.0651	0.23	Q V	|	|	|	|
3+55	0.0667	0.23	Q V	|	|	|	|
4+ 0	0.0683	0.23	Q V	|	|	|	|
4+ 5	0.0699	0.23	Q V	|	|	|	|
4+10	0.0715	0.23	Q V	|	|	|	|
4+15	0.0731	0.23	Q V	|	|	|	|
4+20	0.0747	0.24	Q V	|	|	|	|
4+25	0.0764	0.24	Q V	|	|	|	|
4+30	0.0780	0.24	Q V	|	|	|	|
4+35	0.0796	0.24	Q V	|	|	|	|
4+40	0.0813	0.24	Q V	|	|	|	|
4+45	0.0830	0.24	Q V	|	|	|	|
4+50	0.0846	0.24	Q V	|	|	|	|
4+55	0.0863	0.24	Q V	|	|	|	|
5+ 0	0.0880	0.24	Q V	|	|	|	|
5+ 5	0.0897	0.25	Q V	|	|	|	|
5+10	0.0914	0.25	Q V	|	|	|	|
5+15	0.0931	0.25	Q V	|	|	|	|
5+20	0.0948	0.25	Q V	|	|	|	|
5+25	0.0965	0.25	Q V	|	|	|	|
5+30	0.0982	0.25	|Q V	|	|	|	|
5+35	0.1000	0.25	|Q V	|	|	|	|
5+40	0.1017	0.25	|Q V	|	|	|	|
5+45	0.1035	0.25	|Q V	|	|	|	|
5+50	0.1052	0.26	|Q V	|	|	|	|
5+55	0.1070	0.26	|Q V	|	|	|	|
6+ 0	0.1088	0.26	|Q V	|	|	|	|
6+ 5	0.1106	0.26	|Q V	|	|	|	|
6+10	0.1124	0.26	|Q V	|	|	|	|
6+15	0.1142	0.26	|Q V	|	|	|	|
6+20	0.1160	0.26	|Q V	|	|	|	|
6+25	0.1178	0.27	|Q V	|	|	|	|
6+30	0.1197	0.27	|Q V	|	|	|	|
6+35	0.1215	0.27	|Q V	|	|	|	|
6+40	0.1234	0.27	|Q V	|	|	|	|
6+45	0.1252	0.27	|Q V	|	|	|	|
6+50	0.1271	0.27	|Q V	|	|	|	|

6+55	0.1290	0.27	|Q V	|	|	|	|
7+ 0	0.1309	0.28	|Q V	|	|	|	|
7+ 5	0.1328	0.28	|Q V	|	|	|	|
7+10	0.1347	0.28	|Q V	|	|	|	|
7+15	0.1367	0.28	|Q V	|	|	|	|
7+20	0.1386	0.28	|Q V	|	|	|	|
7+25	0.1406	0.28	|Q V	|	|	|	|
7+30	0.1426	0.29	|Q V	|	|	|	|
7+35	0.1445	0.29	|Q V	|	|	|	|
7+40	0.1465	0.29	|Q V	|	|	|	|
7+45	0.1485	0.29	|Q V	|	|	|	|
7+50	0.1506	0.29	|Q V	|	|	|	|
7+55	0.1526	0.29	|Q V	|	|	|	|
8+ 0	0.1546	0.30	|Q V	|	|	|	|
8+ 5	0.1567	0.30	|Q V	|	|	|	|
8+10	0.1588	0.30	|Q V	|	|	|	|
8+15	0.1608	0.30	|Q V	|	|	|	|
8+20	0.1629	0.30	|Q V	|	|	|	|
8+25	0.1651	0.31	|Q V	|	|	|	|
8+30	0.1672	0.31	|Q V	|	|	|	|
8+35	0.1693	0.31	|Q V	|	|	|	|
8+40	0.1715	0.31	|Q V	|	|	|	|
8+45	0.1737	0.32	|Q V	|	|	|	|
8+50	0.1758	0.32	|Q V	|	|	|	|
8+55	0.1780	0.32	|Q V	|	|	|	|
9+ 0	0.1803	0.32	|Q V	|	|	|	|
9+ 5	0.1825	0.32	|Q V	|	|	|	|
9+10	0.1848	0.33	|Q V	|	|	|	|
9+15	0.1870	0.33	|Q V	|	|	|	|
9+20	0.1893	0.33	|Q V	|	|	|	|
9+25	0.1916	0.33	|Q V	|	|	|	|
9+30	0.1939	0.34	|Q V	|	|	|	|
9+35	0.1963	0.34	|Q V	|	|	|	|
9+40	0.1986	0.34	|Q V	|	|	|	|
9+45	0.2010	0.35	|Q V	|	|	|	|
9+50	0.2034	0.35	|Q V	|	|	|	|
9+55	0.2058	0.35	|Q V	|	|	|	|
10+ 0	0.2083	0.35	|Q V	|	|	|	|
10+ 5	0.2107	0.36	|Q V	|	|	|	|
10+10	0.2132	0.36	|Q V	|	|	|	|
10+15	0.2157	0.36	|Q V	|	|	|	|
10+20	0.2182	0.37	|Q V	|	|	|	|
10+25	0.2208	0.37	|Q V	|	|	|	|
10+30	0.2234	0.37	|Q V	|	|	|	|
10+35	0.2260	0.38	|Q V	|	|	|	|
10+40	0.2286	0.38	|Q V	|	|	|	|
10+45	0.2312	0.38	|Q V	|	|	|	|
10+50	0.2339	0.39	|Q V	|	|	|	|
10+55	0.2366	0.39	|Q V|	|	|	|	|
11+ 0	0.2393	0.40	|Q V|	|	|	|	|
11+ 5	0.2421	0.40	|Q V|	|	|	|	|
11+10	0.2449	0.40	|Q V|	|	|	|	|
11+15	0.2477	0.41	|Q V|	|	|	|	|
11+20	0.2505	0.41	|Q V|	|	|	|	|
11+25	0.2534	0.42	|Q V|	|	|	|	|
11+30	0.2563	0.42	|Q V|	|	|	|	|
11+35	0.2592	0.43	|Q V|	|	|	|	|
11+40	0.2622	0.43	|Q V|	|	|	|	|
11+45	0.2652	0.44	|Q V	|	|	|	|
11+50	0.2683	0.44	|Q V	|	|	|	|
11+55	0.2713	0.45	|Q V	|	|	|	|
12+ 0	0.2745	0.45	|Q V	|	|	|	|
12+ 5	0.2778	0.48	|Q V	|	|	|	|



| | | |

```
17+25       0.8725      0.75  | Q       |         |         |  V      |
17+30       0.8775      0.72  | Q       |         |         |  V      |
17+35       0.8823      0.70  | Q       |         |         |  V      |
17+40       0.8870      0.68  | Q       |         |         |  V      |
17+45       0.8916      0.66  | Q       |         |         |  V      |
17+50       0.8960      0.64  | Q       |         |         |   V     |
17+55       0.9003      0.63  | Q       |         |         |   V     |
18+ 0       0.9045      0.61  | Q       |         |         |   V     |
18+ 5       0.9084      0.57  | Q       |         |         |   V     |
18+10       0.9118      0.49  |Q        |         |         |   V     |
18+15       0.9150      0.46  |Q        |         |         |   V     |
18+20       0.9181      0.44  |Q        |         |         |    V    |
18+25       0.9210      0.43  |Q        |         |         |    V    |
18+30       0.9239      0.42  |Q        |         |         |    V    |
18+35       0.9268      0.41  |Q        |         |         |    V    |
18+40       0.9296      0.40  |Q        |         |         |    V    |
18+45       0.9323      0.40  |Q        |         |         |    V    |
18+50       0.9350      0.39  |Q        |         |         |    V    |
18+55       0.9376      0.38  |Q        |         |         |    V    |
19+ 0       0.9401      0.37  |Q        |         |         |    V    |
19+ 5       0.9427      0.37  |Q        |         |         |    V    |
19+10       0.9452      0.36  |Q        |         |         |     V   |
19+15       0.9476      0.35  |Q        |         |         |     V   |
19+20       0.9500      0.35  |Q        |         |         |     V   |
19+25       0.9523      0.34  |Q        |         |         |     V   |
19+30       0.9547      0.34  |Q        |         |         |     V   |
19+35       0.9569      0.33  |Q        |         |         |     V   |
19+40       0.9592      0.33  |Q        |         |         |     V   |
19+45       0.9614      0.32  |Q        |         |         |     V   |
19+50       0.9636      0.32  |Q        |         |         |     V   |
19+55       0.9658      0.31  |Q        |         |         |     V   |
20+ 0       0.9679      0.31  |Q        |         |         |     V   |
20+ 5       0.9700      0.30  |Q        |         |         |     V   |
20+10       0.9720      0.30  |Q        |         |         |      V  |
20+15       0.9741      0.30  |Q        |         |         |      V  |
20+20       0.9761      0.29  |Q        |         |         |      V  |
20+25       0.9781      0.29  |Q        |         |         |      V  |
20+30       0.9801      0.29  |Q        |         |         |      V  |
20+35       0.9820      0.28  |Q        |         |         |      V  |
20+40       0.9839      0.28  |Q        |         |         |      V  |
20+45       0.9858      0.28  |Q        |         |         |      V  |
20+50       0.9877      0.27  |Q        |         |         |      V  |
20+55       0.9896      0.27  |Q        |         |         |      V  |
21+ 0       0.9914      0.27  |Q        |         |         |      V  |
21+ 5       0.9932      0.26  |Q        |         |         |      V  |
21+10       0.9950      0.26  |Q        |         |         |      V  |
21+15       0.9968      0.26  |Q        |         |         |       V |
21+20       0.9986      0.26  |Q        |         |         |       V |
21+25       1.0003      0.25  |Q        |         |         |       V |
21+30       1.0020      0.25  |Q        |         |         |       V |
21+35       1.0038      0.25  Q        |         |         |       V |
21+40       1.0055      0.25  Q        |         |         |       V |
21+45       1.0071      0.24  Q        |         |         |       V |
21+50       1.0088      0.24  Q        |         |         |       V |
21+55       1.0104      0.24  Q        |         |         |       V |
22+ 0       1.0121      0.24  Q        |         |         |       V |
22+ 5       1.0137      0.24  Q        |         |         |       V |
22+10       1.0153      0.23  Q        |         |         |       V |
22+15       1.0169      0.23  Q        |         |         |       V |
22+20       1.0185      0.23  Q        |         |         |       V |
22+25       1.0200      0.23  Q        |         |         |       V |
22+30       1.0216      0.23  Q        |         |         |       V |
22+35       1.0231      0.22  Q        |         |         |        V|
```

22+40	1.0246	0.22	Q	|	|	|	V|
22+45	1.0262	0.22	Q	|	|	|	V|
22+50	1.0277	0.22	Q	|	|	|	V|
22+55	1.0292	0.22	Q	|	|	|	V|
23+ 0	1.0306	0.21	Q	|	|	|	V|
23+ 5	1.0321	0.21	Q	|	|	|	V|
23+10	1.0336	0.21	Q	|	|	|	V|
23+15	1.0350	0.21	Q	|	|	|	V|
23+20	1.0364	0.21	Q	|	|	|	V|
23+25	1.0379	0.21	Q	|	|	|	V|
23+30	1.0393	0.21	Q	|	|	|	V|
23+35	1.0407	0.20	Q	|	|	|	V|
23+40	1.0421	0.20	Q	|	|	|	V|
23+45	1.0435	0.20	Q	|	|	|	V|
23+50	1.0448	0.20	Q	|	|	|	V|
23+55	1.0462	0.20	Q	|	|	|	V|
24+ 0	1.0476	0.20	Q	|	|	|	V|

23161 MILL CREEK PROJECT

CITY OF LAGUNA HILLS

FINAL HYDROLOGY REPORT

Prepared for:

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October, 2025

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I. INTRODUCTION

A. PROJECT DESCRIPTION:

Toll Brothers is proposing the development of a 2.4 acre site within the City of Laguna Hills, at Mill Creek Drive (Refer to Project Location Map, Figure 1). The site will consist of 18 duplex units, 36 residences.

The existing project site is currently a commercial building and parking lot and surface drains through a series of v-gutters down the drive entrance on onto Mill Creek Drive. There are currently no underground storm drain pipes.

The drainage from the project is collected by a series of area drains and catch basins to collect street flow. The south half of the property drains out to Mill Creek through a proposed parkway culvert near the proposed driveway. The north half of the property drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the site.

B. PURPOSE:

This drainage report is intended to analyze the proposed drainage facilities associated with the project improvements and determine that the receiving facilities are not overburdened.

C. METHODOLOGY:

The existing and proposed conditions were analyzed utilizing the Advanced Engineering Software (AES) package for Orange County (RATSCX) (ref. 2). A rational method hydrology analysis was performed on both the existing pre-development, and proposed post-development condition for the 25 and 100-year storm events. The results are summarized in the table below and included in Appendix A and B of this report.

Existing Condition	Area (ac)	Q25 (cfs)	Q100 (cfs)
Sub-area A	2.2	8.0	10.3
Sub-area B	0.2	0.9	1.1
Total	**2.4**	**8.9**	**11.4**
Proposed Condition			
Sub-area A	0.9	3.6	4.4
Sub-area B	1.5	4.3	5.6
Total (node 29)	**2.4**	**7.5**	**9.7**

The storm volumes were analyzed using the Civil D unit hydrograph (ref 3) module for Orange County. The point precipitation values were taken from NOAA Atlas 14 for the Laguna Hills area. The unit hydrograph results can be found in Appendix C (existing) and D (proposed) and are summarized below:

Existing Condition-Unit Hydrograph

Storm Event	Storm Duration	Total Tribuary Area (ac)	Pervious Percent Ap	Total Storm Volume (ac-ft)
100-Year	24 Hour	2.4 ac	22%	1.054 ac-ft

Proposed Condition-Unit Hydrograph

Storm Event	Storm Duration	Total Tribuary Area (ac)	Pervious Percent Ap	Total Storm Volume (ac-ft)
100-Year	24 Hour	2.4 ac	27%	1.046 ac-ft

The storm volume and peak flow rates in the existing condition does not exceed the expected storm volume or peak flow rates in the proposed condition and no on-site detention is required.

The computer program, Advanced Engineering Software (AES), Hydraulic Elements 1 (ref 6), was used to size the proposed catch basins for the 25-year flow. This program uses the input values of basin inflow, basin opening height, and depth of water ponded in the sump condition or depth of approaching water for the flow-by condition to determine an estimated basin width based on the Bureau of Public Roads nomograph plots. The basins were sized to the next largest design width (3.5' or 7') such that the basin capacities are sufficient to handle the projected flows and no flooding is expected to impede the flow of traffic. The grate inlets were analyzed using Flowmaster (ref 4) inlet capacity analysis to determine ponding depth for sump conditions and grate efficiency for flow-by condition. The calculations and summary table can be found in Appendix E of this report. The parkway culvert widths were calculated using AES HELE 1 for channel flow. The calculations can be found in Appendix F.

The hydraulic calculations for the reinforced concrete pipe were performed using the WSPG hydraulic gradient program for the 25-year storm event. PVC pipes were sized using the AES HELE 1 which uses the manning equation to determine the minimum pipe size for a specified slope and flow. The calculations can be found in Appendix H.

D. CONCLUSION:

These analyses and calculations confirm that the proposed development does not overburden the downstream drainage facility or increase flow onto Mill Creek Drive and no on-site detention is required. Additionally, protection of onsite structures will be maintained for the 100-year storm event.

II. REFERENCES

1. Orange County Hydrology Manual, 1986/1996 Addendum
2. Advanced Engineering Software (AES) RATSCX, 2016
3. Civil Design Software (CIVILD), 2018
4. Flowmaster, Bentley System, 2020
5. Water Surface Pressure Gradient for Windows (WSPW), 2005
6. Advanced Engineering Software (AES) HELE 1, 2016

III. APPENDICES

APPENDIX A

EXISTING CONDITION RATIONAL METHOD AND HYDROLOGY MAP

25-YEAR

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1557

                          Analysis prepared by:

                             Wilson Mikami, Inc
                         9 CORPORATE PARK, SUITE 100
                               IRVINE, CA 92606
                                (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPERTY                                            *
* EXISTING CONDITION 25-YEAR HYDROLOGY                                    *
* BY KAM 091524                                                           *
 ****************************************************************************

  FILE NAME: EX_MC2.DAT
  TIME/DATE OF STUDY: 12:57 09/16/2024
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   203.00
  ELEVATION DATA: UPSTREAM(FEET) =    316.50  DOWNSTREAM(FEET) =    304.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.18      0.20     0.100    75    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.78
  TOTAL AREA(ACRES) =      0.18   PEAK FLOW RATE(CFS) =      0.78

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  304.00  DOWNSTREAM ELEVATION(FEET) =  299.70
  STREET LENGTH(FEET) =   185.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 10.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   5.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.14
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.24
    HALFSTREET FLOOD WIDTH(FEET) =    5.58
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.66
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.63
  STREET FLOW TRAVEL TIME(MIN.) =   1.16   Tc(MIN.) =    6.16
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.287
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.19      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.73
  EFFECTIVE AREA(ACRES) =      0.37    AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.4        PEAK FLOW RATE(CFS) =       1.42

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.25   HALFSTREET FLOOD WIDTH(FEET) =   6.31
  FLOW VELOCITY(FEET/SEC.) =  2.75   DEPTH*VELOCITY(FT*FT/SEC.) =   0.69
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.16
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.287
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.96      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.96      SUBAREA RUNOFF(CFS) =    3.69
  EFFECTIVE AREA(ACRES) =      1.33   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
```

```
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       5.11

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.70  DOWNSTREAM(FEET) =    296.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   119.00   CHANNEL SLOPE =  0.0311
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =   7.500
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.55      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       6.13
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   5.70
  AVERAGE FLOW DEPTH(FEET) =   0.38   TRAVEL TIME(MIN.) =   0.35
  Tc(MIN.) =    6.51
  SUBAREA AREA(ACRES) =     0.55       SUBAREA RUNOFF(CFS) =    2.05
  EFFECTIVE AREA(ACRES) =      1.88     AREA-AVERAGED Fm(INCH/HR) =   0.02
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       7.00

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.40   FLOW VELOCITY(FEET/SEC.) =   5.84
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     507.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.51
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.27      0.20     1.000    81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.27      SUBAREA RUNOFF(CFS) =    0.96
  EFFECTIVE AREA(ACRES) =      2.15   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        2.1       PEAK FLOW RATE(CFS) =       7.96

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    70.00
  ELEVATION DATA: UPSTREAM(FEET) =    302.00  DOWNSTREAM(FEET) =    272.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.824
```

```
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 NATURAL FAIR COVER
 "CHAPARRAL,BROADLEAF"       D        0.21      0.20      1.000    81    5.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA RUNOFF(CFS) =      0.87
 TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      0.87
================================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        0.2  TC(MIN.) =      5.00
 EFFECTIVE AREA(ACRES) =      0.21  AREA-AVERAGED Fm(INCH/HR)=  0.20
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 1.000
 PEAK FLOW RATE(CFS)   =       0.87
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

100-YEAR

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1557

                          Analysis prepared by:

                             Wilson Mikami, Inc
                         9 CORPORATE PARK, SUITE 100
                               IRVINE, CA 92606
                                (949) 679-0090

 ************************** DESCRIPTION OF STUDY **************************
* KHOSHBIN MILL CREEK PROPERTY                                            *
* EXISTING CONDITION 100-YEAR HYDROLOGY                                   *
* BY KAM 091524                                                           *
 ****************************************************************************

  FILE NAME: EX_MC2.DAT
  TIME/DATE OF STUDY: 12:57 09/16/2024
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   203.00
  ELEVATION DATA: UPSTREAM(FEET) =    316.50  DOWNSTREAM(FEET) =    304.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.18      0.20     0.100    91    5.00
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      1.00
  TOTAL AREA(ACRES) =      0.18   PEAK FLOW RATE(CFS) =      1.00

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  304.00  DOWNSTREAM ELEVATION(FEET) =  299.70
  STREET LENGTH(FEET) =   185.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 10.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   5.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.47
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.25
    HALFSTREET FLOOD WIDTH(FEET) =    6.38
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.80
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.71
  STREET FLOW TRAVEL TIME(MIN.) =   1.10   Tc(MIN.) =    6.10
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.520
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.19      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.94
  EFFECTIVE AREA(ACRES) =      0.37    AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.4        PEAK FLOW RATE(CFS) =       1.83

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.27   HALFSTREET FLOOD WIDTH(FEET) =   7.18
  FLOW VELOCITY(FEET/SEC.) =  2.89   DEPTH*VELOCITY(FT*FT/SEC.) =   0.78
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.10
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.520
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.96      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.96      SUBAREA RUNOFF(CFS) =    4.75
  EFFECTIVE AREA(ACRES) =      1.33   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
```

```
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       6.58

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.70  DOWNSTREAM(FEET) =    296.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   119.00   CHANNEL SLOPE =  0.0311
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =   7.500
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.357
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.55      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       7.90
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.07
  AVERAGE FLOW DEPTH(FEET) =   0.42   TRAVEL TIME(MIN.) =   0.33
  Tc(MIN.) =    6.43
  SUBAREA AREA(ACRES) =     0.55       SUBAREA RUNOFF(CFS) =    2.64
  EFFECTIVE AREA(ACRES) =      1.88     AREA-AVERAGED Fm(INCH/HR) =   0.02
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       9.03

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.44   FLOW VELOCITY(FEET/SEC.) =   6.28
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     507.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.43
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.357
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"      D        0.27      0.20     1.000    95
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.27      SUBAREA RUNOFF(CFS) =    1.25
  EFFECTIVE AREA(ACRES) =      2.15   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        2.1       PEAK FLOW RATE(CFS) =      10.28

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    70.00
  ELEVATION DATA: UPSTREAM(FEET) =    302.00  DOWNSTREAM(FEET) =    272.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.187
```

```
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 NATURAL FAIR COVER
 "CHAPARRAL,BROADLEAF"      D        0.21      0.20     1.000    95    5.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 SUBAREA RUNOFF(CFS) =      1.13
 TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      1.13
================================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        0.2  TC(MIN.) =      5.00
 EFFECTIVE AREA(ACRES) =      0.21  AREA-AVERAGED Fm(INCH/HR)=  0.20
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 1.000
 PEAK FLOW RATE(CFS)   =       1.13
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

HYDROLOGY MAP

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

- WATERSHED BOUNDARY
- SUB-AREA BOUNDARY
- FLOWLINE AND DIRECTION OF FLOW
- A5 / 0.30 — SUBAREA LABEL / AREA (ACRES)
- (20) — NODE NUMBER

Q25	25-YEAR PEAK FLOW IN CFS
Q100	100-YEAR PEAK FLOW IN CFS
WS 100	100-YEAR PEAK FLOW WATER SURFACE ELEVATION
QCONF	100-YEAR CONFLUENCE PEAK FLOW IN CFS
TC	TIME OF CONCENTRATION (100-YEAR STORM) IN MIN
MIN	MINUTES
CFS	CUBIC FEET PER SECOND
EG	EXISTING GRADE ELEVATION
FG	FINISH GRADE ELEVATION
FS	FINISH SURFACE ELEVATION
FL	FLOW LINE ELEVATION
INV.	INVERT OF PIPE
L=870'	LENGTH OF FLOWPATH IN FEET
L_p=92'	LENGTH OF PIPE IN FEET

NO.	DATE	REVISIONS

DESIGNED BY:	ES
DRAFTED BY:	ES
CHECKED BY:	KM
DATE:	9/24

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
T: 949-679-0090

LAGUNA HILLS
KHOSHBIN MILL CREEK PROPERTY
EXISTING CONDITION HYDROLOGY MAP

PROJECT NO. 10501.00

SHEET 1 OF 1

S:\10501.00\dwg\PREX0004_EXISTING HYDROLOGY.dwg 9/16/24

APPENDIX B
PROPOSED CONDITION RATIONAL METHOD AND HYDROLOGY MAP

25-YEAR

```
******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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 ************************** DESCRIPTION OF STUDY **************************
* PROPOSED MILL CREEK ROAD PROPERTY                                       *
* 25-YEAR HYDROLOGY ANALYSIS                                              *
* BY KAM 090125                                                           *
 ****************************************************************************

  FILE NAME: PR-KOSH.DAT
  TIME/DATE OF STUDY: 14:33 09/01/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                     --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   PS

  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   131.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    310.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.817
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.746
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

```
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                D        0.08      0.20      0.100    75    7.82
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.27
  TOTAL AREA(ACRES) =      0.08   PEAK FLOW RATE(CFS) =      0.27

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     11.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.82
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.746
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.07      0.20      0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.07      SUBAREA RUNOFF(CFS) =    0.23
  EFFECTIVE AREA(ACRES) =      0.15   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.15
  TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.50

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   305.70  DOWNSTREAM(FEET) =   305.20
  FLOW LENGTH(FEET) =    55.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   2.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.27
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.50
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    7.96
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     186.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.96
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.707
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.15      0.20      0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.15      SUBAREA RUNOFF(CFS) =    0.50
  EFFECTIVE AREA(ACRES) =      0.30   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       0.99

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  31
----------------------------------------------------------------------------
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  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   305.20  DOWNSTREAM(FEET) =   304.20
  FLOW LENGTH(FEET) =    99.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.60
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.99
  PIPE TRAVEL TIME(MIN.) =   0.36    Tc(MIN.) =    8.32
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     285.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.32
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.615
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.16      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.16      SUBAREA RUNOFF(CFS) =    0.51
  EFFECTIVE AREA(ACRES) =      0.46   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       1.48

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.32
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.615
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.09      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.09      SUBAREA RUNOFF(CFS) =    0.29
  EFFECTIVE AREA(ACRES) =      0.55   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       1.77

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     14.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   304.20  DOWNSTREAM(FEET) =   301.70
  FLOW LENGTH(FEET) =   142.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.53
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.77
  PIPE TRAVEL TIME(MIN.) =   0.36    Tc(MIN.) =    8.68
```

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 LONGEST FLOWPATH FROM NODE     10.00 TO NODE     14.00 =     427.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     14.00 TO NODE     14.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.68
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.529
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.06      0.20     0.100    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.19
 EFFECTIVE AREA(ACRES) =      0.61   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       1.92

****************************************************************************
 FLOW PROCESS FROM NODE     14.00 TO NODE     15.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   301.70  DOWNSTREAM(FEET) =   300.70
 FLOW LENGTH(FEET) =    35.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.02
 ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.92
 PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    8.76
 LONGEST FLOWPATH FROM NODE     10.00 TO NODE     15.00 =     462.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     15.00 TO NODE     15.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.76
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.513
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.12      0.20     0.100    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.38
 EFFECTIVE AREA(ACRES) =      0.73   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.7       PEAK FLOW RATE(CFS) =       2.29

****************************************************************************
 FLOW PROCESS FROM NODE     15.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   300.70  DOWNSTREAM(FEET) =   297.10
 FLOW LENGTH(FEET) =    56.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  11.35
```

```
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.29
  PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    8.84
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     16.00 =     518.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.84
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.494
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.06      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.19
  EFFECTIVE AREA(ACRES) =      0.79   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       2.46

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.84
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.494
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                    D        0.04      0.20     1.000    84
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.04      SUBAREA RUNOFF(CFS) =    0.12
  EFFECTIVE AREA(ACRES) =      0.83   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.20
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       2.58

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     17.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   297.10  DOWNSTREAM(FEET) =   296.40
  FLOW LENGTH(FEET) =    42.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   7.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.79
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.58
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    8.94
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     17.00 =     560.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     17.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.94
```

```
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.471
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.06      0.20      0.100    75
  NATURAL FAIR COVER
  "GRASS"                     D        0.02      0.20      1.000    84
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.325
  SUBAREA AREA(ACRES) =    0.08      SUBAREA RUNOFF(CFS) =    0.25
  EFFECTIVE AREA(ACRES) =      0.91   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       2.81

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     18.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.40  DOWNSTREAM(FEET) =   292.40
  FLOW LENGTH(FEET) =    50.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.98
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.81
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    9.01
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     18.00 =     610.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     18.00 TO NODE     29.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  292.40  DOWNSTREAM ELEVATION(FEET) =  273.60
  STREET LENGTH(FEET) =   194.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 20.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  15.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.050

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.24
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.27
    HALFSTREET FLOOD WIDTH(FEET) =    3.87
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    7.07
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.94
  STREET FLOW TRAVEL TIME(MIN.) =   0.46   Tc(MIN.) =    9.46
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.362
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"       D        0.30      0.20      1.000    81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.30      SUBAREA RUNOFF(CFS) =    0.85
  EFFECTIVE AREA(ACRES) =      1.21    AREA-AVERAGED Fm(INCH/HR) =  0.08
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  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.41
  TOTAL AREA(ACRES) =        1.2        PEAK FLOW RATE(CFS) =       3.57

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.28   HALFSTREET FLOOD WIDTH(FEET) =   4.06
  FLOW VELOCITY(FEET/SEC.) =  7.21   DEPTH*VELOCITY(FT*FT/SEC.) =   2.05
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     29.00 =     804.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     29.00 TO NODE     29.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.46
  RAINFALL INTENSITY(INCH/HR) =   3.36
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.41
  EFFECTIVE STREAM AREA(ACRES) =       1.21
  TOTAL STREAM AREA(ACRES) =       1.21
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       3.57

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    303.80

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.718
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.471
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 D        0.07      0.20      0.100    75    5.72
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.28
  TOTAL AREA(ACRES) =      0.07   PEAK FLOW RATE(CFS) =      0.28

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     22.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.80  DOWNSTREAM(FEET) =   299.50
  FLOW LENGTH(FEET) =    13.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   2.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.51
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.28
  PIPE TRAVEL TIME(MIN.) =   0.05    Tc(MIN.) =    5.77
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     22.00 =     186.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     22.00 IS CODE =  81
----------------------------------------------------------------------------
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    5.77
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.450
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.03      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.03      SUBAREA RUNOFF(CFS) =    0.12
  EFFECTIVE AREA(ACRES) =      0.10   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.1       PEAK FLOW RATE(CFS) =       0.40

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     23.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.50  DOWNSTREAM(FEET) =   299.20
  FLOW LENGTH(FEET) =    65.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   4.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   2.68
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.40
  PIPE TRAVEL TIME(MIN.) =   0.40    Tc(MIN.) =    6.17
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     23.00 =     251.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     23.00 TO NODE     23.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.17
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.283
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.18      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.69
  EFFECTIVE AREA(ACRES) =      0.28   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.07

****************************************************************************
  FLOW PROCESS FROM NODE     23.00 TO NODE     24.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.20  DOWNSTREAM(FEET) =   298.90
  FLOW LENGTH(FEET) =    65.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.47
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.07
  PIPE TRAVEL TIME(MIN.) =   0.31    Tc(MIN.) =    6.48
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     24.00 =     316.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.48
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.165
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.12      0.20     0.200    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.45
 EFFECTIVE AREA(ACRES) =      0.40   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
 TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       1.49

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.48
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.165
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.10      0.20     0.200    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.37
 EFFECTIVE AREA(ACRES) =      0.50   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       1.86

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   298.90  DOWNSTREAM(FEET) =   298.60
 FLOW LENGTH(FEET) =    67.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.96
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.86
 PIPE TRAVEL TIME(MIN.) =   0.28    Tc(MIN.) =    6.76
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     383.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.76
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.066
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
```

```
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.15      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.15      SUBAREA RUNOFF(CFS) =    0.54
  EFFECTIVE AREA(ACRES) =      0.65   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.36

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.76
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.066
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.11      0.20     0.200    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.11      SUBAREA RUNOFF(CFS) =    0.40
  EFFECTIVE AREA(ACRES) =      0.76   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       2.76

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   298.60  DOWNSTREAM(FEET) =   298.30
  FLOW LENGTH(FEET) =    48.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   8.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.90
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.76
  PIPE TRAVEL TIME(MIN.) =   0.16    Tc(MIN.) =    6.93
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     431.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.93
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.011
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.14      0.20     0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.50
  EFFECTIVE AREA(ACRES) =      0.90   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       3.22

****************************************************************************
```

```
 FLOW PROCESS FROM NODE     26.00 TO NODE     27.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   298.30  DOWNSTREAM(FEET) =   298.20
 FLOW LENGTH(FEET) =    18.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.75
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       3.22
 PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    6.99
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     27.00 =     449.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     27.00 TO NODE     27.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.99
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.991
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.19      0.20     0.100    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.68
 EFFECTIVE AREA(ACRES) =      1.09   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        1.1       PEAK FLOW RATE(CFS) =       3.88

****************************************************************************
 FLOW PROCESS FROM NODE     27.00 TO NODE     27.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.99
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.991
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"       D        0.12      0.20     0.200    75
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.43
 EFFECTIVE AREA(ACRES) =      1.21   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       4.31

****************************************************************************
 FLOW PROCESS FROM NODE     27.00 TO NODE     28.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   298.20  DOWNSTREAM(FEET) =   298.00
 FLOW LENGTH(FEET) =    36.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  15.0 INCH PIPE IS   9.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.27
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       4.31
```

```
  PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =    7.10
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     28.00 =     485.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     28.00 TO NODE     29.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   298.00  DOWNSTREAM(FEET) =   273.60
  FLOW LENGTH(FEET) =    53.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   4.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  27.11
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.31
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    7.14
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     29.00 =     538.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     29.00 TO NODE     29.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.14
  RAINFALL INTENSITY(INCH/HR) =   3.94
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.16
  EFFECTIVE STREAM AREA(ACRES) =       1.21
  TOTAL STREAM AREA(ACRES) =       1.21
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       4.31

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        3.57    9.46    3.362  0.20( 0.08) 0.41       1.2      10.00
      2        4.31    7.14    3.944  0.20( 0.03) 0.16       1.2      20.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1        7.48    7.14    3.944  0.20( 0.05) 0.27       2.1      20.00
      2        7.24    9.46    3.362  0.20( 0.06) 0.29       2.4      10.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       7.48    Tc(MIN.) =     7.14
  EFFECTIVE AREA(ACRES) =       2.12   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.27
  TOTAL AREA(ACRES) =        2.4
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     29.00 =     804.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        2.4  TC(MIN.) =      7.14
  EFFECTIVE AREA(ACRES) =      2.12  AREA-AVERAGED Fm(INCH/HR)=  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.269
  PEAK FLOW RATE(CFS)   =       7.48
```

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	7.48	7.14	3.944	0.20(0.05)	0.27	2.1	20.00
2	7.24	9.46	3.362	0.20(0.06)	0.29	2.4	10.00

END OF RATIONAL METHOD ANALYSIS

100-YEAR

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                          Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
* PROPOSED MILL CREEK ROAD PROPERTY                                       *
* 100-YEAR HYDROLOGY ANALYSIS                                             *
* BY KAM 090125                                                           *
 ****************************************************************************

  FILE NAME: PR-KOSH.DAT
  TIME/DATE OF STUDY: 14:34 09/01/2025
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   131.00
  ELEVATION DATA: UPSTREAM(FEET) =    312.40  DOWNSTREAM(FEET) =    310.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.817
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.790
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
```

```
  COMMERCIAL                  D        0.08      0.20     0.100    91    7.82
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.34
  TOTAL AREA(ACRES) =      0.08   PEAK FLOW RATE(CFS) =      0.34

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     11.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.82
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.790
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.07      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.07      SUBAREA RUNOFF(CFS) =    0.30
  EFFECTIVE AREA(ACRES) =      0.15   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.15
  TOTAL AREA(ACRES) =        0.2       PEAK FLOW RATE(CFS) =       0.64

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   305.70  DOWNSTREAM(FEET) =   305.20
  FLOW LENGTH(FEET) =    55.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   3.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.66
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.64
  PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =    7.95
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     12.00 =     186.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.95
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.742
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.15      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.15      SUBAREA RUNOFF(CFS) =    0.63
  EFFECTIVE AREA(ACRES) =      0.30   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.27

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     13.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
```

```
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   305.20  DOWNSTREAM(FEET) =   304.20
  FLOW LENGTH(FEET) =    99.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.88
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.27
  PIPE TRAVEL TIME(MIN.) =   0.34    Tc(MIN.) =    8.29
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     13.00 =     285.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    8.29
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.630
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.16      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.16      SUBAREA RUNOFF(CFS) =    0.66
  EFFECTIVE AREA(ACRES) =      0.46   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       1.90

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     13.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    8.29
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.630
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.09      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.09      SUBAREA RUNOFF(CFS) =    0.37
  EFFECTIVE AREA(ACRES) =      0.55   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.27

****************************************************************************
  FLOW PROCESS FROM NODE     13.00 TO NODE     14.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   304.20  DOWNSTREAM(FEET) =   301.70
  FLOW LENGTH(FEET) =   142.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   6.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.87
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.27
  PIPE TRAVEL TIME(MIN.) =   0.34    Tc(MIN.) =    8.64
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     14.00 =     427.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     14.00 TO NODE     14.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.64
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.523
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.06      0.20     0.100    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.24
 EFFECTIVE AREA(ACRES) =      0.61   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.46

****************************************************************************
 FLOW PROCESS FROM NODE     14.00 TO NODE     15.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   301.70  DOWNSTREAM(FEET) =   300.70
 FLOW LENGTH(FEET) =    35.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.49
 ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.46
 PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    8.71
 LONGEST FLOWPATH FROM NODE     10.00 TO NODE     15.00 =     462.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     15.00 TO NODE     15.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.71
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.503
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 D        0.12      0.20     0.100    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.48
 EFFECTIVE AREA(ACRES) =      0.73   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        0.7       PEAK FLOW RATE(CFS) =       2.94

****************************************************************************
 FLOW PROCESS FROM NODE     15.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   300.70  DOWNSTREAM(FEET) =   297.10
 FLOW LENGTH(FEET) =    56.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  12.08
 ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
```

```
  PIPE-FLOW(CFS) =       2.94
  PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =    8.78
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     16.00 =     518.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.78
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.480
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                D        0.06      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.06      SUBAREA RUNOFF(CFS) =    0.24
  EFFECTIVE AREA(ACRES) =      0.79   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       3.16

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.78
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.480
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                   D        0.04      0.20     1.000    96
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.04      SUBAREA RUNOFF(CFS) =    0.15
  EFFECTIVE AREA(ACRES) =      0.83   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.20
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       3.32

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     17.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   297.10  DOWNSTREAM(FEET) =   296.40
  FLOW LENGTH(FEET) =    42.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.51
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.32
  PIPE TRAVEL TIME(MIN.) =   0.09    Tc(MIN.) =    8.88
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     17.00 =     560.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     17.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.88
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.453
```

```
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        0.06      0.20      0.100    91
  NATURAL FAIR COVER
  "GRASS"                     D        0.02      0.20      1.000    96
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.325
  SUBAREA AREA(ACRES) =    0.08      SUBAREA RUNOFF(CFS) =    0.32
  EFFECTIVE AREA(ACRES) =      0.91   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       3.61

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     18.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   296.40  DOWNSTREAM(FEET) =   292.40
  FLOW LENGTH(FEET) =    50.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.79
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.61
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    8.94
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     18.00 =     610.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     18.00 TO NODE     29.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  292.40  DOWNSTREAM ELEVATION(FEET) =  273.60
  STREET LENGTH(FEET) =   194.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 20.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  15.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.050

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       4.17
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.30
    HALFSTREET FLOOD WIDTH(FEET) =    4.36
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    7.46
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    2.23
  STREET FLOW TRAVEL TIME(MIN.) =   0.43   Tc(MIN.) =    9.37
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.317
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "CHAPARRAL,BROADLEAF"       D        0.30      0.20      1.000    95
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA AREA(ACRES) =    0.30      SUBAREA RUNOFF(CFS) =    1.11
  EFFECTIVE AREA(ACRES) =      1.21    AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.41
```

```
  TOTAL AREA(ACRES) =        1.2        PEAK FLOW RATE(CFS) =       4.61

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.31   HALFSTREET FLOOD WIDTH(FEET) =   4.55
  FLOW VELOCITY(FEET/SEC.) =  7.67   DEPTH*VELOCITY(FT*FT/SEC.) =   2.37
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     29.00 =     804.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     29.00 TO NODE     29.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.37
  RAINFALL INTENSITY(INCH/HR) =   4.32
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.41
  EFFECTIVE STREAM AREA(ACRES) =       1.21
  TOTAL STREAM AREA(ACRES) =       1.21
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       4.61

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
  ELEVATION DATA: UPSTREAM(FEET) =    306.00  DOWNSTREAM(FEET) =    303.80

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.718
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.730
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  D        0.07      0.20      0.100    91    5.72
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      0.36
  TOTAL AREA(ACRES) =      0.07   PEAK FLOW RATE(CFS) =      0.36

****************************************************************************
  FLOW PROCESS FROM NODE     21.00 TO NODE     22.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.80  DOWNSTREAM(FEET) =   299.50
  FLOW LENGTH(FEET) =    13.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   2.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.82
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.36
  PIPE TRAVEL TIME(MIN.) =   0.04    Tc(MIN.) =    5.76
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     22.00 =     186.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     22.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  MAINLINE Tc(MIN.) =    5.76
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.704
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.03      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.03      SUBAREA RUNOFF(CFS) =    0.15
  EFFECTIVE AREA(ACRES) =      0.10   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        0.1       PEAK FLOW RATE(CFS) =       0.51

**************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     23.00 IS CODE =  31
--------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.50  DOWNSTREAM(FEET) =   299.20
  FLOW LENGTH(FEET) =    65.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   3.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   2.88
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.51
  PIPE TRAVEL TIME(MIN.) =   0.38    Tc(MIN.) =    6.14
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     23.00 =     251.00 FEET.

**************************************************************************
  FLOW PROCESS FROM NODE     23.00 TO NODE     23.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  MAINLINE Tc(MIN.) =    6.14
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.501
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.18      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.88
  EFFECTIVE AREA(ACRES) =      0.28   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.38

**************************************************************************
  FLOW PROCESS FROM NODE     23.00 TO NODE     24.00 IS CODE =  31
--------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   299.20  DOWNSTREAM(FEET) =   298.90
  FLOW LENGTH(FEET) =    65.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   7.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.58
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.38
  PIPE TRAVEL TIME(MIN.) =   0.30    Tc(MIN.) =    6.44
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     24.00 =     316.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.44
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.352
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"        D        0.12      0.20     0.200    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.57
 EFFECTIVE AREA(ACRES) =      0.40   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
 TOTAL AREA(ACRES) =        0.4       PEAK FLOW RATE(CFS) =       1.91

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     24.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.44
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.352
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 "11+ DWELLINGS/ACRE"        D        0.10      0.20     0.200    91
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.48
 EFFECTIVE AREA(ACRES) =      0.50   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =        0.5       PEAK FLOW RATE(CFS) =       2.39

****************************************************************************
 FLOW PROCESS FROM NODE     24.00 TO NODE     25.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   298.90  DOWNSTREAM(FEET) =   298.60
 FLOW LENGTH(FEET) =    67.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   8.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.17
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.39
 PIPE TRAVEL TIME(MIN.) =   0.27    Tc(MIN.) =    6.71
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     25.00 =     383.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.71
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.228
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
```

```
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.15      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.15      SUBAREA RUNOFF(CFS) =    0.70
  EFFECTIVE AREA(ACRES) =      0.65   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       3.04

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     25.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.71
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.228
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.11      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.11      SUBAREA RUNOFF(CFS) =    0.51
  EFFECTIVE AREA(ACRES) =      0.76   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =        0.8       PEAK FLOW RATE(CFS) =       3.55

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     26.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   298.60  DOWNSTREAM(FEET) =   298.30
  FLOW LENGTH(FEET) =    48.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  15.0 INCH PIPE IS   8.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.29
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.55
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    6.86
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     26.00 =     431.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     26.00 TO NODE     26.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.86
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.162
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.14      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.14      SUBAREA RUNOFF(CFS) =    0.65
  EFFECTIVE AREA(ACRES) =      0.90   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =        0.9       PEAK FLOW RATE(CFS) =       4.15

****************************************************************************
  FLOW PROCESS FROM NODE     26.00 TO NODE     27.00 IS CODE =  31
```

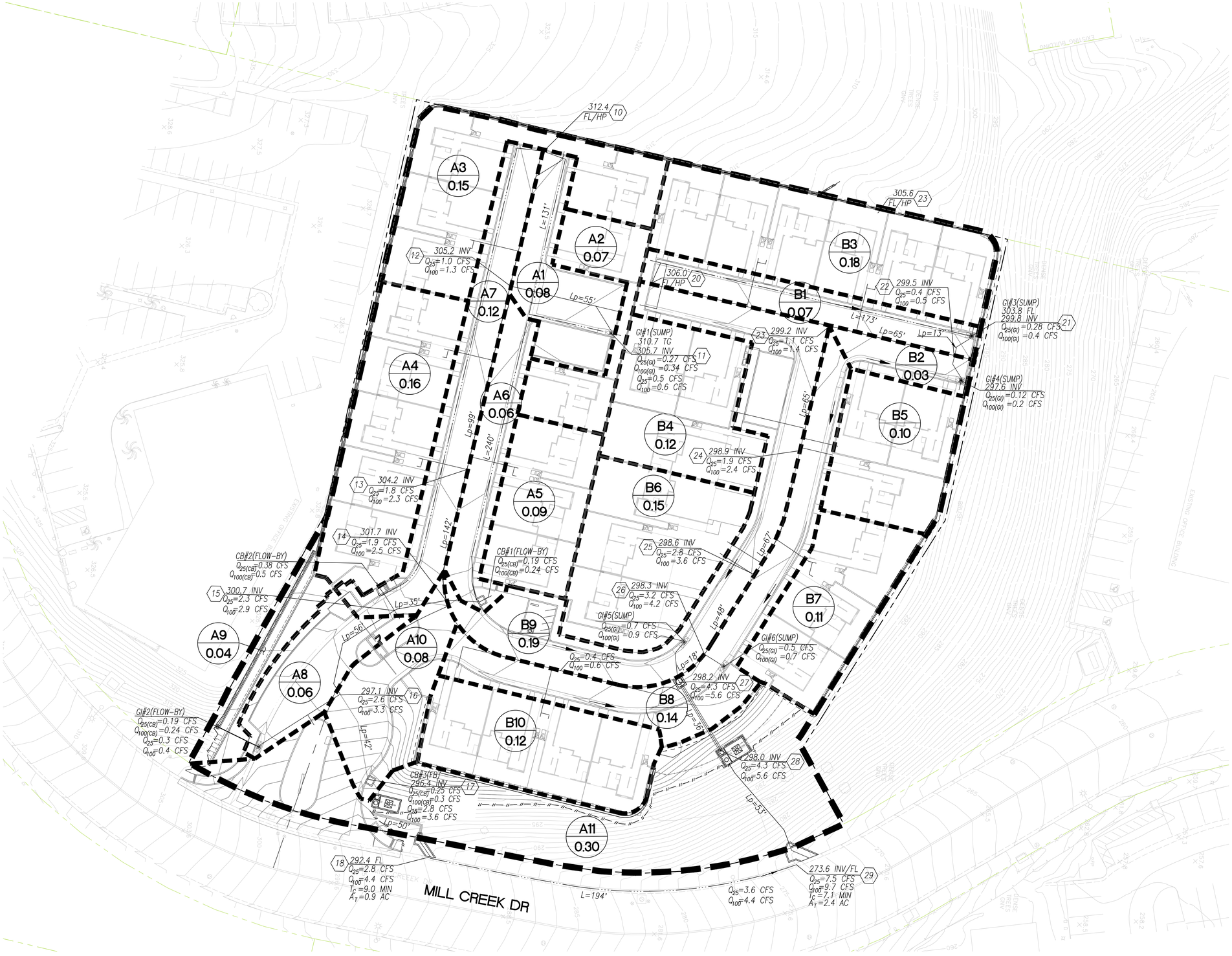
```
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   298.30  DOWNSTREAM(FEET) =   298.20
  FLOW LENGTH(FEET) =    18.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  15.0 INCH PIPE IS   9.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.24
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.15
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    6.92
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     27.00 =     449.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     27.00 TO NODE     27.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.92
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.137
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.19      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.88
  EFFECTIVE AREA(ACRES) =      1.09   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        1.1       PEAK FLOW RATE(CFS) =       5.01

****************************************************************************
  FLOW PROCESS FROM NODE     27.00 TO NODE     27.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.92
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.137
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  "11+ DWELLINGS/ACRE"       D        0.12      0.20     0.200    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.12      SUBAREA RUNOFF(CFS) =    0.55
  EFFECTIVE AREA(ACRES) =      1.21   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       5.56

****************************************************************************
  FLOW PROCESS FROM NODE     27.00 TO NODE     28.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   298.20  DOWNSTREAM(FEET) =   298.00
  FLOW LENGTH(FEET) =    36.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  15.0 INCH PIPE IS  11.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.50
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.56
  PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =    7.03
```

```
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     28.00 =     485.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     28.00 TO NODE     29.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   298.00  DOWNSTREAM(FEET) =   273.60
 FLOW LENGTH(FEET) =    53.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  29.64
 ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.56
 PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    7.06
 LONGEST FLOWPATH FROM NODE     20.00 TO NODE     29.00 =     538.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     29.00 TO NODE     29.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    7.06
 RAINFALL INTENSITY(INCH/HR) =   5.08
 AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.16
 EFFECTIVE STREAM AREA(ACRES) =       1.21
 TOTAL STREAM AREA(ACRES) =       1.21
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.56

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1        4.61    9.37    4.317  0.20( 0.08) 0.41       1.2      10.00
     2        5.56    7.06    5.079  0.20( 0.03) 0.16       1.2      20.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1        9.66    7.06    5.079  0.20( 0.05) 0.27       2.1      20.00
     2        9.33    9.37    4.317  0.20( 0.06) 0.29       2.4      10.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       9.66    Tc(MIN.) =     7.06
 EFFECTIVE AREA(ACRES) =       2.12   AREA-AVERAGED Fm(INCH/HR) =  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.27
 TOTAL AREA(ACRES) =        2.4
 LONGEST FLOWPATH FROM NODE     10.00 TO NODE     29.00 =     804.00 FEET.
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        2.4  TC(MIN.) =      7.06
 EFFECTIVE AREA(ACRES) =      2.12  AREA-AVERAGED Fm(INCH/HR)=  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.268
 PEAK FLOW RATE(CFS)   =       9.66

 ** PEAK FLOW RATE TABLE **
```

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	9.66	7.06	5.079	0.20(0.05)	0.27	2.1	20.00
2	9.33	9.37	4.317	0.20(0.06)	0.29	2.4	10.00

END OF RATIONAL METHOD ANALYSIS

HYDROLOGY MAP



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	DATE	REVISIONS

DESIGNED BY:	ES
DRAFTED BY:	ES
CHECKED BY:	KM
DATE:	9/25

WILSON MIKAMI CORPORATION
9 CORPORATE PARK, SUITE 100
IRVINE, CA 92606
T: 949-679-0090

LAGUNA HILLS
23161 MILL CREEK DEVELOPMENT
PROPOSED CONDITION HYDROLOGY MAP

PROJECT NO. 10501.00

SHEET 1 OF 1

S:\10501.00\dwg\PREX0005_PROPOSED HYDROLOGY.dwg 9/26/25

APPENDIX C

UNIT HYDROGRAPH
EXISTING CONDITION

U n i t H y d r o g r a p h A n a l y s i s

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Study date 01/17/25 File Name exkosh.out

++

Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6615

KHOSHBIN MILL CREEK
EXISTING CONDITION UNIT HYDROGRAPH 100-YEAR 24-HOUR
BY KAM 011525

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used
++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
75.0	2.4	1.00	D	0.200	0.220	0.044

Area-averaged adjusted loss rate Fm (In/Hr) = 0.044

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.53	0.220	75.0	91.0	0.99	0.816
1.87	0.780	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.927
Area-averaged low loss fraction, Yb = 0.073
++
Direct entry of lag time by user
Watershed area = 2.40(Ac.)
Catchment Lag time = 0.085 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 97.6944
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.044(In/Hr)
Average low loss rate fraction (Yb) = 0.073 (decimal)
FOOTHILL S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)

Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 2.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
(K = 29.02 (CFS))		
1	13.614	3.952
2	69.070	16.096
3	87.941	5.478
4	95.642	2.235
5	98.353	0.787
6	99.235	0.256
7	99.824	0.171
8	100.000	0.051

Total soil rain loss = 0.35(In)
Total effective rainfall = 5.28(In)
Peak flow rate in flood hydrograph = 10.00(CFS)

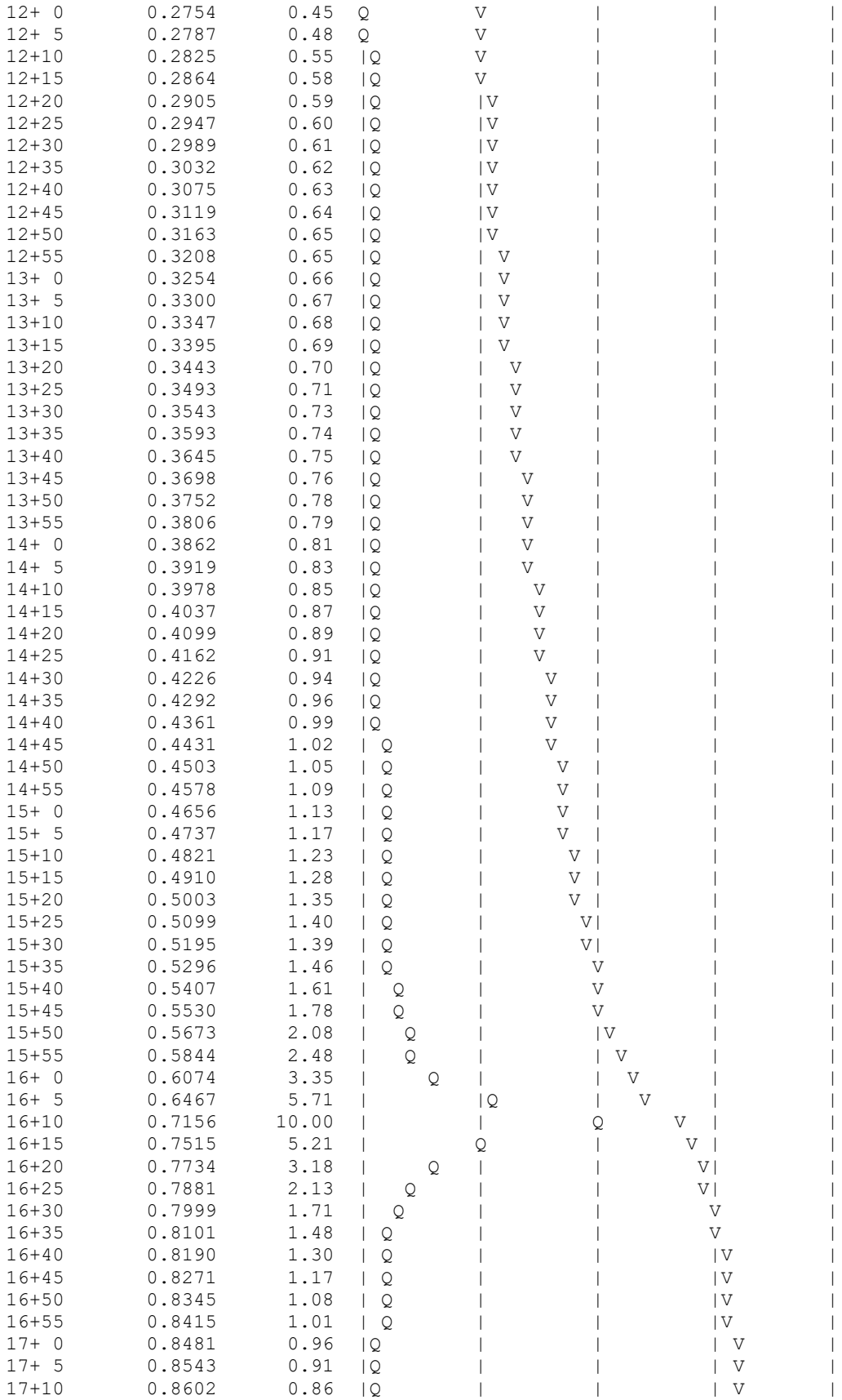
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0002	0.03	Q				
0+10	0.0011	0.14	Q				
0+15	0.0023	0.17	Q				
0+20	0.0036	0.19	Q				
0+25	0.0049	0.19	Q				
0+30	0.0063	0.20	Q				
0+35	0.0077	0.20	Q				
0+40	0.0090	0.20	Q				
0+45	0.0104	0.20	Q				
0+50	0.0118	0.20	Q				
0+55	0.0132	0.20	Q				
1+ 0	0.0146	0.20	Q				
1+ 5	0.0160	0.20	Q				
1+10	0.0174	0.20	Q				
1+15	0.0188	0.20	Q				
1+20	0.0202	0.21	Q				
1+25	0.0216	0.21	Q				

1+30	0.0230	0.21	Q	|	|	|	|
1+35	0.0245	0.21	Q	|	|	|	|
1+40	0.0259	0.21	Q	|	|	|	|
1+45	0.0273	0.21	QV	|	|	|	|
1+50	0.0288	0.21	QV	|	|	|	|
1+55	0.0302	0.21	QV	|	|	|	|
2+ 0	0.0317	0.21	QV	|	|	|	|
2+ 5	0.0332	0.21	QV	|	|	|	|
2+10	0.0346	0.21	QV	|	|	|	|
2+15	0.0361	0.21	QV	|	|	|	|
2+20	0.0376	0.21	QV	|	|	|	|
2+25	0.0390	0.22	QV	|	|	|	|
2+30	0.0405	0.22	QV	|	|	|	|
2+35	0.0420	0.22	QV	|	|	|	|
2+40	0.0435	0.22	QV	|	|	|	|
2+45	0.0450	0.22	QV	|	|	|	|
2+50	0.0465	0.22	QV	|	|	|	|
2+55	0.0481	0.22	QV	|	|	|	|
3+ 0	0.0496	0.22	QV	|	|	|	|
3+ 5	0.0511	0.22	QV	|	|	|	|
3+10	0.0526	0.22	QV	|	|	|	|
3+15	0.0542	0.22	Q V	|	|	|	|
3+20	0.0557	0.22	Q V	|	|	|	|
3+25	0.0573	0.23	Q V	|	|	|	|
3+30	0.0588	0.23	Q V	|	|	|	|
3+35	0.0604	0.23	Q V	|	|	|	|
3+40	0.0620	0.23	Q V	|	|	|	|
3+45	0.0636	0.23	Q V	|	|	|	|
3+50	0.0652	0.23	Q V	|	|	|	|
3+55	0.0667	0.23	Q V	|	|	|	|
4+ 0	0.0683	0.23	Q V	|	|	|	|
4+ 5	0.0700	0.23	Q V	|	|	|	|
4+10	0.0716	0.23	Q V	|	|	|	|
4+15	0.0732	0.24	Q V	|	|	|	|
4+20	0.0748	0.24	Q V	|	|	|	|
4+25	0.0764	0.24	Q V	|	|	|	|
4+30	0.0781	0.24	Q V	|	|	|	|
4+35	0.0797	0.24	Q V	|	|	|	|
4+40	0.0814	0.24	Q V	|	|	|	|
4+45	0.0831	0.24	Q V	|	|	|	|
4+50	0.0847	0.24	Q V	|	|	|	|
4+55	0.0864	0.24	Q V	|	|	|	|
5+ 0	0.0881	0.25	Q V	|	|	|	|
5+ 5	0.0898	0.25	Q V	|	|	|	|
5+10	0.0915	0.25	Q V	|	|	|	|
5+15	0.0932	0.25	Q V	|	|	|	|
5+20	0.0949	0.25	Q V	|	|	|	|
5+25	0.0967	0.25	Q V	|	|	|	|
5+30	0.0984	0.25	Q V	|	|	|	|
5+35	0.1001	0.25	Q V	|	|	|	|
5+40	0.1019	0.25	Q V	|	|	|	|
5+45	0.1037	0.26	Q V	|	|	|	|
5+50	0.1054	0.26	Q V	|	|	|	|
5+55	0.1072	0.26	Q V	|	|	|	|
6+ 0	0.1090	0.26	Q V	|	|	|	|
6+ 5	0.1108	0.26	Q V	|	|	|	|
6+10	0.1126	0.26	Q V	|	|	|	|
6+15	0.1144	0.26	Q V	|	|	|	|
6+20	0.1163	0.27	Q V	|	|	|	|
6+25	0.1181	0.27	Q V	|	|	|	|
6+30	0.1200	0.27	Q V	|	|	|	|
6+35	0.1218	0.27	Q V	|	|	|	|
6+40	0.1237	0.27	Q V	|	|	|	|

6+45	0.1256	0.27	Q	V	|	|	|	|
6+50	0.1274	0.27	Q	V	|	|	|	|
6+55	0.1293	0.28	Q	V	|	|	|	|
7+ 0	0.1313	0.28	Q	V	|	|	|	|
7+ 5	0.1332	0.28	Q	V	|	|	|	|
7+10	0.1351	0.28	Q	V	|	|	|	|
7+15	0.1371	0.28	Q	V	|	|	|	|
7+20	0.1390	0.28	Q	V	|	|	|	|
7+25	0.1410	0.29	Q	V	|	|	|	|
7+30	0.1430	0.29	Q	V	|	|	|	|
7+35	0.1449	0.29	Q	V	|	|	|	|
7+40	0.1470	0.29	Q	V	|	|	|	|
7+45	0.1490	0.29	Q	V	|	|	|	|
7+50	0.1510	0.29	Q	V	|	|	|	|
7+55	0.1530	0.30	Q	V	|	|	|	|
8+ 0	0.1551	0.30	Q	V	|	|	|	|
8+ 5	0.1572	0.30	Q	V	|	|	|	|
8+10	0.1592	0.30	Q	V	|	|	|	|
8+15	0.1613	0.30	Q	V	|	|	|	|
8+20	0.1634	0.31	Q	V	|	|	|	|
8+25	0.1656	0.31	Q	V	|	|	|	|
8+30	0.1677	0.31	Q	V	|	|	|	|
8+35	0.1698	0.31	Q	V	|	|	|	|
8+40	0.1720	0.31	Q	V	|	|	|	|
8+45	0.1742	0.32	Q	V	|	|	|	|
8+50	0.1764	0.32	Q	V	|	|	|	|
8+55	0.1786	0.32	Q	V	|	|	|	|
9+ 0	0.1808	0.32	Q	V	|	|	|	|
9+ 5	0.1831	0.33	Q	V	|	|	|	|
9+10	0.1853	0.33	Q	V	|	|	|	|
9+15	0.1876	0.33	Q	V	|	|	|	|
9+20	0.1899	0.33	Q	V	|	|	|	|
9+25	0.1922	0.34	Q	V	|	|	|	|
9+30	0.1946	0.34	Q	V	|	|	|	|
9+35	0.1969	0.34	Q	V	|	|	|	|
9+40	0.1993	0.34	Q	V	|	|	|	|
9+45	0.2017	0.35	Q	V	|	|	|	|
9+50	0.2041	0.35	Q	V	|	|	|	|
9+55	0.2065	0.35	Q	V	|	|	|	|
10+ 0	0.2090	0.36	Q	V	|	|	|	|
10+ 5	0.2114	0.36	Q	V	|	|	|	|
10+10	0.2139	0.36	Q	V	|	|	|	|
10+15	0.2164	0.36	Q	V	|	|	|	|
10+20	0.2190	0.37	Q	V	|	|	|	|
10+25	0.2215	0.37	Q	V	|	|	|	|
10+30	0.2241	0.38	Q	V	|	|	|	|
10+35	0.2267	0.38	Q	V	|	|	|	|
10+40	0.2294	0.38	Q	V	|	|	|	|
10+45	0.2320	0.39	Q	V	|	|	|	|
10+50	0.2347	0.39	Q	V	|	|	|	|
10+55	0.2374	0.39	Q	V	|	|	|	|
11+ 0	0.2401	0.40	Q	V	|	|	|	|
11+ 5	0.2429	0.40	Q	V	|	|	|	|
11+10	0.2457	0.41	Q	V	|	|	|	|
11+15	0.2485	0.41	Q	V	|	|	|	|
11+20	0.2514	0.41	Q	V	|	|	|	|
11+25	0.2542	0.42	Q	V	|	|	|	|
11+30	0.2572	0.42	Q	V	|	|	|	|
11+35	0.2601	0.43	Q	V	|	|	|	|
11+40	0.2631	0.43	Q	V	|	|	|	|
11+45	0.2661	0.44	Q	V	|	|	|	|
11+50	0.2692	0.44	Q	V	|	|	|	|
11+55	0.2723	0.45	Q	V	|	|	|	|



12+ 0	0.2754	0.45	Q V | | |
12+ 5	0.2787	0.48	Q V | | |
12+10	0.2825	0.55	|Q V | | |
12+15	0.2864	0.58	|Q V | | |
12+20	0.2905	0.59	|Q |V | | |
12+25	0.2947	0.60	|Q |V | | |
12+30	0.2989	0.61	|Q |V | | |
12+35	0.3032	0.62	|Q |V | | |
12+40	0.3075	0.63	|Q |V | | |
12+45	0.3119	0.64	|Q |V | | |
12+50	0.3163	0.65	|Q |V | | |
12+55	0.3208	0.65	|Q | V | | |
13+ 0	0.3254	0.66	|Q | V | | |
13+ 5	0.3300	0.67	|Q | V | | |
13+10	0.3347	0.68	|Q | V | | |
13+15	0.3395	0.69	|Q | V | | |
13+20	0.3443	0.70	|Q | V | | |
13+25	0.3493	0.71	|Q | V | | |
13+30	0.3543	0.73	|Q | V | | |
13+35	0.3593	0.74	|Q | V | | |
13+40	0.3645	0.75	|Q | V | | |
13+45	0.3698	0.76	|Q | V | | |
13+50	0.3752	0.78	|Q | V | | |
13+55	0.3806	0.79	|Q | V | | |
14+ 0	0.3862	0.81	|Q | V | | |
14+ 5	0.3919	0.83	|Q | V | | |
14+10	0.3978	0.85	|Q | V | | |
14+15	0.4037	0.87	|Q | V | | |
14+20	0.4099	0.89	|Q | V | | |
14+25	0.4162	0.91	|Q | V | | |
14+30	0.4226	0.94	|Q | V | | |
14+35	0.4292	0.96	|Q | V | | |
14+40	0.4361	0.99	|Q | V | | |
14+45	0.4431	1.02	| Q | V | | |
14+50	0.4503	1.05	| Q | V | | |
14+55	0.4578	1.09	| Q | V | | |
15+ 0	0.4656	1.13	| Q | V | | |
15+ 5	0.4737	1.17	| Q | V | | |
15+10	0.4821	1.23	| Q | V | | |
15+15	0.4910	1.28	| Q | V | | |
15+20	0.5003	1.35	| Q | V | | |
15+25	0.5099	1.40	| Q | V| | |
15+30	0.5195	1.39	| Q | V| | |
15+35	0.5296	1.46	| Q | V | |
15+40	0.5407	1.61	| Q | V | |
15+45	0.5530	1.78	| Q | V | |
15+50	0.5673	2.08	| Q | |V | |
15+55	0.5844	2.48	| Q | | V | |
16+ 0	0.6074	3.35	| Q | | V | |
16+ 5	0.6467	5.71	| |Q | V | |
16+10	0.7156	10.00	| | Q V | |
16+15	0.7515	5.21	| Q | V | |
16+20	0.7734	3.18	| Q | | V| |
16+25	0.7881	2.13	| Q | | V| |
16+30	0.7999	1.71	| Q | | V |
16+35	0.8101	1.48	| Q | | V |
16+40	0.8190	1.30	| Q | | |V |
16+45	0.8271	1.17	| Q | | |V |
16+50	0.8345	1.08	| Q | | |V |
16+55	0.8415	1.01	| Q | | |V |
17+ 0	0.8481	0.96	|Q | | | V |
17+ 5	0.8543	0.91	|Q | | | V |
17+10	0.8602	0.86	|Q | | | V |

17+15	0.8659	0.82	Q			V
17+20	0.8713	0.79	Q			V
17+25	0.8766	0.76	Q			V
17+30	0.8816	0.73	Q			V
17+35	0.8865	0.71	Q			V
17+40	0.8913	0.69	Q			V
17+45	0.8959	0.67	Q			V
17+50	0.9004	0.65	Q			V
17+55	0.9047	0.63	Q			V
18+ 0	0.9090	0.62	Q			V
18+ 5	0.9130	0.59	Q			V
18+10	0.9165	0.51	Q			V
18+15	0.9198	0.47	Q			V
18+20	0.9229	0.45	Q			V
18+25	0.9259	0.44	Q			V
18+30	0.9289	0.43	Q			V
18+35	0.9317	0.42	Q			V
18+40	0.9346	0.41	Q			V
18+45	0.9373	0.40	Q			V
18+50	0.9400	0.39	Q			V
18+55	0.9427	0.38	Q			V
19+ 0	0.9453	0.38	Q			V
19+ 5	0.9478	0.37	Q			V
19+10	0.9503	0.36	Q			V
19+15	0.9528	0.36	Q			V
19+20	0.9552	0.35	Q			V
19+25	0.9576	0.35	Q			V
19+30	0.9599	0.34	Q			V
19+35	0.9622	0.34	Q			V
19+40	0.9645	0.33	Q			V
19+45	0.9667	0.33	Q			V
19+50	0.9689	0.32	Q			V
19+55	0.9711	0.32	Q			V
20+ 0	0.9733	0.31	Q			V
20+ 5	0.9754	0.31	Q			V
20+10	0.9775	0.30	Q			V
20+15	0.9795	0.30	Q			V
20+20	0.9816	0.30	Q			V
20+25	0.9836	0.29	Q			V
20+30	0.9856	0.29	Q			V
20+35	0.9875	0.28	Q			V
20+40	0.9895	0.28	Q			V
20+45	0.9914	0.28	Q			V
20+50	0.9933	0.28	Q			V
20+55	0.9952	0.27	Q			V
21+ 0	0.9970	0.27	Q			V
21+ 5	0.9988	0.27	Q			V
21+10	1.0007	0.26	Q			V
21+15	1.0025	0.26	Q			V
21+20	1.0042	0.26	Q			V
21+25	1.0060	0.26	Q			V
21+30	1.0077	0.25	Q			V
21+35	1.0095	0.25	Q			V
21+40	1.0112	0.25	Q			V
21+45	1.0129	0.25	Q			V
21+50	1.0145	0.24	Q			V
21+55	1.0162	0.24	Q			V
22+ 0	1.0178	0.24	Q			V
22+ 5	1.0195	0.24	Q			V
22+10	1.0211	0.23	Q			V
22+15	1.0227	0.23	Q			V
22+20	1.0243	0.23	Q			V
22+25	1.0259	0.23	Q			V

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   22+30       1.0274      0.23  Q          |          |          |        V |
   22+35       1.0290      0.23  Q          |          |          |        V |
   22+40       1.0305      0.22  Q          |          |          |         V|
   22+45       1.0320      0.22  Q          |          |          |         V|
   22+50       1.0336      0.22  Q          |          |          |         V|
   22+55       1.0351      0.22  Q          |          |          |         V|
   23+ 0       1.0366      0.22  Q          |          |          |         V|
   23+ 5       1.0380      0.21  Q          |          |          |         V|
   23+10       1.0395      0.21  Q          |          |          |         V|
   23+15       1.0410      0.21  Q          |          |          |         V|
   23+20       1.0424      0.21  Q          |          |          |         V|
   23+25       1.0438      0.21  Q          |          |          |         V|
   23+30       1.0453      0.21  Q          |          |          |         V|
   23+35       1.0467      0.21  Q          |          |          |         V|
   23+40       1.0481      0.20  Q          |          |          |         V|
   23+45       1.0495      0.20  Q          |          |          |         V|
   23+50       1.0509      0.20  Q          |          |          |         V|
   23+55       1.0523      0.20  Q          |          |          |         V|
   24+ 0       1.0536      0.20  Q          |          |          |         V|
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APPENDIX D

UNIT HYDROGRAPH
PROPOSED CONDITION

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989-2018, Version 9.0

Study date 09/26/25 File Name prkosh.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6615

23161 Mill Creek Development
PROPOSED CONDITION UNIT HYDROGRAPH 100-YEAR 24 HOUR STORM EVENT
by KAM 092625

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used
++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
75.0	2.4	1.00	D	0.200	0.270	0.054

Area-averaged adjusted loss rate Fm (In/Hr) = 0.054

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.65	0.270	75.0	91.0	0.99	0.816
1.75	0.730	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.920
Area-averaged low loss fraction, Yb = 0.080
++
User entry of time of concentration = 0.118 (hours)
Watershed area = 2.40(Ac.)
Catchment Lag time = 0.094 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 88.2768
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.054(In/Hr)
Average low loss rate fraction (Yb) = 0.080 (decimal)
FOOTHILL S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)

Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 2.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
(K = 29.02 (CFS))		
1	10.845	3.148
2	63.629	15.321
3	85.010	6.206
4	93.781	2.546
5	97.635	1.119
6	98.834	0.348
7	99.488	0.190
8	100.000	0.149

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5199	0.5199
2	0.6923	0.1724
3	0.8185	0.1262
4	0.9218	0.1033
5	1.0108	0.0890
6	1.0899	0.0791
7	1.1613	0.0714
8	1.2269	0.0656
9	1.2879	0.0610
10	1.3450	0.0571
11	1.3988	0.0538
12	1.4498	0.0510
13	1.5054	0.0556
14	1.5588	0.0534
15	1.6102	0.0514
16	1.6598	0.0496
17	1.7078	0.0480
18	1.7543	0.0465
19	1.7994	0.0452
20	1.8433	0.0439
21	1.8861	0.0428
22	1.9278	0.0417
23	1.9685	0.0407
24	2.0083	0.0398
25	2.0472	0.0389
26	2.0853	0.0381
27	2.1226	0.0373
28	2.1592	0.0366
29	2.1951	0.0359
30	2.2304	0.0353

31	2.2650	0.0346
32	2.2991	0.0341
33	2.3326	0.0335
34	2.3655	0.0330
35	2.3980	0.0325
36	2.4300	0.0320
37	2.4613	0.0313
38	2.4922	0.0309
39	2.5226	0.0304
40	2.5527	0.0300
41	2.5823	0.0296
42	2.6116	0.0293
43	2.6404	0.0289
44	2.6690	0.0285
45	2.6972	0.0282
46	2.7250	0.0279
47	2.7526	0.0275
48	2.7798	0.0272
49	2.8067	0.0269
50	2.8333	0.0266
51	2.8597	0.0264
52	2.8858	0.0261
53	2.9116	0.0258
54	2.9371	0.0256
55	2.9624	0.0253
56	2.9875	0.0251
57	3.0123	0.0248
58	3.0369	0.0246
59	3.0613	0.0244
60	3.0854	0.0241
61	3.1094	0.0239
62	3.1331	0.0237
63	3.1566	0.0235
64	3.1800	0.0233
65	3.2031	0.0231
66	3.2260	0.0229
67	3.2488	0.0228
68	3.2714	0.0226
69	3.2938	0.0224
70	3.3160	0.0222
71	3.3381	0.0221
72	3.3600	0.0219
73	3.3773	0.0173
74	3.3944	0.0172
75	3.4114	0.0170
76	3.4283	0.0169
77	3.4450	0.0167
78	3.4616	0.0166
79	3.4781	0.0165
80	3.4944	0.0163
81	3.5106	0.0162
82	3.5267	0.0161
83	3.5426	0.0160
84	3.5585	0.0158
85	3.5742	0.0157
86	3.5898	0.0156
87	3.6053	0.0155
88	3.6206	0.0154
89	3.6359	0.0153
90	3.6511	0.0152
91	3.6661	0.0151
92	3.6811	0.0149
93	3.6959	0.0148

94	3.7107	0.0147
95	3.7253	0.0146
96	3.7399	0.0146
97	3.7543	0.0145
98	3.7687	0.0144
99	3.7830	0.0143
100	3.7971	0.0142
101	3.8112	0.0141
102	3.8252	0.0140
103	3.8392	0.0139
104	3.8530	0.0138
105	3.8668	0.0138
106	3.8804	0.0137
107	3.8940	0.0136
108	3.9075	0.0135
109	3.9210	0.0134
110	3.9343	0.0134
111	3.9476	0.0133
112	3.9608	0.0132
113	3.9739	0.0131
114	3.9870	0.0131
115	4.0000	0.0130
116	4.0129	0.0129
117	4.0257	0.0128
118	4.0385	0.0128
119	4.0512	0.0127
120	4.0639	0.0126
121	4.0764	0.0126
122	4.0890	0.0125
123	4.1014	0.0124
124	4.1138	0.0124
125	4.1261	0.0123
126	4.1384	0.0123
127	4.1506	0.0122
128	4.1627	0.0121
129	4.1748	0.0121
130	4.1868	0.0120
131	4.1988	0.0120
132	4.2107	0.0119
133	4.2225	0.0118
134	4.2343	0.0118
135	4.2461	0.0117
136	4.2577	0.0117
137	4.2694	0.0116
138	4.2809	0.0116
139	4.2925	0.0115
140	4.3039	0.0115
141	4.3154	0.0114
142	4.3267	0.0114
143	4.3381	0.0113
144	4.3493	0.0113
145	4.3605	0.0112
146	4.3717	0.0112
147	4.3828	0.0111
148	4.3939	0.0111
149	4.4050	0.0110
150	4.4159	0.0110
151	4.4269	0.0109
152	4.4378	0.0109
153	4.4486	0.0108
154	4.4594	0.0108
155	4.4702	0.0108
156	4.4809	0.0107

157	4.4916	0.0107
158	4.5022	0.0106
159	4.5128	0.0106
160	4.5233	0.0105
161	4.5338	0.0105
162	4.5443	0.0105
163	4.5547	0.0104
164	4.5651	0.0104
165	4.5755	0.0103
166	4.5858	0.0103
167	4.5960	0.0103
168	4.6063	0.0102
169	4.6165	0.0102
170	4.6266	0.0102
171	4.6367	0.0101
172	4.6468	0.0101
173	4.6568	0.0100
174	4.6668	0.0100
175	4.6768	0.0100
176	4.6867	0.0099
177	4.6966	0.0099
178	4.7065	0.0099
179	4.7163	0.0098
180	4.7261	0.0098
181	4.7359	0.0098
182	4.7456	0.0097
183	4.7553	0.0097
184	4.7650	0.0097
185	4.7746	0.0096
186	4.7842	0.0096
187	4.7937	0.0096
188	4.8033	0.0095
189	4.8128	0.0095
190	4.8222	0.0095
191	4.8317	0.0094
192	4.8411	0.0094
193	4.8504	0.0094
194	4.8598	0.0093
195	4.8691	0.0093
196	4.8784	0.0093
197	4.8876	0.0093
198	4.8969	0.0092
199	4.9060	0.0092
200	4.9152	0.0092
201	4.9243	0.0091
202	4.9335	0.0091
203	4.9425	0.0091
204	4.9516	0.0091
205	4.9606	0.0090
206	4.9696	0.0090
207	4.9786	0.0090
208	4.9875	0.0089
209	4.9964	0.0089
210	5.0053	0.0089
211	5.0142	0.0089
212	5.0230	0.0088
213	5.0318	0.0088
214	5.0406	0.0088
215	5.0494	0.0088
216	5.0581	0.0087
217	5.0668	0.0087
218	5.0755	0.0087
219	5.0841	0.0087

220	5.0928	0.0086
221	5.1014	0.0086
222	5.1100	0.0086
223	5.1185	0.0086
224	5.1271	0.0085
225	5.1356	0.0085
226	5.1441	0.0085
227	5.1525	0.0085
228	5.1610	0.0084
229	5.1694	0.0084
230	5.1778	0.0084
231	5.1861	0.0084
232	5.1945	0.0083
233	5.2028	0.0083
234	5.2111	0.0083
235	5.2194	0.0083
236	5.2277	0.0083
237	5.2359	0.0082
238	5.2441	0.0082
239	5.2523	0.0082
240	5.2605	0.0082
241	5.2686	0.0082
242	5.2768	0.0081
243	5.2849	0.0081
244	5.2929	0.0081
245	5.3010	0.0081
246	5.3091	0.0080
247	5.3171	0.0080
248	5.3251	0.0080
249	5.3331	0.0080
250	5.3410	0.0080
251	5.3490	0.0079
252	5.3569	0.0079
253	5.3648	0.0079
254	5.3727	0.0079
255	5.3806	0.0079
256	5.3884	0.0078
257	5.3962	0.0078
258	5.4041	0.0078
259	5.4118	0.0078
260	5.4196	0.0078
261	5.4274	0.0078
262	5.4351	0.0077
263	5.4428	0.0077
264	5.4505	0.0077
265	5.4582	0.0077
266	5.4658	0.0077
267	5.4735	0.0076
268	5.4811	0.0076
269	5.4887	0.0076
270	5.4963	0.0076
271	5.5039	0.0076
272	5.5114	0.0076
273	5.5190	0.0075
274	5.5265	0.0075
275	5.5340	0.0075
276	5.5415	0.0075
277	5.5489	0.0075
278	5.5564	0.0075
279	5.5638	0.0074
280	5.5712	0.0074
281	5.5786	0.0074
282	5.5860	0.0074

283	5.5934	0.0074
284	5.6007	0.0074
285	5.6081	0.0073
286	5.6154	0.0073
287	5.6227	0.0073
288	5.6300	0.0073

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0073	0.0006	0.0067
2	0.0073	0.0006	0.0067
3	0.0073	0.0006	0.0067
4	0.0074	0.0006	0.0068
5	0.0074	0.0006	0.0068
6	0.0074	0.0006	0.0068
7	0.0074	0.0006	0.0068
8	0.0075	0.0006	0.0069
9	0.0075	0.0006	0.0069
10	0.0075	0.0006	0.0069
11	0.0075	0.0006	0.0069
12	0.0076	0.0006	0.0069
13	0.0076	0.0006	0.0070
14	0.0076	0.0006	0.0070
15	0.0076	0.0006	0.0070
16	0.0077	0.0006	0.0070
17	0.0077	0.0006	0.0071
18	0.0077	0.0006	0.0071
19	0.0078	0.0006	0.0071
20	0.0078	0.0006	0.0071
21	0.0078	0.0006	0.0072
22	0.0078	0.0006	0.0072
23	0.0079	0.0006	0.0072
24	0.0079	0.0006	0.0073
25	0.0079	0.0006	0.0073
26	0.0079	0.0006	0.0073
27	0.0080	0.0006	0.0073
28	0.0080	0.0006	0.0074
29	0.0080	0.0006	0.0074
30	0.0081	0.0006	0.0074
31	0.0081	0.0007	0.0075
32	0.0081	0.0007	0.0075
33	0.0082	0.0007	0.0075
34	0.0082	0.0007	0.0075
35	0.0082	0.0007	0.0076
36	0.0083	0.0007	0.0076
37	0.0083	0.0007	0.0076
38	0.0083	0.0007	0.0077
39	0.0084	0.0007	0.0077
40	0.0084	0.0007	0.0077
41	0.0084	0.0007	0.0078
42	0.0085	0.0007	0.0078
43	0.0085	0.0007	0.0078
44	0.0085	0.0007	0.0078
45	0.0086	0.0007	0.0079
46	0.0086	0.0007	0.0079
47	0.0087	0.0007	0.0080
48	0.0087	0.0007	0.0080
49	0.0087	0.0007	0.0080
50	0.0088	0.0007	0.0081
51	0.0088	0.0007	0.0081
52	0.0088	0.0007	0.0081

53	0.0089	0.0007	0.0082
54	0.0089	0.0007	0.0082
55	0.0090	0.0007	0.0082
56	0.0090	0.0007	0.0083
57	0.0091	0.0007	0.0083
58	0.0091	0.0007	0.0083
59	0.0091	0.0007	0.0084
60	0.0092	0.0007	0.0084
61	0.0092	0.0007	0.0085
62	0.0093	0.0007	0.0085
63	0.0093	0.0007	0.0086
64	0.0093	0.0008	0.0086
65	0.0094	0.0008	0.0086
66	0.0094	0.0008	0.0087
67	0.0095	0.0008	0.0087
68	0.0095	0.0008	0.0088
69	0.0096	0.0008	0.0088
70	0.0096	0.0008	0.0089
71	0.0097	0.0008	0.0089
72	0.0097	0.0008	0.0089
73	0.0098	0.0008	0.0090
74	0.0098	0.0008	0.0090
75	0.0099	0.0008	0.0091
76	0.0099	0.0008	0.0091
77	0.0100	0.0008	0.0092
78	0.0100	0.0008	0.0092
79	0.0101	0.0008	0.0093
80	0.0102	0.0008	0.0093
81	0.0102	0.0008	0.0094
82	0.0103	0.0008	0.0094
83	0.0103	0.0008	0.0095
84	0.0104	0.0008	0.0095
85	0.0105	0.0008	0.0096
86	0.0105	0.0008	0.0097
87	0.0106	0.0009	0.0097
88	0.0106	0.0009	0.0098
89	0.0107	0.0009	0.0099
90	0.0108	0.0009	0.0099
91	0.0108	0.0009	0.0100
92	0.0109	0.0009	0.0100
93	0.0110	0.0009	0.0101
94	0.0110	0.0009	0.0101
95	0.0111	0.0009	0.0102
96	0.0112	0.0009	0.0103
97	0.0113	0.0009	0.0104
98	0.0113	0.0009	0.0104
99	0.0114	0.0009	0.0105
100	0.0115	0.0009	0.0105
101	0.0116	0.0009	0.0106
102	0.0116	0.0009	0.0107
103	0.0117	0.0009	0.0108
104	0.0118	0.0009	0.0108
105	0.0119	0.0010	0.0109
106	0.0120	0.0010	0.0110
107	0.0121	0.0010	0.0111
108	0.0121	0.0010	0.0112
109	0.0123	0.0010	0.0113
110	0.0123	0.0010	0.0113
111	0.0124	0.0010	0.0114
112	0.0125	0.0010	0.0115
113	0.0126	0.0010	0.0116
114	0.0127	0.0010	0.0117
115	0.0128	0.0010	0.0118

116	0.0129	0.0010	0.0119
117	0.0131	0.0011	0.0120
118	0.0131	0.0011	0.0121
119	0.0133	0.0011	0.0122
120	0.0134	0.0011	0.0123
121	0.0135	0.0011	0.0124
122	0.0136	0.0011	0.0125
123	0.0138	0.0011	0.0126
124	0.0138	0.0011	0.0127
125	0.0140	0.0011	0.0129
126	0.0141	0.0011	0.0130
127	0.0143	0.0011	0.0131
128	0.0144	0.0012	0.0132
129	0.0146	0.0012	0.0134
130	0.0146	0.0012	0.0135
131	0.0148	0.0012	0.0137
132	0.0149	0.0012	0.0137
133	0.0152	0.0012	0.0139
134	0.0153	0.0012	0.0140
135	0.0155	0.0012	0.0142
136	0.0156	0.0013	0.0143
137	0.0158	0.0013	0.0146
138	0.0160	0.0013	0.0147
139	0.0162	0.0013	0.0149
140	0.0163	0.0013	0.0150
141	0.0166	0.0013	0.0153
142	0.0167	0.0013	0.0154
143	0.0170	0.0014	0.0156
144	0.0172	0.0014	0.0158
145	0.0219	0.0018	0.0201
146	0.0221	0.0018	0.0203
147	0.0224	0.0018	0.0206
148	0.0226	0.0018	0.0208
149	0.0229	0.0018	0.0211
150	0.0231	0.0019	0.0213
151	0.0235	0.0019	0.0216
152	0.0237	0.0019	0.0218
153	0.0241	0.0019	0.0222
154	0.0244	0.0020	0.0224
155	0.0248	0.0020	0.0228
156	0.0251	0.0020	0.0230
157	0.0256	0.0021	0.0235
158	0.0258	0.0021	0.0237
159	0.0264	0.0021	0.0242
160	0.0266	0.0021	0.0245
161	0.0272	0.0022	0.0250
162	0.0275	0.0022	0.0253
163	0.0282	0.0023	0.0259
164	0.0285	0.0023	0.0262
165	0.0293	0.0024	0.0269
166	0.0296	0.0024	0.0273
167	0.0304	0.0024	0.0280
168	0.0309	0.0025	0.0284
169	0.0320	0.0026	0.0294
170	0.0325	0.0026	0.0298
171	0.0335	0.0027	0.0308
172	0.0341	0.0027	0.0313
173	0.0353	0.0028	0.0324
174	0.0359	0.0029	0.0330
175	0.0373	0.0030	0.0343
176	0.0381	0.0031	0.0350
177	0.0398	0.0032	0.0366
178	0.0407	0.0033	0.0374

179	0.0428	0.0034	0.0393
180	0.0439	0.0035	0.0404
181	0.0465	0.0037	0.0428
182	0.0480	0.0039	0.0441
183	0.0514	0.0041	0.0472
184	0.0534	0.0043	0.0491
185	0.0510	0.0041	0.0469
186	0.0538	0.0043	0.0495
187	0.0610	0.0045	0.0565
188	0.0656	0.0045	0.0611
189	0.0791	0.0045	0.0746
190	0.0890	0.0045	0.0845
191	0.1262	0.0045	0.1217
192	0.1724	0.0045	0.1679
193	0.5199	0.0045	0.5154
194	0.1033	0.0045	0.0988
195	0.0714	0.0045	0.0669
196	0.0571	0.0045	0.0526
197	0.0556	0.0045	0.0511
198	0.0496	0.0040	0.0456
199	0.0452	0.0036	0.0415
200	0.0417	0.0034	0.0383
201	0.0389	0.0031	0.0358
202	0.0366	0.0029	0.0337
203	0.0346	0.0028	0.0319
204	0.0330	0.0027	0.0303
205	0.0313	0.0025	0.0288
206	0.0300	0.0024	0.0276
207	0.0289	0.0023	0.0266
208	0.0279	0.0022	0.0256
209	0.0269	0.0022	0.0248
210	0.0261	0.0021	0.0240
211	0.0253	0.0020	0.0233
212	0.0246	0.0020	0.0226
213	0.0239	0.0019	0.0220
214	0.0233	0.0019	0.0215
215	0.0228	0.0018	0.0209
216	0.0222	0.0018	0.0204
217	0.0173	0.0014	0.0159
218	0.0169	0.0014	0.0155
219	0.0165	0.0013	0.0151
220	0.0161	0.0013	0.0148
221	0.0157	0.0013	0.0145
222	0.0154	0.0012	0.0141
223	0.0151	0.0012	0.0138
224	0.0147	0.0012	0.0136
225	0.0145	0.0012	0.0133
226	0.0142	0.0011	0.0130
227	0.0139	0.0011	0.0128
228	0.0137	0.0011	0.0126
229	0.0134	0.0011	0.0124
230	0.0132	0.0011	0.0121
231	0.0130	0.0010	0.0119
232	0.0128	0.0010	0.0117
233	0.0126	0.0010	0.0116
234	0.0124	0.0010	0.0114
235	0.0122	0.0010	0.0112
236	0.0120	0.0010	0.0111
237	0.0118	0.0010	0.0109
238	0.0117	0.0009	0.0107
239	0.0115	0.0009	0.0106
240	0.0114	0.0009	0.0105
241	0.0112	0.0009	0.0103

242	0.0111	0.0009	0.0102
243	0.0109	0.0009	0.0101
244	0.0108	0.0009	0.0099
245	0.0107	0.0009	0.0098
246	0.0105	0.0008	0.0097
247	0.0104	0.0008	0.0096
248	0.0103	0.0008	0.0095
249	0.0102	0.0008	0.0094
250	0.0101	0.0008	0.0093
251	0.0100	0.0008	0.0092
252	0.0099	0.0008	0.0091
253	0.0098	0.0008	0.0090
254	0.0097	0.0008	0.0089
255	0.0096	0.0008	0.0088
256	0.0095	0.0008	0.0087
257	0.0094	0.0008	0.0086
258	0.0093	0.0007	0.0085
259	0.0092	0.0007	0.0085
260	0.0091	0.0007	0.0084
261	0.0090	0.0007	0.0083
262	0.0089	0.0007	0.0082
263	0.0089	0.0007	0.0081
264	0.0088	0.0007	0.0081
265	0.0087	0.0007	0.0080
266	0.0086	0.0007	0.0079
267	0.0086	0.0007	0.0079
268	0.0085	0.0007	0.0078
269	0.0084	0.0007	0.0077
270	0.0083	0.0007	0.0077
271	0.0083	0.0007	0.0076
272	0.0082	0.0007	0.0076
273	0.0082	0.0007	0.0075
274	0.0081	0.0007	0.0074
275	0.0080	0.0006	0.0074
276	0.0080	0.0006	0.0073
277	0.0079	0.0006	0.0073
278	0.0078	0.0006	0.0072
279	0.0078	0.0006	0.0072
280	0.0077	0.0006	0.0071
281	0.0077	0.0006	0.0071
282	0.0076	0.0006	0.0070
283	0.0076	0.0006	0.0070
284	0.0075	0.0006	0.0069
285	0.0075	0.0006	0.0069
286	0.0074	0.0006	0.0068
287	0.0074	0.0006	0.0068
288	0.0073	0.0006	0.0067

Total soil rain loss = 0.39(In)
Total effective rainfall = 5.24(In)
Peak flow rate in flood hydrograph = 9.70(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

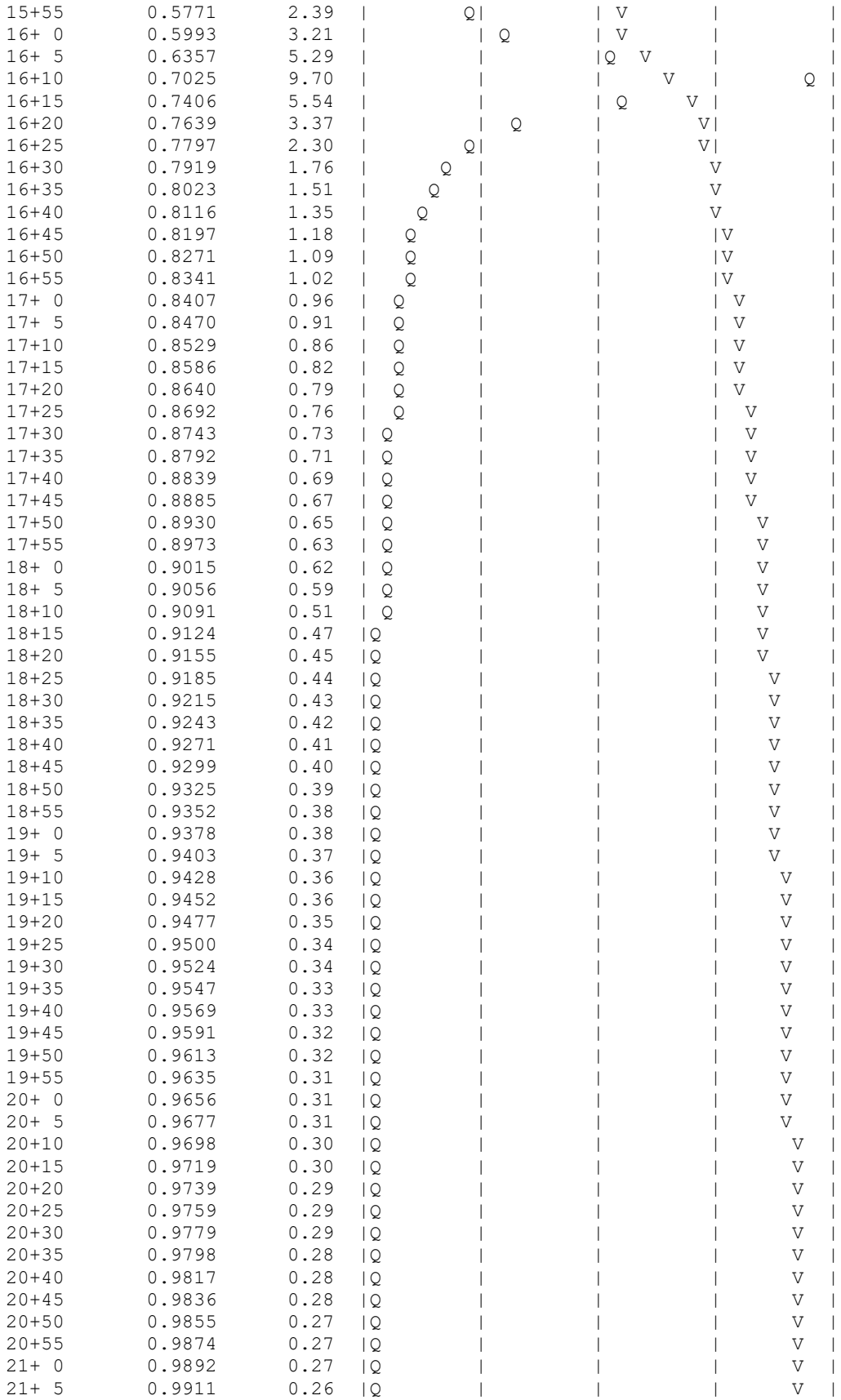
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q	|	|	|	|

0+10	0.0010	0.12	Q	|	|	|	|
0+15	0.0021	0.17	Q	|	|	|	|
0+20	0.0034	0.18	Q	|	|	|	|
0+25	0.0047	0.19	Q	|	|	|	|
0+30	0.0061	0.19	Q	|	|	|	|
0+35	0.0074	0.20	Q	|	|	|	|
0+40	0.0088	0.20	Q	|	|	|	|
0+45	0.0101	0.20	Q	|	|	|	|
0+50	0.0115	0.20	Q	|	|	|	|
0+55	0.0129	0.20	Q	|	|	|	|
1+ 0	0.0143	0.20	Q	|	|	|	|
1+ 5	0.0157	0.20	Q	|	|	|	|
1+10	0.0171	0.20	Q	|	|	|	|
1+15	0.0184	0.20	Q	|	|	|	|
1+20	0.0199	0.20	Q	|	|	|	|
1+25	0.0213	0.20	Q	|	|	|	|
1+30	0.0227	0.20	Q	|	|	|	|
1+35	0.0241	0.21	Q	|	|	|	|
1+40	0.0255	0.21	Q	|	|	|	|
1+45	0.0269	0.21	QV	|	|	|	|
1+50	0.0284	0.21	QV	|	|	|	|
1+55	0.0298	0.21	QV	|	|	|	|
2+ 0	0.0312	0.21	QV	|	|	|	|
2+ 5	0.0327	0.21	QV	|	|	|	|
2+10	0.0341	0.21	QV	|	|	|	|
2+15	0.0356	0.21	QV	|	|	|	|
2+20	0.0371	0.21	QV	|	|	|	|
2+25	0.0385	0.21	QV	|	|	|	|
2+30	0.0400	0.21	QV	|	|	|	|
2+35	0.0415	0.21	QV	|	|	|	|
2+40	0.0430	0.22	QV	|	|	|	|
2+45	0.0445	0.22	QV	|	|	|	|
2+50	0.0460	0.22	QV	|	|	|	|
2+55	0.0475	0.22	QV	|	|	|	|
3+ 0	0.0490	0.22	QV	|	|	|	|
3+ 5	0.0505	0.22	QV	|	|	|	|
3+10	0.0520	0.22	QV	|	|	|	|
3+15	0.0536	0.22	Q V	|	|	|	|
3+20	0.0551	0.22	Q V	|	|	|	|
3+25	0.0566	0.22	Q V	|	|	|	|
3+30	0.0582	0.22	Q V	|	|	|	|
3+35	0.0597	0.23	Q V	|	|	|	|
3+40	0.0613	0.23	Q V	|	|	|	|
3+45	0.0629	0.23	Q V	|	|	|	|
3+50	0.0644	0.23	Q V	|	|	|	|
3+55	0.0660	0.23	Q V	|	|	|	|
4+ 0	0.0676	0.23	Q V	|	|	|	|
4+ 5	0.0692	0.23	Q V	|	|	|	|
4+10	0.0708	0.23	Q V	|	|	|	|
4+15	0.0724	0.23	Q V	|	|	|	|
4+20	0.0740	0.23	Q V	|	|	|	|
4+25	0.0756	0.24	Q V	|	|	|	|
4+30	0.0773	0.24	Q V	|	|	|	|
4+35	0.0789	0.24	Q V	|	|	|	|
4+40	0.0805	0.24	Q V	|	|	|	|
4+45	0.0822	0.24	Q V	|	|	|	|
4+50	0.0838	0.24	Q V	|	|	|	|
4+55	0.0855	0.24	Q V	|	|	|	|
5+ 0	0.0872	0.24	Q V	|	|	|	|
5+ 5	0.0889	0.24	Q V	|	|	|	|
5+10	0.0906	0.25	Q V	|	|	|	|
5+15	0.0923	0.25	Q V	|	|	|	|
5+20	0.0940	0.25	Q V	|	|	|	|

5+25	0.0957	0.25	Q V				
5+30	0.0974	0.25	|Q V				
5+35	0.0991	0.25	|Q V				
5+40	0.1009	0.25	|Q V				
5+45	0.1026	0.25	|Q V				
5+50	0.1044	0.26	|Q V				
5+55	0.1061	0.26	|Q V				
6+ 0	0.1079	0.26	|Q V				
6+ 5	0.1097	0.26	|Q V				
6+10	0.1115	0.26	|Q V				
6+15	0.1133	0.26	|Q V				
6+20	0.1151	0.26	|Q V				
6+25	0.1169	0.26	|Q V				
6+30	0.1188	0.27	|Q V				
6+35	0.1206	0.27	|Q V				
6+40	0.1225	0.27	|Q V				
6+45	0.1243	0.27	|Q V				
6+50	0.1262	0.27	|Q V				
6+55	0.1281	0.27	|Q V				
7+ 0	0.1300	0.28	|Q V				
7+ 5	0.1319	0.28	|Q V				
7+10	0.1338	0.28	|Q V				
7+15	0.1357	0.28	|Q V				
7+20	0.1377	0.28	|Q V				
7+25	0.1396	0.28	|Q V				
7+30	0.1416	0.28	|Q V				
7+35	0.1436	0.29	|Q V				
7+40	0.1455	0.29	|Q V				
7+45	0.1475	0.29	|Q V				
7+50	0.1496	0.29	|Q V				
7+55	0.1516	0.29	|Q V				
8+ 0	0.1536	0.30	|Q V				
8+ 5	0.1557	0.30	|Q V				
8+10	0.1577	0.30	|Q V				
8+15	0.1598	0.30	|Q V				
8+20	0.1619	0.30	|Q V				
8+25	0.1640	0.31	|Q V				
8+30	0.1661	0.31	|Q V				
8+35	0.1682	0.31	|Q V				
8+40	0.1704	0.31	|Q V				
8+45	0.1726	0.31	|Q V				
8+50	0.1747	0.32	|Q V				
8+55	0.1769	0.32	|Q V				
9+ 0	0.1791	0.32	|Q V				
9+ 5	0.1814	0.32	|Q V				
9+10	0.1836	0.33	|Q V				
9+15	0.1859	0.33	|Q V				
9+20	0.1881	0.33	|Q V				
9+25	0.1904	0.33	|Q V				
9+30	0.1927	0.34	|Q V				
9+35	0.1951	0.34	|Q V				
9+40	0.1974	0.34	|Q V				
9+45	0.1998	0.34	|Q V				
9+50	0.2022	0.35	|Q V				
9+55	0.2046	0.35	|Q V				
10+ 0	0.2070	0.35	|Q V				
10+ 5	0.2095	0.36	|Q V				
10+10	0.2119	0.36	|Q V				
10+15	0.2144	0.36	|Q V				
10+20	0.2169	0.37	|Q V				
10+25	0.2195	0.37	|Q V				
10+30	0.2220	0.37	|Q V				
10+35	0.2246	0.37	|Q V				

10+40	0.2272	0.38	|Q V |	|	|	|
10+45	0.2299	0.38	|Q V |	|	|	|
10+50	0.2325	0.39	|Q V |	|	|	|
10+55	0.2352	0.39	|Q V |	|	|	|
11+ 0	0.2379	0.39	|Q V|	|	|	|
11+ 5	0.2406	0.40	|Q V|	|	|	|
11+10	0.2434	0.40	|Q V|	|	|	|
11+15	0.2462	0.41	|Q V|	|	|	|
11+20	0.2490	0.41	|Q V|	|	|	|
11+25	0.2519	0.41	|Q V|	|	|	|
11+30	0.2548	0.42	|Q V|	|	|	|
11+35	0.2577	0.42	|Q V|	|	|	|
11+40	0.2607	0.43	|Q V|	|	|	|
11+45	0.2636	0.43	|Q V |	|	|	|
11+50	0.2667	0.44	|Q V |	|	|	|
11+55	0.2697	0.44	|Q V |	|	|	|
12+ 0	0.2728	0.45	|Q V |	|	|	|
12+ 5	0.2761	0.47	|Q V |	|	|	|
12+10	0.2798	0.54	| Q V |	|	|	|
12+15	0.2837	0.57	| Q V |	|	|	|
12+20	0.2877	0.59	| Q V |	|	|	|
12+25	0.2918	0.60	| Q |V |	|	|	|
12+30	0.2960	0.61	| Q |V |	|	|	|
12+35	0.3002	0.61	| Q |V |	|	|	|
12+40	0.3045	0.62	| Q |V |	|	|	|
12+45	0.3089	0.63	| Q |V |	|	|	|
12+50	0.3133	0.64	| Q |V |	|	|	|
12+55	0.3177	0.65	| Q | V |	|	|	|
13+ 0	0.3223	0.66	| Q | V |	|	|	|
13+ 5	0.3268	0.67	| Q | V |	|	|	|
13+10	0.3315	0.68	| Q | V |	|	|	|
13+15	0.3362	0.69	| Q | V |	|	|	|
13+20	0.3410	0.70	| Q | V |	|	|	|
13+25	0.3459	0.71	| Q | V |	|	|	|
13+30	0.3508	0.72	| Q | V |	|	|	|
13+35	0.3559	0.73	| Q | V |	|	|	|
13+40	0.3610	0.74	| Q | V |	|	|	|
13+45	0.3662	0.76	| Q | V |	|	|	|
13+50	0.3715	0.77	| Q | V |	|	|	|
13+55	0.3769	0.79	| Q | V |	|	|	|
14+ 0	0.3825	0.80	| Q | V |	|	|	|
14+ 5	0.3881	0.82	| Q | V |	|	|	|
14+10	0.3939	0.84	| Q | V |	|	|	|
14+15	0.3998	0.86	| Q | V |	|	|	|
14+20	0.4059	0.88	| Q | V |	|	|	|
14+25	0.4121	0.90	| Q | V |	|	|	|
14+30	0.4185	0.93	| Q | V |	|	|	|
14+35	0.4250	0.95	| Q | V |	|	|	|
14+40	0.4318	0.98	| Q | V |	|	|	|
14+45	0.4387	1.01	| Q | V |	|	|	|
14+50	0.4459	1.04	| Q | V |	|	|	|
14+55	0.4533	1.07	| Q | V |	|	|	|
15+ 0	0.4610	1.12	| Q | V |	|	|	|
15+ 5	0.4689	1.16	| Q | V |	|	|	|
15+10	0.4773	1.21	| Q | V |	|	|	|
15+15	0.4860	1.26	| Q | V |	|	|	|
15+20	0.4951	1.33	| Q | V |	|	|	|
15+25	0.5046	1.38	| Q | V|	|	|	|
15+30	0.5141	1.38	| Q | V|	|	|	|
15+35	0.5240	1.43	| Q | V |	|	|	|
15+40	0.5348	1.57	| Q | V |	|	|	|
15+45	0.5467	1.73	| Q | V |	|	|	|
15+50	0.5607	2.02	| Q | V |	|	|	|



15+55	0.5771	2.39	
16+ 0	0.5993	3.21	
16+ 5	0.6357	5.29	
16+10	0.7025	9.70	
16+15	0.7406	5.54	
16+20	0.7639	3.37	
16+25	0.7797	2.30	
16+30	0.7919	1.76	
16+35	0.8023	1.51	
16+40	0.8116	1.35	
16+45	0.8197	1.18	
16+50	0.8271	1.09	
16+55	0.8341	1.02	
17+ 0	0.8407	0.96	
17+ 5	0.8470	0.91	
17+10	0.8529	0.86	
17+15	0.8586	0.82	
17+20	0.8640	0.79	
17+25	0.8692	0.76	
17+30	0.8743	0.73	
17+35	0.8792	0.71	
17+40	0.8839	0.69	
17+45	0.8885	0.67	
17+50	0.8930	0.65	
17+55	0.8973	0.63	
18+ 0	0.9015	0.62	
18+ 5	0.9056	0.59	
18+10	0.9091	0.51	
18+15	0.9124	0.47	
18+20	0.9155	0.45	
18+25	0.9185	0.44	
18+30	0.9215	0.43	
18+35	0.9243	0.42	
18+40	0.9271	0.41	
18+45	0.9299	0.40	
18+50	0.9325	0.39	
18+55	0.9352	0.38	
19+ 0	0.9378	0.38	
19+ 5	0.9403	0.37	
19+10	0.9428	0.36	
19+15	0.9452	0.36	
19+20	0.9477	0.35	
19+25	0.9500	0.34	
19+30	0.9524	0.34	
19+35	0.9547	0.33	
19+40	0.9569	0.33	
19+45	0.9591	0.32	
19+50	0.9613	0.32	
19+55	0.9635	0.31	
20+ 0	0.9656	0.31	
20+ 5	0.9677	0.31	
20+10	0.9698	0.30	
20+15	0.9719	0.30	
20+20	0.9739	0.29	
20+25	0.9759	0.29	
20+30	0.9779	0.29	
20+35	0.9798	0.28	
20+40	0.9817	0.28	
20+45	0.9836	0.28	
20+50	0.9855	0.27	
20+55	0.9874	0.27	
21+ 0	0.9892	0.27	
21+ 5	0.9911	0.26	

```
   21+10       0.9929      0.26  |Q        |         |         |      V  |
   21+15       0.9946      0.26  |Q        |         |         |      V  |
   21+20       0.9964      0.26  |Q        |         |         |       V |
   21+25       0.9982      0.25  |Q        |         |         |       V |
   21+30       0.9999      0.25  |Q        |         |         |       V |
   21+35       1.0016      0.25  Q         |         |         |       V |
   21+40       1.0033      0.25  Q         |         |         |       V |
   21+45       1.0050      0.24  Q         |         |         |       V |
   21+50       1.0067      0.24  Q         |         |         |       V |
   21+55       1.0083      0.24  Q         |         |         |       V |
   22+ 0       1.0099      0.24  Q         |         |         |       V |
   22+ 5       1.0116      0.24  Q         |         |         |       V |
   22+10       1.0132      0.23  Q         |         |         |       V |
   22+15       1.0148      0.23  Q         |         |         |       V |
   22+20       1.0163      0.23  Q         |         |         |       V |
   22+25       1.0179      0.23  Q         |         |         |       V |
   22+30       1.0195      0.23  Q         |         |         |       V |
   22+35       1.0210      0.22  Q         |         |         |       V |
   22+40       1.0225      0.22  Q         |         |         |        V|
   22+45       1.0241      0.22  Q         |         |         |        V|
   22+50       1.0256      0.22  Q         |         |         |        V|
   22+55       1.0271      0.22  Q         |         |         |        V|
   23+ 0       1.0285      0.22  Q         |         |         |        V|
   23+ 5       1.0300      0.21  Q         |         |         |        V|
   23+10       1.0315      0.21  Q         |         |         |        V|
   23+15       1.0329      0.21  Q         |         |         |        V|
   23+20       1.0343      0.21  Q         |         |         |        V|
   23+25       1.0358      0.21  Q         |         |         |        V|
   23+30       1.0372      0.21  Q         |         |         |        V|
   23+35       1.0386      0.20  Q         |         |         |        V|
   23+40       1.0400      0.20  Q         |         |         |        V|
   23+45       1.0414      0.20  Q         |         |         |        V|
   23+50       1.0428      0.20  Q         |         |         |        V|
   23+55       1.0441      0.20  Q         |         |         |        V|
   24+ 0       1.0455      0.20  Q         |         |         |        V|
   24+ 5       1.0467      0.17  Q         |         |         |        V|
   24+10       1.0472      0.07  Q         |         |         |        V|
   24+15       1.0474      0.03  Q         |         |         |        V|
   24+20       1.0475      0.01  Q         |         |         |        V|
   24+25       1.0475      0.00  Q         |         |         |        V|
   24+30       1.0475      0.00  Q         |         |         |        V|
   24+35       1.0475      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

APPENDIX E

CATCH BASIN CALCULATIONS

CATCH BASIN SUMMARY TABLE
MILL CREEK DRIVE

CATCH BASIN	FLOW-BY/ SUMP	STREET NAME	CENTERLINE STATION	25-YEAR FLOW (CFS)	REQUIRED WIDTH (FT)	ACTUAL WIDTH (FT)	COMMENT
1	FLOW-BY	STREET 'B'	12+41.03	0.19	1.8	3.5	APPROACH GRADE 10.5%
2	FLOW-BY	STREET 'A'	11+41.84	0.38	3.5	3.5	APPROACH GRADE 10.0%
3	FLOW-BY	STREET 'A'	10+58.03	0.25	2.3	3.5	APPROACH GRADE 11.3%
GRATE INLET	**FLOW-BY/ SUMP**	**STREET NAME**	**CENTERLINE STATION**	**25-YEAR FLOW (CFS)**	**SPREAD WIDTH (FT)**	**DEPTH (INCH)**	**COMMENT**
1	SUMP	TURNOUT	10+55.02	0.27	1.0	1.1	
2	FLOWBY	STREET 'A'	10+55.05	0.19	1.3	1.2	APPROACH GRADE 3.3%
3	SUMP	STREET 'C'	11+63.34	0.28	1.0	1.2	
4	SUMP	STREET 'C'	11+63.34	0.12	0.8	0.6	
5	SUMP	STREET 'B'	13+81.35	0.50	1.3	1.7	
6	SUMP	STREET 'B'	13+84.12	0.68	1.5	2.1	

CATCH BASIN #1 (FLOW-BY)

```
**************************************************************************
 >>>>STREETFLOW MODEL INPUT INFORMATION<<<<
--------------------------------------------------------------------------
   CONSTANT STREET GRADE(FEET/FEET) = 0.105000
   CONSTANT STREET FLOW(CFS) =    0.19
   AVERAGE STREETFLOW FRICTION FACTOR(MANNING) = 0.015000
   CONSTANT SYMMETRICAL STREET HALF-WIDTH(FEET) =   13.00
   DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   11.00
   INTERIOR STREET CROSSFALL(DECIMAL) = 0.020000
   OUTSIDE  STREET CROSSFALL(DECIMAL) = 0.020000
   CONSTANT SYMMETRICAL CURB HEIGHT(FEET) =   0.50
   CONSTANT SYMMETRICAL GUTTER-WIDTH(FEET) =   2.00
   CONSTANT SYMMETRICAL GUTTER-LIP(FEET) =  0.03125
   CONSTANT SYMMETRICAL GUTTER-HIKE(FEET) =  0.12500
   FLOW ASSUMED TO FILL STREET ON ONE SIDE, AND THEN SPLITS
==========================================================================
   STREET FLOW MODEL RESULTS:
--------------------------------------------------------------------------
   STREET FLOW DEPTH(FEET) =  0.16
   HALFSTREET FLOOD WIDTH(FEET) =    2.00
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    6.23
   PRODUCT OF DEPTH&VELOCITY =    0.97
==========================================================================

**************************************************************************
 >>>>FLOWBY CATCH BASIN INLET CAPACITY INPUT INFORMATION<<<<
--------------------------------------------------------------------------


   Curb Inlet Capacities are approximated based on the Bureau of
   Public Roads nomograph plots for flowby basins and sump basins.

   STREETFLOW(CFS) =    0.19
   GUTTER FLOWDEPTH(FEET) =  0.16
   BASIN LOCAL DEPRESSION(FEET) =  0.17

--------------------------------------------------------------------------
      FLOWBY BASIN ANALYSIS RESULTS:

    BASIN WIDTH    FLOW INTERCEPTION
       0.18         0.03
       0.50         0.07
       1.00         0.13
       1.50         0.17
       1.77         0.19
==========================================================================
```

USE W=3.5’

CATCH BASIN #2 (FLOW-BY)

```
**************************************************************************
 >>>>STREETFLOW MODEL INPUT INFORMATION<<<<
--------------------------------------------------------------------------
   CONSTANT STREET GRADE(FEET/FEET) = 0.100000
   CONSTANT STREET FLOW(CFS) =    0.38
   AVERAGE STREETFLOW FRICTION FACTOR(MANNING) = 0.015000
   CONSTANT SYMMETRICAL STREET HALF-WIDTH(FEET) =   13.00
   DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   11.00
   INTERIOR STREET CROSSFALL(DECIMAL) = 0.020000
   OUTSIDE  STREET CROSSFALL(DECIMAL) = 0.020000
   CONSTANT SYMMETRICAL CURB HEIGHT(FEET) =   0.50
   CONSTANT SYMMETRICAL GUTTER-WIDTH(FEET) =   2.00
   CONSTANT SYMMETRICAL GUTTER-LIP(FEET) =  0.03125
   CONSTANT SYMMETRICAL GUTTER-HIKE(FEET) =  0.12500
   FLOW ASSUMED TO FILL STREET ON ONE SIDE, AND THEN SPLITS
==========================================================================
   STREET FLOW MODEL RESULTS:
--------------------------------------------------------------------------
   STREET FLOW DEPTH(FEET) =  0.16
   HALFSTREET FLOOD WIDTH(FEET) =    2.00
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    6.08
   PRODUCT OF DEPTH&VELOCITY =    0.95
==========================================================================
--------------------------------------------------------------------------

   Curb Inlet Capacities are approximated based on the Bureau of
   Public Roads nomograph plots for flowby basins and sump basins.

   STREETFLOW(CFS) =    0.38
   GUTTER FLOWDEPTH(FEET) =  0.16
   BASIN LOCAL DEPRESSION(FEET) =  0.17

--------------------------------------------------------------------------
      FLOWBY BASIN ANALYSIS RESULTS:

    BASIN WIDTH    FLOW INTERCEPTION
       0.35         0.05
       0.50         0.07
       1.00         0.14
       1.50         0.21
       2.00         0.26
       2.50         0.30
       3.00         0.34
       3.50         0.38
```

USE W=3.5’

CATCH BASIN #3 (FLOW-BY)

```
**************************************************************************
 >>>>STREETFLOW MODEL INPUT INFORMATION<<<<
----------------------------------------------------------------------------
   CONSTANT STREET GRADE(FEET/FEET) = 0.011300
   CONSTANT STREET FLOW(CFS) =    0.25
   AVERAGE STREETFLOW FRICTION FACTOR(MANNING) = 0.015000
   CONSTANT SYMMETRICAL STREET HALF-WIDTH(FEET) =   13.00
   DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   11.00
   INTERIOR STREET CROSSFALL(DECIMAL) = 0.074000
   OUTSIDE  STREET CROSSFALL(DECIMAL) = 0.020000
   CONSTANT SYMMETRICAL CURB HEIGHT(FEET) =   0.50
   CONSTANT SYMMETRICAL GUTTER-WIDTH(FEET) =   2.00
   CONSTANT SYMMETRICAL GUTTER-LIP(FEET) =  0.03125
   CONSTANT SYMMETRICAL GUTTER-HIKE(FEET) =  0.12500
   FLOW ASSUMED TO FILL STREET ON ONE SIDE, AND THEN SPLITS
============================================================================
   STREET FLOW MODEL RESULTS:
----------------------------------------------------------------------------
   STREET FLOW DEPTH(FEET) =  0.16
   HALFSTREET FLOOD WIDTH(FEET) =    2.00
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    2.04
   PRODUCT OF DEPTH&VELOCITY =    0.32
============================================================================
**************************************************************************
 >>>>FLOWBY CATCH BASIN INLET CAPACITY INPUT INFORMATION<<<<
----------------------------------------------------------------------------

   Curb Inlet Capacities are approximated based on the Bureau of
   Public Roads nomograph plots for flowby basins and sump basins.


   STREETFLOW(CFS) =    0.25
   GUTTER FLOWDEPTH(FEET) =  0.16
   BASIN LOCAL DEPRESSION(FEET) =  0.17

----------------------------------------------------------------------------
      FLOWBY BASIN ANALYSIS RESULTS:

    BASIN WIDTH    FLOW INTERCEPTION
       0.23         0.03
       0.50         0.07
       1.00         0.14
       1.50         0.19
       2.00         0.23
       2.32         0.25
============================================================================
```

USE W=3.5’

Worksheet for Grate Inlet In Sag - 1

Project Description	
Solve For	Spread

Input Data	
Discharge	0.27 cfs
Gutter Width	1.00 ft
Gutter Cross Slope	0.130 ft/ft
Road Cross Slope	0.020 ft/ft
Grate Width	1.00 ft
Grate Length	1.0 ft
Local Depression	1.0 in
Local Depression Width	22.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Results	
Spread	1.0 ft
Depth	1.1 in
Gutter Depression	1.3 in
Total Depression	2.3 in
Open Grate Area	0.9 ft²
Active Grate Weir Length	3.0 ft

Worksheet for Grate Inlet On Grade - 2

Project Description	
Solve For	Efficiency

Input Data	
Discharge	0.19 cfs
Slope	0.033 ft/ft
Gutter Width	2.00 ft
Gutter Cross Slope	0.080 ft/ft
Road Cross Slope	0.020 ft/ft
Roughness Coefficient	0.015
Grate Width	1.00 ft
Grate Length	1.0 ft
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Options	
Grate Flow Option	Exclude None

Results	
Efficiency	98.49 %
Intercepted Flow	0.19 cfs
Bypass Flow	0.00 cfs
Spread	1.3 ft
Depth	1.2 in
Flow Area	0.1 ft²
Gutter Depression	1.4 in
Total Depression	1.4 in
Velocity	2.93 ft/s
Splash Over Velocity	5.66 ft/s
Frontal Flow Factor	1.000
Side Flow Factor	0.071
Grate Flow Ratio	0.984
Active Grate Length	1.0 ft

Worksheet for Grate Inlet In Sag - 3

Project Description	
Solve For	Spread

Input Data	
Discharge	0.28 cfs
Gutter Width	1.00 ft
Gutter Cross Slope	0.130 ft/ft
Road Cross Slope	0.020 ft/ft
Grate Width	1.00 ft
Grate Length	1.0 ft
Local Depression	1.0 in
Local Depression Width	22.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Results	
Spread	1.0 ft
Depth	1.2 in
Gutter Depression	1.3 in
Total Depression	2.3 in
Open Grate Area	0.9 ft²
Active Grate Weir Length	3.0 ft

Worksheet for Grate Inlet In Sag - 4

Project Description	
Solve For	Spread

Input Data	
Discharge	0.12 cfs
Gutter Width	1.00 ft
Gutter Cross Slope	0.130 ft/ft
Road Cross Slope	0.020 ft/ft
Grate Width	1.00 ft
Grate Length	1.0 ft
Local Depression	1.0 in
Local Depression Width	22.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Results	
Spread	0.8 ft
Depth	0.6 in
Gutter Depression	1.3 in
Total Depression	2.3 in
Open Grate Area	0.9 ft²
Active Grate Weir Length	3.0 ft

Worksheet for Grate Inlet In Sag - 5

Project Description	
Solve For	Spread

Input Data	
Discharge	0.50 cfs
Gutter Width	1.00 ft
Gutter Cross Slope	0.130 ft/ft
Road Cross Slope	0.020 ft/ft
Grate Width	1.00 ft
Grate Length	1.0 ft
Local Depression	1.0 in
Local Depression Width	22.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Results	
Spread	1.3 ft
Depth	1.7 in
Gutter Depression	1.3 in
Total Depression	2.3 in
Open Grate Area	0.9 ft²
Active Grate Weir Length	3.0 ft

Worksheet for Grate Inlet In Sag - 6

Project Description	
Solve For	Spread

Input Data	
Discharge	0.68 cfs
Gutter Width	1.00 ft
Gutter Cross Slope	0.130 ft/ft
Road Cross Slope	0.020 ft/ft
Grate Width	1.00 ft
Grate Length	1.0 ft
Local Depression	1.0 in
Local Depression Width	22.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	0.0 %

Results	
Spread	1.5 ft
Depth	2.1 in
Gutter Depression	1.3 in
Total Depression	2.3 in
Open Grate Area	0.9 ft²
Active Grate Weir Length	3.0 ft

APPENDIX F

PARKWAY CULVERT CALCULATIONS

PARKWAY CULVERT CALCULATIONS

SYSTEM A – 15+99.23 MILL CREEK DR (TYPE B; OUTLET V<10 FPS)

```
**************************************************************************
 >>>>CHANNEL INPUT INFORMATION<<<<
 --------------------------------------------------------------------------
   NORMAL DEPTH(FEET) =   0.33
   CHANNEL Z1(HORIZONTAL/VERTICAL) =    0.00
        Z2(HORIZONTAL/VERTICAL) =    0.00
   CONSTANT CHANNEL SLOPE(FEET/FEET) = 0.020000
   UNIFORM FLOW(CFS) =       2.80
   MANNINGS FRICTION FACTOR = 0.0150
==========================================================================
   NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
   >>>>> BASEWIDTH(FEET) =    1.60
   FLOW TOP-WIDTH(FEET) =       1.60
   FLOW AREA(SQUARE FEET) =         0.53
   HYDRAULIC DEPTH(FEET) =    0.33
   FLOW AVERAGE VELOCITY(FEET/SEC.) =    5.31
   UNIFORM FROUDE NUMBER =    1.630
   PRESSURE + MOMENTUM(POUNDS) =        34.26
   AVERAGED VELOCITY HEAD(FEET) =     0.439
   SPECIFIC ENERGY(FEET) =     0.769
==========================================================================
   CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
   CRITICAL FLOW TOP-WIDTH(FEET) =       1.60
   CRITICAL FLOW AREA(SQUARE FEET) =         0.73
   CRITICAL FLOW HYDRAULIC DEPTH(FEET) =    0.46
   CRITICAL FLOW AVERAGE VELOCITY(FEET/SEC.) =    3.84
   CRITICAL DEPTH(FEET) =    0.46
   CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =        31.23
   AVERAGED CRITICAL FLOW VELOCITY HEAD(FEET) =     0.229
   CRITICAL FLOW SPECIFIC ENERGY(FEET) =     0.686
==========================================================================
```

USE SPAN=2’

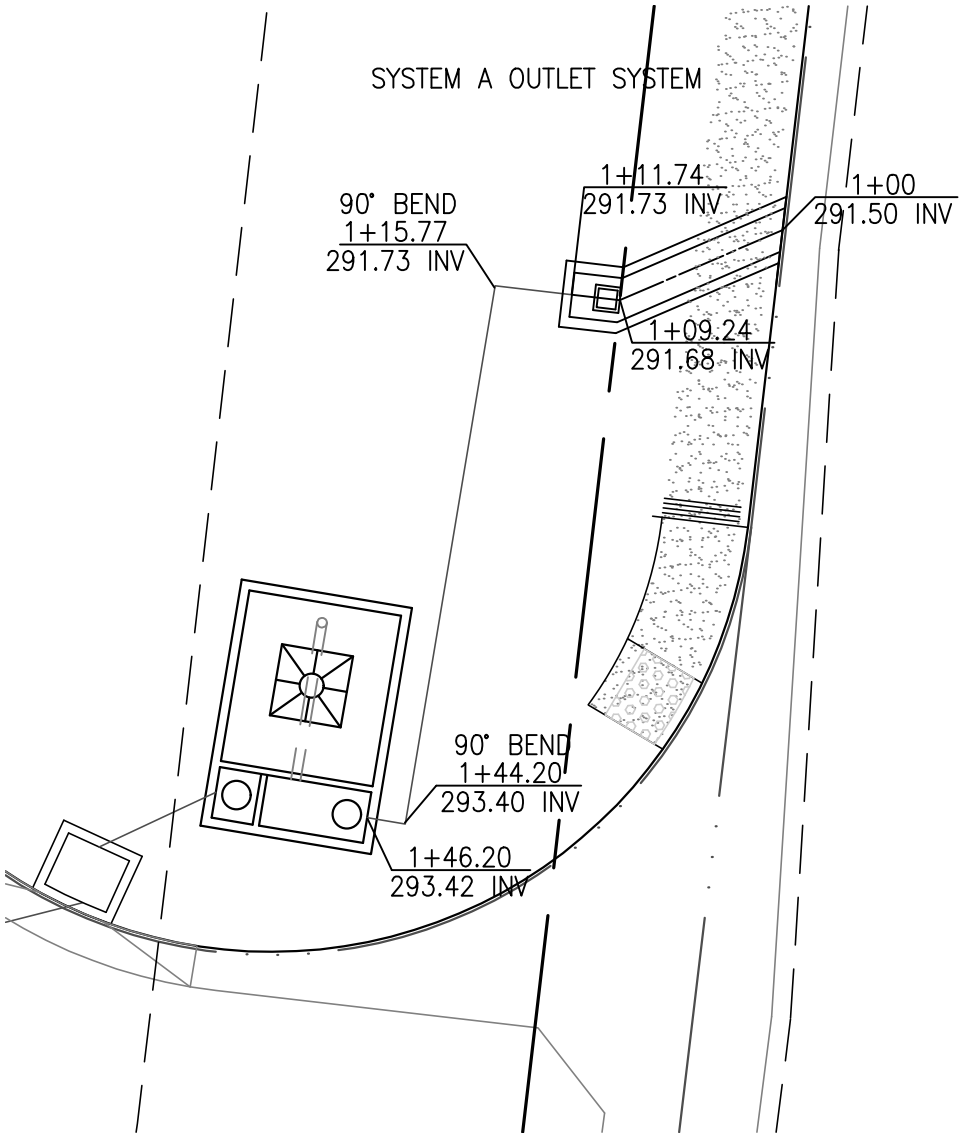
SYSTEM B – 13+92.80 MILL CREEK DR (TYPE A OUTLET; V>10 FPS)

```
**************************************************************************
 >>>>CHANNEL INPUT INFORMATION<<<<
 --------------------------------------------------------------------------
   NORMAL DEPTH(FEET) =  0.33
   CHANNEL Z1(HORIZONTAL/VERTICAL) =   0.00
        Z2(HORIZONTAL/VERTICAL) =   0.00
   CONSTANT CHANNEL SLOPE(FEET/FEET) = 0.020000
   UNIFORM FLOW(CFS) =       4.30
   MANNINGS FRICTION FACTOR = 0.0150
==========================================================================
   NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
   >>>>> BASEWIDTH(FEET) =   2.30
   FLOW TOP-WIDTH(FEET) =       2.30
   FLOW AREA(SQUARE FEET) =         0.76
   HYDRAULIC DEPTH(FEET) =    0.33
   FLOW AVERAGE VELOCITY(FEET/SEC.) =    5.66
   UNIFORM FROUDE NUMBER =   1.735
   PRESSURE + MOMENTUM(POUNDS) =        54.95
   AVERAGED VELOCITY HEAD(FEET) =     0.497
   SPECIFIC ENERGY(FEET) =     0.827
==========================================================================
   CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
   CRITICAL FLOW TOP-WIDTH(FEET) =       2.30
   CRITICAL FLOW AREA(SQUARE FEET) =         1.10
   CRITICAL FLOW HYDRAULIC DEPTH(FEET) =    0.48
   CRITICAL FLOW AVERAGE VELOCITY(FEET/SEC.) =    3.92
   CRITICAL DEPTH(FEET) =    0.48
   CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =        48.96
   AVERAGED CRITICAL FLOW VELOCITY HEAD(FEET) =     0.239
   CRITICAL FLOW SPECIFIC ENERGY(FEET) =     0.715
==========================================================================
```

USE SPAN=2.5’

APPENDIX G

HYDRAULIC CALCULATIONS


SYSTEM A OUTLET SYSTEM
1+11.74
291.73 INV
1+00
291.50 INV
90° BEND
1+15.77
291.73 INV
1+09.24
291.68 INV
90° BEND
1+44.20
293.40 INV
1+46.20
293.42 INV

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	2	0	.000	.330	2.000			.00										
CD	2	4	1		1.000														

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

MILL CREEK DEVELOPMENT

HEADING LINE NO 2 IS -

SYSTEM A OUTLET HYDRAULICS

HEADING LINE NO 3 IS -

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	100.000	291.500	1	291.500

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	109.240	291.680	1	.015	.000	.000	.000	0

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE
	111.740	291.730	2	.013	.000	.000

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	115.770	291.730	2	.010	.000	.000	-90.000	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	144.200	293.400	2	.010	.000	.000	-90.000	0

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	146.200	293.420	2	.010	.000	.000	.000	0

ELEMENT NO 7 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	146.200	293.420	2	293.420

Program Package Serial Number: 1881

WATER SURFACE PROFILE LISTING Date:10- 9-2025 Time: 9:38:34

MILL CREEK DEVELOPMENT
SYSTEM A OUTLET HYDRAULICS

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
100.000	291.500	.200	291.700	2.80	7.01	.76	292.46	.00	.39	2.00	.330	2.000	.00	0 .0
.155	.0195				.0553	.01	.20	2.76	.28	.015		.00	.00	RECTANG
100.155	291.503	.198	291.701	2.80	7.06	.77	292.48	.00	.39	2.00	.330	2.000	.00	0 .0
1.666	.0195				.0604	.10	.20	2.80	.28	.015		.00	.00	RECTANG
101.821	291.535	.189	291.724	2.80	7.41	.85	292.58	.00	.39	2.00	.330	2.000	.00	0 .0
1.508	.0195				.0701	.11	.19	3.00	.28	.015		.00	.00	RECTANG
103.329	291.565	.180	291.745	2.80	7.77	.94	292.68	.00	.39	2.00	.330	2.000	.00	0 .0
1.378	.0195				.0814	.11	.18	3.23	.28	.015		.00	.00	RECTANG
104.707	291.592	.172	291.764	2.80	8.15	1.03	292.79	.00	.39	2.00	.330	2.000	.00	0 .0
1.267	.0195				.0946	.12	.17	3.46	.28	.015		.00	.00	RECTANG
105.973	291.616	.164	291.780	2.80	8.55	1.13	292.91	.00	.39	2.00	.330	2.000	.00	0 .0
1.170	.0195				.1099	.13	.16	3.72	.28	.015		.00	.00	RECTANG
107.144	291.639	.156	291.795	2.80	8.96	1.25	293.04	.00	.39	2.00	.330	2.000	.00	0 .0
1.086	.0195				.1277	.14	.16	4.00	.28	.015		.00	.00	RECTANG
108.230	291.660	.149	291.809	2.80	9.40	1.37	293.18	.00	.39	2.00	.330	2.000	.00	0 .0
1.010	.0195				.1484	.15	.15	4.29	.28	.015		.00	.00	RECTANG
109.240	291.680	.142	291.822	2.80	9.86	1.51	293.33	.00	.39	2.00	.330	2.000	.00	0 .0
TRANS STR	.0200				.0885	.22	.14	4.61		.013		.00	.00	RECTANG

MILL CREEK DEVELOPMENT
SYSTEM A OUTLET HYDRAULICS

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
111.740	291.730	.395	292.125	2.80	9.72	1.47	293.59	.00	.72	.98	1.000	.000	.00	1 .0
.363	.0000					.0340	.01	.39	3.15	.00	.010	.00	.00	PIPE
112.103	291.730	.393	292.123	2.80	9.77	1.48	293.60	.00	.72	.98	1.000	.000	.00	1 .0
3.667	.0000					.0367	.13	.39	3.18	.00	.010	.00	.00	PIPE
115.770	291.730	.379	292.110	2.80	10.24	1.63	293.74	.00	.72	.97	1.000	.000	.00	1 .0
5.201	.0587					.0371	.19	.38	3.40	.34	.010	.00	.00	PIPE
120.971	292.036	.391	292.426	2.80	9.85	1.51	293.93	.00	.72	.98	1.000	.000	.00	1 .0
4.771	.0587					.0330	.16	.39	3.22	.34	.010	.00	.00	PIPE
125.742	292.316	.405	292.721	2.80	9.40	1.37	294.09	.00	.72	.98	1.000	.000	.00	1 .0
3.690	.0587					.0290	.11	.40	3.01	.34	.010	.00	.00	PIPE
129.433	292.533	.419	292.952	2.80	8.96	1.25	294.20	.00	.72	.99	1.000	.000	.00	1 .0
2.936	.0587					.0254	.07	.42	2.81	.34	.010	.00	.00	PIPE
132.368	292.705	.435	293.140	2.80	8.54	1.13	294.27	.00	.72	.99	1.000	.000	.00	1 .0
2.387	.0587					.0223	.05	.43	2.62	.34	.010	.00	.00	PIPE
134.756	292.845	.451	293.296	2.80	8.14	1.03	294.33	.00	.72	1.00	1.000	.000	.00	1 .0
1.965	.0587					.0196	.04	.45	2.44	.34	.010	.00	.00	PIPE
136.721	292.961	.468	293.428	2.80	7.77	.94	294.36	.00	.72	1.00	1.000	.000	.00	1 .0
1.628	.0587					.0173	.03	.47	2.28	.34	.010	.00	.00	PIPE

MILL CREEK DEVELOPMENT
SYSTEM A OUTLET HYDRAULICS

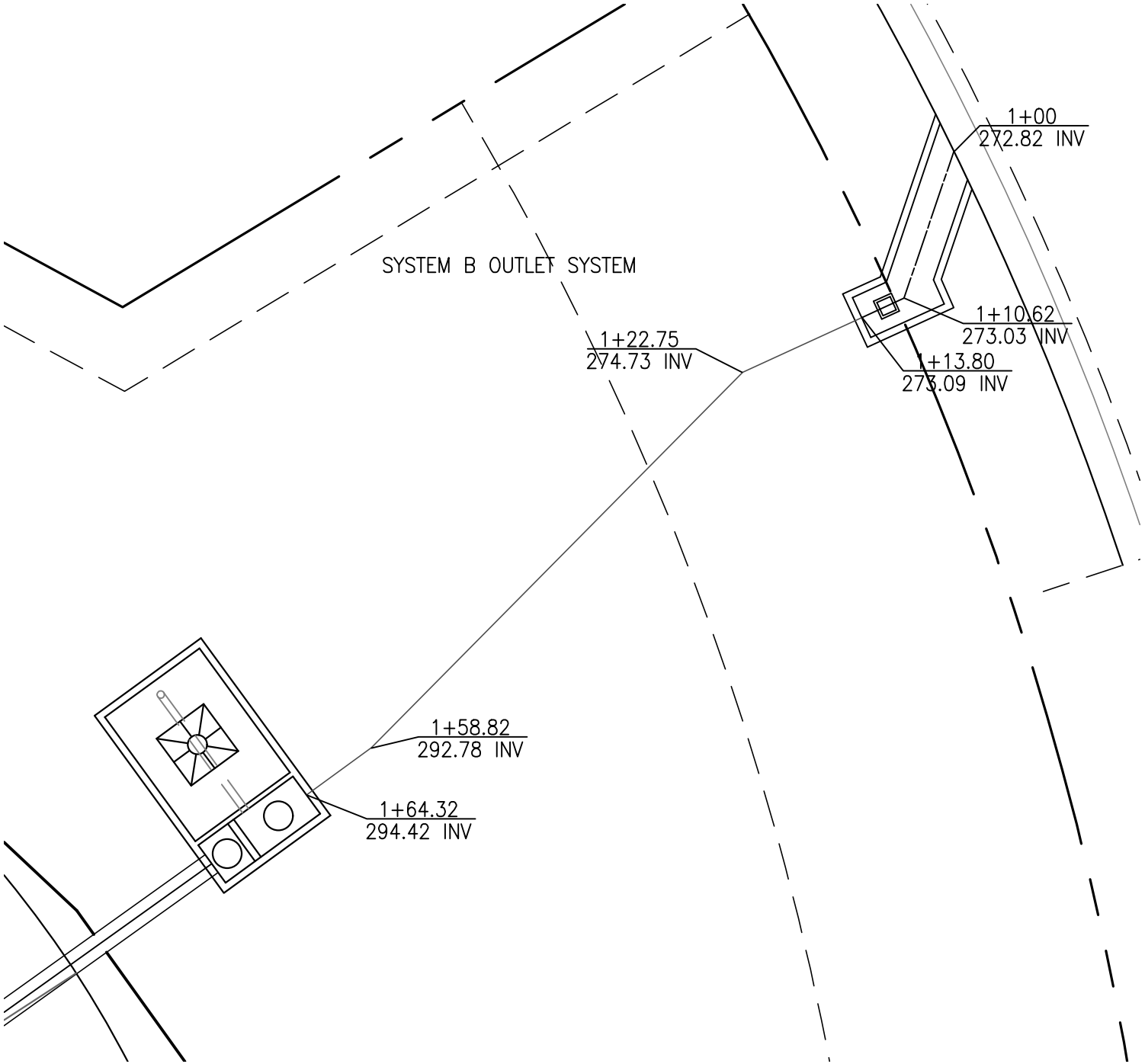
Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
138.349	293.056	.485	293.542	2.80	7.40	.85	294.39	.00	.72	1.00	1.000	.000	.00	1 .0
1.353	.0587					.0152	.02	.49	2.12	.34	.010	.00	.00	PIPE
139.702	293.136	.504	293.640	2.80	7.06	.77	294.41	.00	.72	1.00	1.000	.000	.00	1 .0
1.126	.0587					.0134	.02	.50	1.98	.34	.010	.00	.00	PIPE
140.827	293.202	.523	293.725	2.80	6.73	.70	294.43	.00	.72	1.00	1.000	.000	.00	1 .0
.928	.0587					.0118	.01	.52	1.84	.34	.010	.00	.00	PIPE
141.755	293.256	.544	293.800	2.80	6.42	.64	294.44	.00	.72	1.00	1.000	.000	.00	1 .0
.760	.0587					.0104	.01	.54	1.71	.34	.010	.00	.00	PIPE
142.515	293.301	.565	293.866	2.80	6.12	.58	294.45	.00	.72	.99	1.000	.000	.00	1 .0
.611	.0587					.0092	.01	.57	1.59	.34	.010	.00	.00	PIPE
143.126	293.337	.588	293.925	2.80	5.83	.53	294.45	.00	.72	.98	1.000	.000	.00	1 .0
.477	.0587					.0081	.00	.59	1.47	.34	.010	.00	.00	PIPE
143.603	293.365	.612	293.976	2.80	5.56	.48	294.46	.00	.72	.97	1.000	.000	.00	1 .0
.355	.0587					.0072	.00	.61	1.36	.34	.010	.00	.00	PIPE
143.958	293.386	.637	294.023	2.80	5.30	.44	294.46	.00	.72	.96	1.000	.000	.00	1 .0
.242	.0587					.0064	.00	.64	1.26	.34	.010	.00	.00	PIPE
144.200	293.400	.664	294.064	2.80	5.06	.40	294.46	.00	.72	.94	1.000	.000	.00	1 .0
1.401	.0100					.0058	.01	.66	1.16	.56	.010	.00	.00	PIPE

Program Package Serial Number: 1881

WATER SURFACE PROFILE LISTING Date:10- 9-2025 Time: 9:38:34

MILL CREEK DEVELOPMENT
SYSTEM A OUTLET HYDRAULICS

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
145.601	293.414	.686	294.100	2.80	4.88	.37	294.47	.00	.72	.93	1.000	.000	.00	1 .0
.599	.0100					.0052	.00	.69	1.09	.56	.010	.00	.00	PIPE
146.200	293.420	.717	294.137	2.80	4.64	.33	294.47	.00	.72	.90	1.000	.000	.00	1 .0


SYSTEM B OUTLET SYSTEM
1+00
272.82 INV
1+10.62
273.03 INV
1+13.80
273.09 INV
1+22.75
274.73 INV
1+58.82
292.78 INV
1+64.32
294.42 INV

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	2	2	0	.000	.330	2.500			.00										
CD	3	4	1		1.000														

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

MILL CREEK DEVELOPMENT

HEADING LINE NO 2 IS -

SYSTEM B OUTLET HYDRAULICS

HEADING LINE NO 3 IS -

BY KAM 100925

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	100.000	272.820	2	272.820

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	110.620	273.030	2	.015	13.522	-45.000	.000	0

ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE
	113.800	273.090	3	.015	.000	.000

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	122.750	274.730	3	.010	.000	.000	-11.250	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	158.820	292.780	3	.010	.000	.000	11.250	0

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	164.320	294.420	3	.010	.000	.000	.000	0

ELEMENT NO 7 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	164.320	294.420	3	294.420

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L/Elem	Ch Slope													
100.000	272.820	.170	272.990	4.30	10.10	1.58	274.57	.59	.45	2.50	.330	2.500	.00	0 .0
.144	.0198					.1316	.02	.76	4.31	.31	.015	.00	.00	RECTANG
100.144	272.823	.169	272.992	4.30	10.16	1.60	274.59	.59	.45	2.50	.330	2.500	.00	0 .0
1.229	.0198					.1437	.18	.76	4.35	.31	.015	.00	.00	RECTANG
101.372	272.847	.161	273.009	4.30	10.65	1.76	274.77	.65	.45	2.50	.330	2.500	.00	0 .0
1.144	.0198					.1672	.19	.81	4.67	.31	.015	.00	.00	RECTANG
102.516	272.870	.154	273.024	4.30	11.17	1.94	274.96	.72	.45	2.50	.330	2.500	.00	0 .0
1.067	.0198					.1947	.21	.87	5.02	.31	.015	.00	.00	RECTANG
103.583	272.891	.147	273.038	4.30	11.72	2.13	275.17	.79	.45	2.50	.330	2.500	.00	0 .0
.997	.0198					.2267	.23	.94	5.39	.31	.015	.00	.00	RECTANG
104.580	272.911	.140	273.050	4.30	12.29	2.34	275.40	.87	.45	2.50	.330	2.500	.00	0 .0
.933	.0198					.2640	.25	1.01	5.79	.31	.015	.00	.00	RECTANG
105.513	272.929	.133	273.062	4.30	12.89	2.58	275.64	.95	.45	2.50	.330	2.500	.00	0 .0
.875	.0198					.3076	.27	1.09	6.22	.31	.015	.00	.00	RECTANG
106.388	272.946	.127	273.074	4.30	13.52	2.84	275.91	1.05	.45	2.50	.330	2.500	.00	0 .0
.820	.0198					.3584	.29	1.18	6.68	.31	.015	.00	.00	RECTANG
107.208	272.963	.121	273.084	4.30	14.18	3.12	276.20	1.15	.45	2.50	.330	2.500	.00	0 .0
.770	.0198					.4178	.32	1.28	7.17	.31	.015	.00	.00	RECTANG

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L/Elem	Ch Slope													
107.978	272.978	.116	273.093	4.30	14.87	3.43	276.53	1.27	.45	2.50	.330	2.500	.00	0 .0
.723	.0198					.4871	.35	1.39	7.70	.31	.015	.00	.00	RECTANG
108.701	272.992	.110	273.102	4.30	15.59	3.78	276.88	1.40	.45	2.50	.330	2.500	.00	0 .0
.679	.0198					.5680	.39	1.51	8.28	.31	.015	.00	.00	RECTANG
109.381	273.005	.105	273.111	4.30	16.36	4.15	277.26	1.54	.45	2.50	.330	2.500	.00	0 .0
.639	.0198					.6625	.42	1.64	8.89	.31	.015	.00	.00	RECTANG
110.020	273.018	.100	273.118	4.30	17.15	4.57	277.69	1.69	.45	2.50	.330	2.500	.00	0 .0
.600	.0198					.7729	.46	1.79	9.55	.31	.015	.00	.00	RECTANG
110.620	273.030	.096	273.126	4.30	17.99	5.03	278.15	.00	.45	2.50	.330	2.500	.00	0 .0
TRANS STR	.0189					.7842	2.49	.10	10.25		.015	.00	.00	RECTANG
113.800	273.090	.272	273.362	4.30	24.82	9.56	282.92	.00	.87	.89	1.000	.000	.00	1 .0
3.937	.1832					.3435	1.35	.27	9.91	.32	.010	.00	.00	PIPE
117.737	273.811	.266	274.077	4.30	25.67	10.24	284.31	.00	.87	.88	1.000	.000	.00	1 .0
5.013	.1832					.3857	1.93	.27	10.39	.32	.010	.00	.00	PIPE
122.750	274.730	.257	274.987	4.30	26.93	11.26	286.25	.00	.87	.87	1.000	.000	.00	1 .0
.344	.5004					.4104	.14	.26	11.10	.24	.010	.00	.00	PIPE
123.094	274.902	.257	275.159	4.30	26.88	11.22	286.38	.00	.87	.87	1.000	.000	.00	1 .0
8.663	.5004					.3837	3.32	.26	11.07	.24	.010	.00	.00	PIPE

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
L/Elem	Ch Slope													
131.757	279.237	.266	279.503	4.30	25.63	10.20	289.70	.00	.87	.88	1.000	.000	.00	1 .0
5.573	.5004					.3357	1.87	.27	10.37	.24	.010	.00	.00	PIPE
137.330	282.026	.275	282.302	4.30	24.44	9.27	291.57	.00	.87	.89	1.000	.000	.00	1 .0
4.032	.5004					.2937	1.18	.28	9.70	.24	.010	.00	.00	PIPE
141.363	284.044	.285	284.329	4.30	23.30	8.43	292.76	.00	.87	.90	1.000	.000	.00	1 .0
3.109	.5004					.2571	.80	.29	9.08	.24	.010	.00	.00	PIPE
144.471	285.600	.295	285.895	4.30	22.22	7.66	293.56	.00	.87	.91	1.000	.000	.00	1 .0
2.493	.5004					.2250	.56	.29	8.50	.24	.010	.00	.00	PIPE
146.964	286.847	.305	287.152	4.30	21.18	6.97	294.12	.00	.87	.92	1.000	.000	.00	1 .0
2.052	.5004					.1970	.40	.31	7.95	.24	.010	.00	.00	PIPE
149.016	287.874	.316	288.190	4.30	20.20	6.33	294.52	.00	.87	.93	1.000	.000	.00	1 .0
1.722	.5004					.1726	.30	.32	7.44	.24	.010	.00	.00	PIPE
150.738	288.736	.327	289.063	4.30	19.26	5.76	294.82	.00	.87	.94	1.000	.000	.00	1 .0
1.465	.5004					.1512	.22	.33	6.96	.24	.010	.00	.00	PIPE
152.204	289.469	.339	289.808	4.30	18.36	5.23	295.04	.00	.87	.95	1.000	.000	.00	1 .0
1.261	.5004					.1325	.17	.34	6.50	.24	.010	.00	.00	PIPE
153.465	290.100	.351	290.451	4.30	17.51	4.76	295.21	.00	.87	.95	1.000	.000	.00	1 .0
1.093	.5004					.1161	.13	.35	6.08	.24	.010	.00	.00	PIPE

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
L/Elem	Ch Slope													
154.557	290.647	.363	291.010	4.30	16.69	4.33	295.34	.00	.87	.96	1.000	.000	.00	1 .0
.954	.5004					.1018	.10	.36	5.68	.24	.010	.00	.00	PIPE
155.511	291.124	.376	291.500	4.30	15.91	3.93	295.43	.00	.87	.97	1.000	.000	.00	1 .0
.837	.5004					.0893	.07	.38	5.31	.24	.010	.00	.00	PIPE
156.348	291.543	.390	291.933	4.30	15.17	3.58	295.51	.00	.87	.98	1.000	.000	.00	1 .0
.736	.5004					.0783	.06	.39	4.96	.24	.010	.00	.00	PIPE
157.084	291.911	.404	292.315	4.30	14.47	3.25	295.57	.00	.87	.98	1.000	.000	.00	1 .0
.650	.5004					.0688	.04	.40	4.63	.24	.010	.00	.00	PIPE
157.735	292.237	.419	292.656	4.30	13.79	2.95	295.61	.00	.87	.99	1.000	.000	.00	1 .0
.575	.5004					.0604	.03	.42	4.32	.24	.010	.00	.00	PIPE
158.310	292.525	.434	292.959	4.30	13.15	2.69	295.64	.00	.87	.99	1.000	.000	.00	1 .0
.510	.5004					.0531	.03	.43	4.04	.24	.010	.00	.00	PIPE
158.820	292.780	.450	293.230	4.30	12.54	2.44	295.67	.00	.87	1.00	1.000	.000	.00	1 .0
.620	.2982					.0474	.03	.45	3.76	.28	.010	.00	.00	PIPE
159.440	292.965	.462	293.427	4.30	12.11	2.28	295.70	.00	.87	1.00	1.000	.000	.00	1 .0
.741	.2982					.0424	.03	.46	3.57	.28	.010	.00	.00	PIPE
160.180	293.186	.480	293.665	4.30	11.54	2.07	295.73	.00	.87	1.00	1.000	.000	.00	1 .0
.651	.2982					.0373	.02	.48	3.33	.28	.010	.00	.00	PIPE

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L/Elem	Ch Slope													
160.831	293.380	.498	293.878	4.30	11.00	1.88	295.76	.00	.87	1.00	1.000	.000	.00	1 .0
.572	.2982					.0329	.02	.50	3.10	.28	.010	.00	.00	PIPE
161.404	293.550	.517	294.068	4.30	10.49	1.71	295.78	.00	.87	1.00	1.000	.000	.00	1 .0
.503	.2982					.0290	.01	.52	2.89	.28	.010	.00	.00	PIPE
161.907	293.700	.537	294.238	4.30	10.00	1.55	295.79	.00	.87	1.00	1.000	.000	.00	1 .0
.441	.2982					.0255	.01	.54	2.69	.28	.010	.00	.00	PIPE
162.347	293.832	.558	294.390	4.30	9.54	1.41	295.80	.00	.87	.99	1.000	.000	.00	1 .0
.385	.2982					.0226	.01	.56	2.50	.28	.010	.00	.00	PIPE
162.733	293.947	.580	294.527	4.30	9.09	1.28	295.81	.00	.87	.99	1.000	.000	.00	1 .0
.335	.2982					.0199	.01	.58	2.32	.28	.010	.00	.00	PIPE
163.068	294.047	.604	294.651	4.30	8.67	1.17	295.82	.00	.87	.98	1.000	.000	.00	1 .0
.290	.2982					.0177	.01	.60	2.15	.28	.010	.00	.00	PIPE
163.358	294.133	.629	294.762	4.30	8.27	1.06	295.82	.00	.87	.97	1.000	.000	.00	1 .0
.248	.2982					.0157	.00	.63	1.99	.28	.010	.00	.00	PIPE
163.606	294.207	.655	294.862	4.30	7.88	.96	295.83	.00	.87	.95	1.000	.000	.00	1 .0
.209	.2982					.0139	.00	.66	1.83	.28	.010	.00	.00	PIPE
163.814	294.269	.684	294.953	4.30	7.52	.88	295.83	.00	.87	.93	1.000	.000	.00	1 .0
.173	.2982					.0124	.00	.68	1.69	.28	.010	.00	.00	PIPE

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L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
163.987	294.321	.714	295.035	4.30	7.17	.80	295.83	.00	.87	.90	1.000	.000	.00	1 .0
.138	.2982					.0111	.00	.71	1.55	.28	.010	.00	.00	PIPE
164.125	294.362	.747	295.109	4.30	6.83	.73	295.83	.00	.87	.87	1.000	.000	.00	1 .0
.103	.2982					.0099	.00	.75	1.42	.28	.010	.00	.00	PIPE
164.228	294.393	.783	295.176	4.30	6.52	.66	295.83	.00	.87	.82	1.000	.000	.00	1 .0
.067	.2982					.0090	.00	.78	1.28	.28	.010	.00	.00	PIPE
164.295	294.412	.824	295.236	4.30	6.21	.60	295.84	.00	.87	.76	1.000	.000	.00	1 .0
.025	.2982					.0082	.00	.82	1.15	.28	.010	.00	.00	PIPE
164.320	294.420	.872	295.292	4.30	5.92	.54	295.84	.00	.87	.67	1.000	.000	.00	1 .0

LGC Valley, Inc.

Geotechnical Consulting

PRELIMINARY GEOTECHNICAL INVESTIGATION,
PROPOSED RESIDENTIAL DEVELOPMENT,
23161 MILL CREEK DRIVE,
LAGUNA HILLS, CALIFORNIA

Dated: August 15, 2024

Project No. 244006-01

Prepared For:

Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

9272 Jeronimo Road, Suite 104, • Irvine • CA 92618 • (949) 297-3856

LGC Valley, Inc.
Geotechnical Consulting

August 15, 2024 Project No. 244006-01

Ms. Aylene Chu
Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

Subject: ***Preliminary Geotechnical Investigation, Proposed Residential Development, 23161 Mill Creek Drive, Laguna Hills, California***

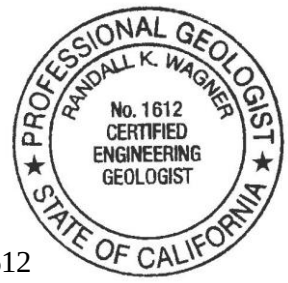
In accordance with your request, LGC Valley, Inc. (LGC) has performed a preliminary geotechnical investigation for the proposed multi-family residential development located at 23161 Mill Creek Drive (Assessor Parcel Number [APN] 588-142-07) in the City of Laguna Hills, California. The purpose of our geotechnical investigation was to evaluate the existing on-site geotechnical conditions relative to the proposed multi-family residential development of the site and to provide geotechnical recommendations applicable to the grading operations and future site construction for the project.

Our geotechnical study included: 1) review of the available geotechnical as-graded documents of the site and adjacent properties, and pertinent geotechnical and geologic reports and maps relative to the general vicinity; 2) a site reconnaissance, geologic mapping, and field exploration consisting of the excavation of six small-diameter borings; 3) laboratory testing of representative on-site soil samples; 4) geotechnical analysis of the collected data; and 5) preparation of this report that includes our findings, conclusions, opinions, and recommendations relative to the grading and development of the site.

Based on the results of our preliminary geotechnical investigation, it is our professional opinion that the proposed site development is feasible from a geotechnical standpoint provided the recommendations included in this report are incorporated into the project plans and specifications and followed during site grading and construction. If you have any questions regarding our report, please contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LGC VALLEY, INC.



Randall K. Wagner, CEG 1612
Senior Project Geologist

Basil Hattar, GE 2734
Principal Engineer

Distribution: (1) Addressee (via e-mail)

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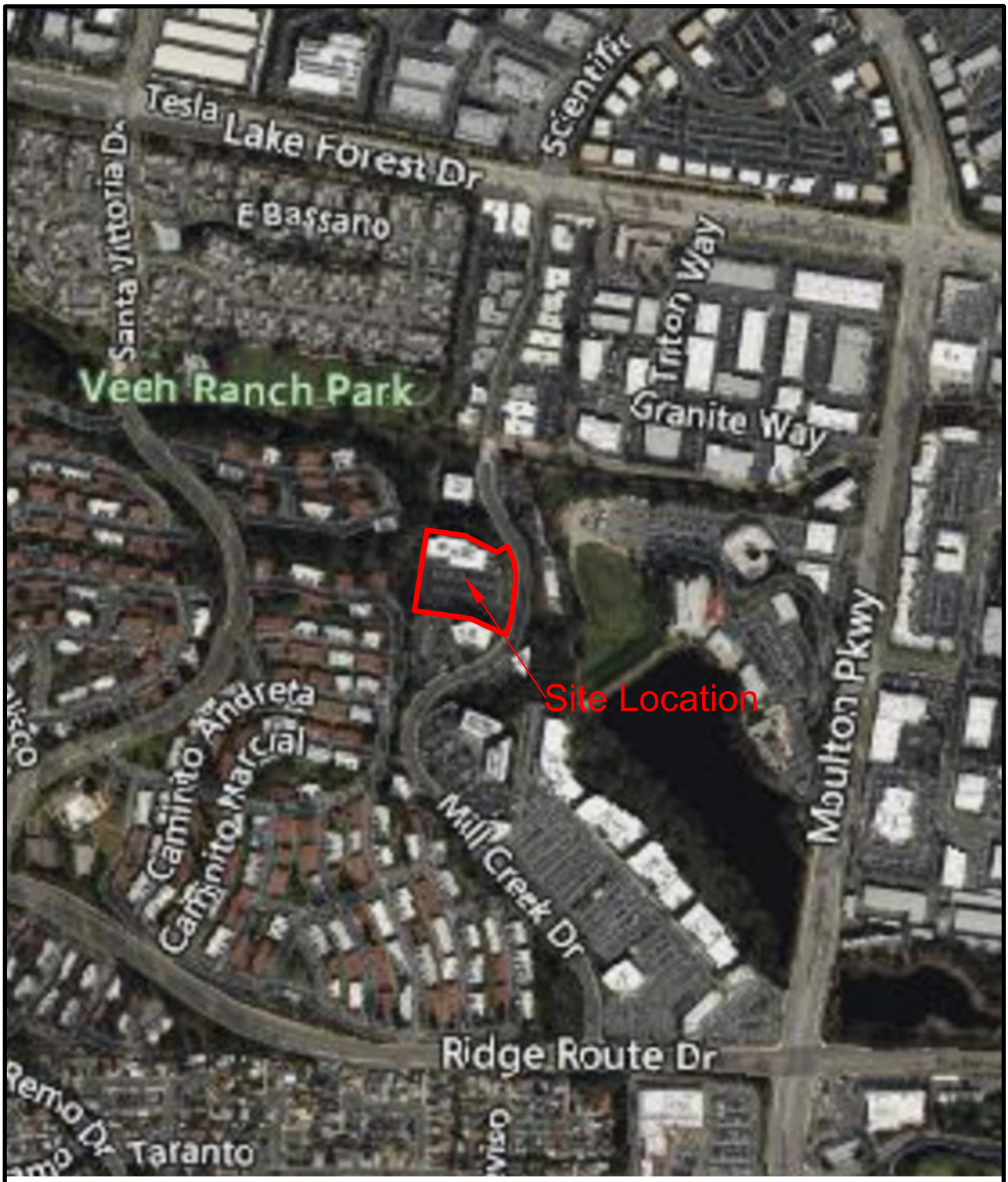
1.0 INTRODUCTION

1.1 Purpose and Scope of Services

The purpose of this preliminary geotechnical investigation was to identify and evaluate the existing geologic and geotechnical conditions at the subject site (Figure 1) and to provide preliminary geotechnical design criteria relative to the proposed multi-family development of the site. Recommendations for site grading, construction, preliminary foundation design for the proposed structures, and other relevant aspects of the proposed development are included herein to address the identified site geotechnical conditions.

Our scope-of-services for preparation of this document included:

- Review of available reports including prior geotechnical investigations, as-graded geotechnical documents, and other geotechnical related documents of the site and adjacent properties; and pertinent published geologic, geotechnical, and seismic reports and maps relative to the general vicinity (Appendix A).
- A site reconnaissance and geologic mapping of the site.
- A subsurface investigation consisting of the excavation, sampling, and logging of six small-diameter hollow-stem borings. The locations of the borings are shown on the Geotechnical Map (Figure 2). The logs of the borings are presented in Appendix B. The test borings were sampled and logged under the supervision of a licensed engineering geologist from our firm. The excavations were performed to evaluate the general characteristics of the subsurface conditions of the site including the classification of site soils and the determination of the depth to competent soil.
- Laboratory testing of representative soil samples obtained during our investigation (Appendix C).
- Review of boring logs from the geotechnical studies previously performed on the site and/or adjacent sites. The applicable boring logs are presented in Appendix D.
- Determination of seismic design parameters based on current building code requirements.
- Geotechnical analyses and evaluation of the data obtained during this study.
- Preparation of this report presenting our findings, conclusions, opinions, and recommendations including the General Earthwork and Grading Specifications for Rough Grading (Appendix E) with respect to the evaluated geotechnical conditions at the site and the proposed development.



Basemap: ESRI World Imagery Basemap, Accessed August 13, 2024

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Figure 1
Site Location Map
23161 Mill Creek Drive
Laguna Hills, California

Project Name	Toll/23161 Mill Creek
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	Not-to-Scale
Date	August 15, 2024

1.2 Site and Project Description

The approximately 2.44-acre site is located on the west side of Mill Creek Drive southwest of the intersection of Mill Creek Drive and Lake Forest Drive in the northwestern portion of the City of Laguna Hills, California (Figure 1). The site is bounded by Mill Creek Drive on the east, existing business developments on the north (23091 Mill Creek Drive) and south (23201 Mill Creek Drive), and a residential development on the west. The site currently consists of one three-story commercial building in the northern portion of the site and a large, paved parking lot in the central and southern portions of the site. Additional improvements include underground utility lines, retaining walls along the south and west sides of the parking lot, landscaping, and associated improvements. A north- to east-facing slope up to approximately 40 to 45 feet in height is present on the north and east sides of the property that descends to the parking lot of 23091 Mill Creek Drive on the north and Mill Creek Drive on the east. An approximately 10 to 15-foot-tall north-facing slope is present along the south side of the property.

Review of available aerial photographs, historical Google Earth images, old topography maps, and geotechnical reports of adjacent properties (Appendix A) indicate that the site (and general vicinity) was rough graded in the late 1970's/early 1980's and the site was precise graded in 1985/1986. The as-graded geotechnical reports and grading plans specific to 23161 Mill Creek were not available at the City of Laguna Hills; and consequently, were not reviewed by us for the purposes of this study.

Prior to the grading of the site, the property was located along the north side of a northwest-southeast trending ridgeline. Mill Creek Drive along the east side of the property was the location of a small tributary canyon that was partially in-filled during the grading of the area. Based on Google Earth images, elevations of the relatively flat portion of the property range from approximately 297 to 301 feet along the north side of the property to 300 to 316 feet along the south side. Based on the original topography, current site grades, and our limited subsurface investigation, we anticipate that the prior grading of the site consisted of a cut-fill condition with shallow fills located across the site (existing parking lot area) and deeper fills along the northern side of the property (and beneath the existing building) with backfill soils behind the on-site retaining walls.

1.3 Proposed Development

We understand that the proposed development will consist of a multi-family townhome residential development consisting of nine 3- to 6-unit structures (totaling 43 units). Preliminary plans show perimeter retaining walls are being considered around the perimeter of the site consisting of a combination of block walls, pile walls, and segmental (MSE) walls ranging in height from 4 to 17 feet. Anticipated associated improvements will include asphalt concrete (AC) streets and parking areas, a gated entrance, Portland cement concrete (PCC) sidewalks, open-space areas/landscaping, underground utility lines, a storm water biofiltration system, and associated improvements.

1.4 Subsurface Investigation and Laboratory Testing

Our subsurface investigation was performed on May 8, 2024, and consisted of the excavation, sampling, and logging of six small diameter hollow-stem borings (designated Borings LGC-B-1 through LGC-B-6) excavated to depths ranging from approximately 10.5 to 20.5 feet. All of the borings were extended into competent formational material. The logs of the borings are presented in Appendix B while the approximate locations of the borings are shown on the Geotechnical Map (Figure 1). At least three days prior to the start of our subsurface investigation, the proposed boring excavation locations were staked, Underground Service Alert (USA) notified, and the applicable information provided to them. The USA Dig Alert Number for this project is A241230333.

During the subsurface investigation, representative bulk samples and relatively undisturbed samples were collected for laboratory testing, and were forwarded to EGLAB, Inc. (EGL) and to LGC Valley, Inc. for classification testing. Laboratory testing was performed on representative soil samples and included moisture/density, Atterberg Limit, sieve analysis, consolidation, expansion index, direct shear, remolded direct shear, maximum density, sulfate content, chloride content, pH, and minimum resistivity testing. A summary of the test procedures and printouts of the laboratory test results are presented in Appendix C. The moisture and density test results were presented on the boring logs included in Appendix B.

1.5 Existing As-Graded Geotechnical Conditions

Based on our review of available PDF copies of public records obtained from the City of Laguna Hills (see References - Appendix A); a number of different preliminary geotechnical investigations and as-grade reports have been prepared for adjacent properties. However, the preliminary geotechnical investigations and as-grade reports for the subject property (23161 Mill Creek Drive) and the property to the south (23201 Mill Creek Drive) were not available for our review. The findings and conclusions of the available geotechnical reports relative to 23091 Mill Creek Drive (located to the north of the subject site) are discussed below.

2.0 GEOTECHNICAL CONDITIONS

2.1 Site Geology

Based on our subsurface exploration and review of the available previous geotechnical reports for the property and pertinent geologic literature and maps (Appendix A), the bedrock unit at the site is the Tertiary-aged Sespe Formation. The bedrock is overlain by older artificial fills placed during previous development of the site. The approximate extent of the mapped geologic units present on the site is depicted on the Geotechnical Map (Figure 2). A brief description of the geologic units encountered on the site is presented below.

2.1.1 Artificial Older Fill (Afo)

Based on our review of the available geotechnical reports of the site and the general vicinity, it is our understanding that the on-site existing artificial fills (up to approximately 25+ feet in thickness) were placed and documented by Irvine Soils Engineering, Inc. (1980) and G.A. Nicoll and Associates, Inc. (1986); however, these reports were not available for our review.

Existing artificial fills were encountered in our recent geotechnical borings within the existing parking areas across the site and were found to consist of silty to clayey sands that were slightly moist and medium dense. The depths of the encountered fills ranged from approximately 1 to 5 feet in thickness. Based on the available data, the deeper existing fills are located underlying the existing structure and slope located along the northern portion of the site. Due to the existing site improvements and access issues, this deeper fill was not investigated as a part of this study.

Based on our understanding of the placement/documentation of the existing older fills and our observations and testing of the encountered fills on-site, it is our preliminary conclusion that the existing fills are considered suitable for support of the proposed structures, provided remedial removals are performed of any fills disturbed during site demolition. For confirmation purposes, an additional evaluation of the fill soils (after the existing building is demolished and removed) should be performed. This additional evaluation will need to include surface excavation (drilling), sampling, and laboratory testing to determine the competency of the existing fill soils, and suitability for support of the proposed structures. Additional remedial removal or foundation recommendations will be provided at that time, as necessary.

2.1.2 Tertiary-Aged Sespe Formation (Ts)

Based on our review of geologic maps of the site and general vicinity, the site is underlain by massive to thickly bedded non-marine gray to red pebbly sandstones and silty to clayey sandstones with interbedded siltstones and claystones of the Tertiary-aged Sespe Formation (Morton, Hauser, and Ruppert, 1999; and Morton and Miller,

2006). The results of our subsurface investigation indicated that the Sespe Formation soils encountered consisted of fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles.

2.2 Geologic Structure

Based on our review of geotechnical documents relative to the property directly north of the site, it appears that a large-diameter boring was excavated in the northern portion of the 23161 Mill Creek Drive property in 1986 by G. A. Nicoll and Associates Inc. (Lawmaster & Co, Inc., 1989). The location of the boring (Boring N-B-2) and the bedding attitudes obtained in the boring are shown on Figure 2. This information was obtained from a geotechnical investigation map of 23091 Mill Creek Drive (Lawmaster, 1989). As indicated, the bedding observed in the Sespe Formation ranges from N68W to N65E dipping 5 to 33 degrees to the south. As a result, bedding is dipping into-the-slope and is considered favorable in regard to slope stability. It should be noted that the geotechnical investigation report by G.A. Nicoll and Associates in 1986 that includes the boring log and the description of the subsurface investigation was not available for our review.

2.3 Landslides

Based on our review of aerial photographs and available geotechnical reports for the site, (Appendix A), no evidence of landsliding or other slope instability conditions were observed on-site or noted in the literature. Consequently, the potential for the existence of landslides is considered insignificant.

2.4 Groundwater

Review of available groundwater related internet web sites (Appendix A) indicates that groundwater is likely greater than 50 feet below the ground surface at the site. Groundwater is relatively shallow (generally less than 20 feet below the ground surface) in the large alluvial valley north and northeast of the site. As a result, groundwater is not expected to have a significant impact to the proposed development (provided the recommendations of this report are implemented during the design, grading, and construction of the proposed site improvements).

2.5 Surface Water and Flooding

Based on our review of the existing site grading plans and topography map of the site, sheet flow across the site is to the southeast. Surface water runoff relative to project design is the purview of the project civil engineer and should be directed away from planned structures. Due to the elevation of the site relative to drainages, flooding at the site is considered insignificant.

2.6 Faulting

The southern California region has long been recognized as being seismically active. The seismic activity results from several active faults that cross the region, all of which are related to the San Andreas transform system, a broad zone of right lateral faults that extend from Baja California to Cape Mendocino. The numerous faults in Southern California include Holocene active, pre-Holocene active, and age-undetermined faults. The definitions of fault activity terms used here are based on those developed for the Alquist-Priolo Special Studies Zone/Earthquake Zone Act of 1972 (CGS, 2018).

Holocene active faults are those faults that have had surface displacement within Holocene time (approximately the last 11,700 years) and have been included within an Alquist-Priolo Earthquake Zone. Pre-Holocene faults have not moved in the last 11,700 years but may be considered potentially active. Age-undetermined faults are faults where the recency of fault movement has not been determined and may likely be considered inactive faults.

The site is not within the currently established Alquist-Priolo Earthquake Fault Zone for fault rupture hazard (formerly Special Studies Zones for fault rupture hazard). Based on a review of geologic literature, no active faults are known to occur beneath or in the general vicinity of the project site. Accordingly, it appears that there is little probability of surface rupture due to faulting beneath the site. There are, however, several faults located in sufficiently close proximity that movement associated with them could cause significant ground motion at the site.

Regional active faults that occur within the Laguna Hills and southern California area include the Newport-Inglewood fault zone to the west and the San Joaquin Hills blind thrust fault, Whittier-Elsinore, San Jacinto, and San Andreas faults to the east. The closest known active faults to the site are the San Joaquin blind thrust Hills fault located approximately 1 mile (1.7 kilometers) to the northeast, the Newport-Inglewood fault zone located approximately 7 miles (11.5 kilometers) to the southwest, and the Elsinore fault zone located approximately 16.5 miles (26.5 kilometers) to the northeast.

The main seismic parameters to be considered when discussing the potential for earthquake-induced damage are the distances to the causative faults, earthquake magnitudes, and expected ground accelerations. Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the southern California region include soil liquefaction and dynamic settlement. Other secondary seismic effects include shallow ground rupture, seiches and tsunamis. In general, these secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and the causative fault and the on-site geology.

2.7 Seismicity and Related Effects

We have performed site-specific analysis based on these seismic parameters for the site and the on-site geologic conditions. The results of our analysis are discussed in terms of the potential seismic events that could be produced by the maximum probable earthquakes. A

maximum probable earthquake is the maximum earthquake likely to occur given the known tectonic framework.

2.7.1 Seismic Design Criteria

Based on the 2022 California Building Code (CBC) the site seismic characteristics for the project were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2022 CBC. Representative site coordinates for the project site of Latitude 33.625942º N and Longitude -117.735614º W were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (SMS and SM1) and adjusted design spectral response acceleration parameters (SDS and SD1) for Site Class C are provided in the following table.

Table 1

California Building Code Seismic Design Parameters

Selected Parameters from 2022 CBC, Section 1613 - Earthquake Loads	Seismic Design Values
Site Class (per Chapter 20 of ASCE 7)	C
Risk-Targeted Spectral Acceleration for Short Periods (S_S)	1.223g
Risk-Targeted Spectral Accelerations for 1-Second Periods (S_1)	0.439g
Site Coefficient F_a [per CBC Table 1613.2.3(1)]	1.2
Site Coefficient F_v [per CBC Table 1613.2.3(2)]	1.5
Site Modified Spectral Acceleration for Short Periods (S_{MS}) [Note: $S_{MS} = F_aS_S$]	1.467g
Site Modified Spectral Acceleration for 1-Second Periods (S_{M1}) [Note: $S_{M1} = F_vS_1$]	0.659g
Design Spectral Acceleration for Short Periods (S_{DS}) [Note: $S_{DS} = (^2/_3)S_{MS}$]	0.978g
Design Spectral Acceleration for 1-Second Periods (S_{D1}) [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.439g
Seismic Design Category (per CBC Section 1613.2.5)	D

Section 1803.5.12 of the 2022 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake ground motions, Peak Ground Acceleration (PGA) should be used for the geotechnical evaluations. The PGA_M for the site is equal to 0.617g **(**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2).

A deaggregation of the PGA based on a 2,475-year average return period indicates that an earthquake magnitude of 6.89 at approximately 3.33 km (2.07 mi) from the site would contribute the most to this ground motion (USGS, 2014).

2.7.2 Lurching and Shallow Ground Rupture

Soil lurching refers to the rolling motion on the ground surface by the passage of seismic surface waves. Effects of this nature are not likely to be significant where the thickness of soft sediments do not vary appreciably under structures. Although there are several nearby active and potentially active faults, the native soils are dense, and no active faults are known or interpreted to cross the site. Based on this data, it is our opinion that the potential for lurching or shallow rupture at the site is very low to nil.

2.7.3 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Liquefaction is typified by a buildup of pore-water pressure in the affected soil layer to a point where a total loss of shear strength occurs, causing the soil to behave as a liquid. Studies indicate that saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures.

Based on the anticipated relative density of the on-site soils and the depth to the static groundwater in the area of the proposed development; it is our opinion that the potential for liquefaction impacting the site is nil, and seismically induced settlements are considered to be negligible.

During a strong seismic event, seismically induced settlement can occur within loose to moderately dense, dry, or saturated granular soil. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement. Based on in-situ densities, and soil types, dry sand settlement and induced surface manifestations are not considered an issue at the site.

2.7.4 Tsunamis and Seiches

Due to the elevation of the proposed development at the site with respect to sea level and its distance from large open bodies of water, the potential of seiches and/or tsunami is considered to be very low.

2.8 Slope Stability

Based on the massive to thickly bedded Sespe Formation on the site, favorable (into-the-slope) geologic bedding conditions, and the construction of the proposed segmental geogrid retaining walls along the north and east sides of the property and the block and pile retaining walls along the west and south sides of the property, slope stability is not considered an issue with respect to site development. However, as part of our geotechnical review of the proposed segmental geogrid retaining walls and pile walls, a global slope stability analysis will be performed once the segmental wall designs are completed. The results will be presented in a future retaining wall plan review letter.

2.9 Expansion Potential

Expansion potential testing of representative on-site soil samples indicates that the on-site soils have a very low to low expansion potential (Appendix C). Although some of the near surface soils (Sespe Formation claystone layers) may have a medium to high expansion potential, we would anticipate the mixture and redistribution of site soils will result in a low expansion potential for the site. The as-graded soil conditions of the proposed building pads should be verified with confirmatory observation, sampling, and testing after site grading is completed and prior to the construction of the structures.

2.10 Soluble Sulfate and Corrosivity of the On-Site Soils

Laboratory testing of representative on-site soils indicated the on-site soils tested had soluble sulfate contents that ranged from 0.005 to 0.007 percent (Appendix C). As a result, the on-site soils should be considered to have a negligible degree of corrosivity to concrete and have an Exposure Class of S0 in accordance with ACI 318R-14 Table 19.3.1.1. The as-graded sulfate content of the finish grade soils on the building pads should be verified upon completion of grading.

Minimum resistivity, pH, and chloride content tests were also performed on two representative soil samples obtained during our subsurface investigation. These corrosion tests resulted in a minimum resistivity of 1,300 to 1,700 ohm-centimeters, a pH of 7.82 to 8.15, and a chloride content of 125 to 140 ppm (Appendix C). Based on these results, the on-site soils should be considered moderately corrosive to buried metals in contact with the on-site soils.

2.11 Excavation Characteristics

The site is underlain by near surface soils consisting of silty fine to coarse sands, clayey to fine sandy silts, silty clay, siltstone/claystone, and sandstone layers. It is anticipated that the on-site materials can be excavated with conventional heavy-duty construction equipment and that difficult excavation and/or blasting is not anticipated. In addition, the anticipated site excavation and the proposed construction will not have an adverse impact on the adjacent properties.

2.12 Earthwork Shrinkage and Bulking

The volume change of excavated on-site materials upon recompaction as fill is expected to vary with materials and location. Typically, the surficial soils and bedrock materials vary significantly in natural and compacted density, and therefore, accurate earthwork shrinkage/bulking estimate cannot be determined. However, the following factors (based on the results of our subsurface investigation and previous investigations of the site, laboratory testing, geotechnical analysis, and professional experience on nearby sites) are provided in Table 2 as guideline estimates. If possible, we suggest an area where site grades can be adjusted be provided as a balance area.

Table 2

Earthwork Shrinkage and Bulking Estimates

Geologic Unit	Estimated Shrinkage/Bulking
Artificial Fill and upper 1 to 2 feet of the site	3 to 7 percent shrinkage
Sespe Formation	0 to 5 percent bulking

2.12 Stormwater Infiltration/Percolation

Based on our understanding of site development, on-site storm water will flow into proprietary underground biofiltration BMP structures that will treat the storm water and then discharge it into the on-site storm drain system that is connected to the storm drain system in Mill Creek Drive. We also understand that site infiltration is not currently proposed. However, a future percolation/infiltration study may be required to determine the feasibility of storm water subsurface infiltration for the site.

Our limited subsurface investigation of the site that was performed on May 8, 2024 and consisted of the excavation, sampling, and logging of six small diameter hollow-stem borings excavated to depths ranging from approximately 10.5 to 20.5 feet, indicated the near surface soils consist of fill soils and Tertiary-Aged Sespe Formation. As encountered, the Sespe Formation soils consisted of fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles. Based on our professional experience with similar soils, infiltration of these sandy soils are likely feasible; however, the results will likely have a relatively low infiltration rate (slightly above the typical minimum required rate of 0.5 inches per hour). Infiltration into the fill soils and along the north, northeast, and east sides of the site are not recommended due to the presence of descending slopes, large retaining walls, and fill soils that will have a reduced factor-of-safety as the result of subsurface groundwater.

Once the final storm water infiltration design is determined for the site, a percolation/infiltration study (in accordance with the City of Laguna Hills/County of Orange requirements) should be performed to determine the actual percolation/infiltration rate(s) at the proposed storm water infiltration locations and appropriate factor-of-safeties.

3.0 CONCLUSIONS

Based on the results of our geotechnical investigation, evaluation, and review; it is our professional opinion that the proposed site development is feasible from a geotechnical standpoint, provided the recommendations included in this report are incorporated into the project plans and specifications, and followed during site grading and construction. Our geotechnical conclusions are as follows:

- Review of available aerial photographs, historical Google Earth images, old topography maps, and geotechnical reports of adjacent properties (Appendix A) indicate that the site (and general vicinity) was rough graded in the early 1980's and the site was precise graded in 1986. The as-graded geotechnical reports and grading plans specific to 23161 Mill Creek were not available at the City of Laguna Hills; and consequently were not reviewed by us.

- Based on our subsurface exploration and review of the available previous geotechnical reports for the property and pertinent geologic literature and maps, the bedrock unit at the site is the Tertiary-aged Sespe Formation that is overlain by artificial older fills. The fill soils are a mixture of silty to clayey sands, silty fine to coarse sands, clayey to fine sandy silts, and silty clay. The Sespe Formation generally consisted of massive to thickly bedded fine to coarse sandstone, silty and clayey fine to medium sandstone, and sandy to clayey siltstone with little to no pebbles. The fill soil layers encountered in our current geotechnical investigation were found to be competent and suitable for support of proposed structures, provided the recommendations of this report are followed during site grading and construction.

- After the removal of the existing buried underground utilities has been made, the trench locations should be surveyed, and the excavations should be replaced with fill soils compacted to a minimum 90 percent relative compaction (based on ASTM D1557). Where these trenches are located within the limits of the proposed multi-family building foundation footprints, special consideration should be made as the majority of the site is cut and the trenches will create cut/fill transition conditions. Mitigation measures may include overexcavation of the upper 5 feet of the pad and replacement with compacted fill or backfilling the trenches with a 2-sack sand/cement slurry.

- The existing on-site soils appear to be suitable material for use as fill provided, they are relatively free of rocks (larger than 8 inches in maximum dimension), organic material, and debris.

- The on-site formational material is anticipated to be massive to thickly bedded. The bedding observed in the Sespe Formation ranges from N68W to N65E dipping 5 to 33 degrees to the south (Lawmaster & Co, Inc., 1989). As a result, bedding is dipping into-the-slope and is considered favorable in regard to slope stability.

- There are no known landslides or other slope instability issues impacting the site.

- Review of available groundwater related internet web sites (Appendix A) indicates that groundwater is likely greater than 50 feet below the ground surface at the site. Groundwater was not encountered during our recent subsurface investigation. Consequently, groundwater is not expected to have an impact on the proposed development.

- Based on the topography of the site, surface water is anticipated to flow across the sheet-graded pad from the west to southeast.

- Due to the elevation of the site relative to existing drainages, flooding at the site is not considered an issue for the site.

- Active or potentially active faults are not known to exist on the site.

- The site is not located within the Alquist-Priolo Earthquake Fault Zone (CGS, 2018). The closest known Holocene active faults to the site are the San Joaquin blind thrust Hills fault located approximately 1 mile (1.7 kilometers) to the northeast, the Newport-Inglewood fault zone located approximately 7 miles (11.5 kilometers) to the southwest, and the Elsinore fault zone located approximately 16.5 miles (26.5 kilometers) to the northeast.

- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults.

- Based on the relatively dense nature of the proposed compacted fill soils and existing formational material and lack of a permanent shallow groundwater condition, liquefaction and/or dynamic settlement at the site is considered very low to nil.

- Due to the elevation of the proposed development at the site with respect to sea level and its distance from large open bodies of water, the potential of seiches and/or tsunami is considered to be nil.

- Based on the massive to thickly bedded Sespe Formation on the site, generally favorable geologic bedding conditions, and the construction of the proposed segmental geogrid retaining walls along the north and west sides of the property, slope stability is not considered an issue with respect to site development. However, as part of our geotechnical review of the proposed geogrid retaining walls and pile walls, a global slope stability analysis will be performed once the wall designs are completed. The results will be presented in a future retaining wall plan review letter.

- Expansion potential testing of representative samples of the on-site soils indicate those soils have a very low to low expansion potential (Appendix C). Although some of the near surface soils may have a medium to high expansion potential, most of the soils on the site have a low expansion potential. The as-graded soil conditions of the proposed building pads should be verified with confirmatory observation, sampling, and testing after site grading is completed and prior to the construction of the structures.

- Laboratory testing of representative on-site soils indicated the on-site soils should be considered to have a negligible degree of corrosivity to concrete and have an Exposure Class of S0 in accordance with ACI 318R-14 Table 19.3.1.1.

- Minimum resistivity, pH, and chloride content tests were also performed on the two representative soil samples obtained during our subsurface investigation and these results indicate the on-site soils should be considered moderately corrosive to buried metals in contact with the on-site soils.

- It is anticipated that the on-site materials can be excavated with conventional heavy-duty construction equipment and that difficult excavation and/or blasting is not anticipated.

- The anticipated site excavation and the proposed construction will not have an adverse impact on the adjacent properties.

- The multi-family residential structures may be designed to be supported by post-tension or mat foundation systems.

- In order to reduce the potential for differential settlement in areas of cut/fill transitions, we recommend the upper 5 feet of the building pad be overexcavated and replaced with properly compacted fill to mitigate the transition condition beneath the proposed structure. This condition is likely along the north and west sides of the property, where existing buried utility lines that are abandoned and the trenches replace with compacted fill, and possibly in the eastern portion of the site along the property boundary.

- Based on our professional experience with similar soils, infiltration of the on-site sandy formational soils are likely feasible; however, a percolation/infiltration study (in accordance with the City of Laguna Hills/County of Orange requirements) should be performed to determine the actual percolation/infiltration rate(s) at the proposed storm water infiltration locations and appropriate factor-of-safeties.

4.0 RECOMMENDATIONS

4.1 Site Earthwork

We anticipate that earthwork at the site will consist of site preparation and remedial grading and construction of site perimeter retaining walls followed by construction of the proposed slab-on-grade type foundations and associated improvements. We recommend that earthwork on-site be performed in accordance with the recommendations herein, the City of Laguna Hills grading requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix E. In case of conflict, the recommendations in the following sections shall supersede those included as part of Appendix E.

4.1.1 Site Preparation

Prior to grading of the area to receive structural fill or engineered structures, the ground surface should be cleared of obstructions, debris, potentially compressible material (such as undocumented fill soils, dry, disturbed, or desiccated documented fill and formational material and stripped of vegetation). Vegetation and debris should be removed and properly disposed of offsite. Holes resulting from the removal of buried obstructions or utilities, which extend below finished site grades, should be replaced with suitable compacted fill material. Areas to receive fill and/or other surface improvements should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition, and recompacted to at least 90 percent relative compaction (based on American Standard of Testing and Materials [ASTM] Test Method D1557).

4.1.2 Removal and Recompaction

The upper portion of the site is underlain by potentially compressible/collapsible or unsuitable soils (i.e., desiccated existing fills, and formational material) which may settle under the addition of water, under the surcharge of fill, and/or foundation loads. Compressible materials not removed by the planned grading should be excavated to competent material (as determined by the geotechnical consultant) and replaced with compacted fill soils. From a geotechnical perspective, soil that is removed may be placed as fill provided the material is relatively free from rocks (greater than 8-inches in maximum dimension), organic material and construction debris; is moisture-conditioned or dried (as needed) to obtain above-optimum moisture content; and then recompacted prior to additional fill placement or construction.

All disturbed or desiccated fills underlying or within the influence of the proposed development should be removed to competent soils. The actual depth and extent of the required removals should be determined during grading operations by the geotechnical consultant; however, the estimated remedial removals are as follows: we anticipate removals of up to 3 feet below existing grades; however, localized, deeper removals should be anticipated where deemed necessary by the geotechnical consultant based on observations during grading.

4.1.3 Cut/Fill Transition Condition

In order to reduce the potential for differential settlement of proposed buildings located across cut/fill transitions, we recommend the entire cut portion of the transition building pads be overexcavated to a minimum depth of 5 feet and replaced with properly compacted fill to mitigate the transition condition beneath the proposed structure; or the building foundations deepened so that all foundation footings are founded on formational material. Where existing buried utility lines that will be abandoned are located with the limits of the proposed building foundation footprint, special consideration should be made as the majority of the site is likely cut and the trenches will create cut/fill transition conditions. Mitigation measures may include overexcavation of the upper 5 feet of the pad and replacement with compacted fill or backfilling the trenches with a 2-sack sand/cement slurry.

4.1.4 Shrinkage/Bulking

Based on the encountered site soils; the existing fills and upper 1 to 2 feet of the site is anticipated to shrink while the formational materials are anticipated to bulk. The preliminary estimated shrinkage and bulking factors are presented in Table 2 (in Section 2.12 of this report). The value ranges are preliminary rough estimates which will vary with depth of removal, stripping losses, field conditions at the time of grading, etc. In addition, handling losses is not included in the estimates. If possible, we suggest an area where site grades can be adjusted be provided as a balance area.

4.1.5 Temporary Excavation Stability

In general, all excavations should be performed in accordance with project plans, specifications, and all Occupational Safety and Health Administration (OSHA) requirements. Excavations should be laid back or shored in accordance with OSHA requirements before personnel or equipment are allowed to enter. Soil conditions should be mapped and frequently checked by a representative of LGC to verify conditions are as anticipated. The contractor shall be responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination with the geotechnical engineer should be maintained to facilitate construction while providing safe excavations. Excavation safety is the responsibility of the contractor.

Temporary excavations may be cut vertically up to five feet. Excavations over five feet should be slot-cut, shored, or cut no steeper than 1:1 (horizontal to vertical) slope gradient. If a block wall along the western property line adjacent to the existing off -site building is planned, shoring of the western property line will need to be provided to for support of the wall backcut and to maintain lateral support for the off-site structure. Surface water should be diverted away from any exposed cut, and not be allowed to pond on top of the excavations. Temporary cuts should not be left open for an extended period of time. Planned temporary conditions should be reviewed by the geotechnical consultant of record in order to reduce the potential for sidewall failure. The geotechnical consultant may provide recommendations for controlling the length of sidewall exposed.

4.1.6 Temporary Shoring

The following preliminary geotechnical parameters may be utilized by the shoring consultant for design of the temporary shoring system along the southern property boundary, as necessary. Temporary shoring is generally considered to have a service life of two years or less. The geotechnical conditions outside of the perimeter of the proposed site have not been investigated as part of this report. The recommendations provided herein with regard to shoring of the proposed excavation are based on assumed conditions, extrapolated from the data gathered from our review of the subject site and adjacent sites. The shoring designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.

Prior to construction, the contractor should verify underground clearance of any existing utility lines or structures that must be removed or protected in place during construction, or may conflict with any proposed shoring system. Any tieback anchors and/or soil nails that extend beyond the site property limits will require permission from the adjacent property owner. Special attention will be required to protect existing settlement sensitive improvement in close proximity to the proposed excavation, such as any adjacent structures or streets located along the boundary of the site.

Typical cantilever temporary shoring, where deflection of the shoring will not impact the performance of adjacent structures or streets, may be designed using the active equivalent fluid pressures of 40 pounds per square foot (psf) per foot of depth (or pcf) for a level condition, and a 50 pcf for a 2:1 (horizontal to vertical) sloping condition. Braced (i.e. internal bracing -rakers) or tied-back shoring is recommended in areas where the shoring will be located close to existing structures or streets in order to limit shoring defections or required due to the proposed depth of excavation. Braced or tied-back shoring with a level backfill may be designed using an active trapezoidal soil pressure of 24H in pounds per square foot (psf) per foot of depth (or pcf) for level condition and 30 pcf for a 2:1 (horizontal to vertical) sloping condition, where H is equal to the depth in feet of the excavation being shored (shape of the trapezoid should be 0.2H, 0.6H, 0.2H).

Any building, equipment, or traffic loads located within a 1:1 (horizontal to vertical) projection from the base of the shoring should be added to the applicable lateral earth pressure. A minimum additional uniform lateral pressure of 100 psf for the upper 10 feet should be added to the appropriate lateral earth pressures to account for typical vehicle traffic loading. The proposed shoring should be designed for a maximum shoring deflection of up to 1-inch adjacent to the street (non-surcharged condition) and up to a maximum of 0.5-inches adjacent to existing buildings (surcharged condition). Surcharge loads on basement walls and shoring systems from existing structures located within the 1:1 (h:v) surcharge influence zone of the excavation, shoring, and basement should be determined and considered in the design.

If temporary gravity grouted tie-backs are used anchors may be designed using a preliminary bond stress of 400 pounds per square foot (psf), and if pressure/post-grouted tieback anchors are used, anchors may be designed using a preliminary bond

stress of up to 2,500 pounds per square foot (psf). However, the tieback designer should make an independent evaluation in order to verify the preliminary bond stress is adequate for site conditions. Tieback bond stress should be verified by field testing. Tieback anchors should be designed, constructed, and tested in accordance with the requirements of the Post-Tensioning Institute (PTI).

For design purposes, tieback should obtain their load-carrying capacity from the soil behind a plane taken to be 3 horizontal feet from the bottom of the shoring facing and inclined at an angle of 60 degrees measured from the horizontal extending to the top of the excavation. Passive resistance of soldier piles (drilled or driven) may be assumed to be an equivalent fluid pressure of 350 pcf to a maximum value of 3,500 psf. The passive earth pressure may be increased by 100 percent for isolated piles. Piles with spacing greater than 3 times of pile diameter can be considered as isolated piles. In order to develop full lateral resistance, firm contact between the soldier pile and undisturbed soils must be assured. For vertical shoring capacity, an allowable skin friction of 500 psf may be used for the portion of pier below the proposed development excavation. End bearing should be neglected. Drilling of shafts for solider piles may require casing or drilling mud to prevent caving.

Due to the nature of the site soils, it is expected that continuous lagging between soldier piles will be required. The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. However, it is recommended that the lagging be designed for the full design active fluid pressure but be limited to a maximum of 400 psf. Therefore, the design lagging pressure should consider a parabolic earth pressure distribution with an active equivalent fluid pressure of 40 pounds per square foot (psf) per foot of depth (or pcf) up to a maximum of 400 psf. The maximum span for lagging for this project should be 10 feet.

The components of the shoring system should be designed by a California licensed structural and/or civil engineer specializing in the design of shoring systems. Field pullout testing should be performed during construction to verify the estimated pullout resistance used in the design and/or post grout tubes should be used to ensure adequate design capacities are obtained. Ultimately, it is the specialty contractor's responsibility to obtain the required pullout capacity, which may require design and/or field modifications. LGC should review the shoring plans prior to construction to verify that geotechnical recommendations are properly implemented into the project plans.

It is highly recommended that a program of documentation and monitoring be devised and put into practice before the onset of any groundwork. The contractor should establish survey points on the shoring, adjacent streets, and neighboring buildings within 100 feet of the excavation perimeter prior to any excavation. These survey points should be used to monitor the movement of the shoring and existing improvements during construction excavation.

The monitoring program should include, but not necessarily be limited to detailed documentation of the existing improvements, buildings and utilities around the excavation, with particular attention to any distress that is already present prior to the start of work. A licensed surveyor should be retained to establish monuments on the shoring and the surrounding ground prior to excavation. Such monuments should be monitored for horizontal and vertical movement during construction. Results of the monitoring program should be provided immediately to the project structural (shoring) engineer and LGC for review and evaluation.

4.1.7 Fill Placement and Compaction

From a geotechnical perspective, the on-site soils are suitable for use as compacted fill, provided they are screened of rocks greater than 8-inches in maximum dimension, organic material, and construction debris. Areas prepared to receive structural fill and/or other surface improvements should be scarified to a minimum depth of 6-inches, brought to at least optimum-moisture content, and recompacted to at least 90 percent relative compaction (based on ASTM Test Method D1557). The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts generally not exceeding 8-inches in loose thickness. Placement and compaction of fill should be performed in accordance with local grading ordinances under the observation and testing of the geotechnical consultant.

If possible, imported soils should contain no materials over 3- to 8-inches in maximum dimension and have a very low to low expansion potential.

4.1.8 Trench Backfill and Compaction

The on-site soils may generally be suitable as trench backfill provided, they are screened of rocks and other material over 3- to 6-inches in diameter and organic matter. Trench backfill should be compacted in uniform lifts (generally not exceeding 8-inches in compacted thickness) by mechanical means to at least 90 percent relative compaction (per ASTM Test Method D1557).

If trenches are shallow and the use of conventional equipment may result in damage to the utilities; clean sand, having sand equivalent (SE) of 30 or greater, should be used to bed and shade the utilities. Sand backfill should be densified. The densification may be accomplished by jetting or flooding and then tamping to ensure adequate compaction. A representative from LGC should observe, probe, and test the backfill to verify compliance with the project specifications.

4.2 Foundation Design

4.2.1 General Foundation Selection

Recommendations for preliminary foundation design and construction are presented

herein. Based on the results of representative expansion potential laboratory testing of the representative on-site soils, the proposed structures should be designed for a low or medium expansion potential (i.e., a 20 to 90 Expansion Index). The following post-tension and mat slab foundation recommendations are provided.

The information and recommendations presented in this section are not meant to supersede design by the project structural engineer or civil engineer specializing in the structural design nor impede those recommendations by a corrosion consultant. Should conflict arise, modifications to the foundation design provided herein can be provided.

4.2.2 Bearing Capacity

Shallow foundations may be designed for a maximum allowable bearing capacity of 2,000 lb/ft^2 (gross), for continuous footings a minimum of 18-inches wide and 12-inches deep; and spread footings 24-inches wide and 18-inches deep, into certified compacted fill or competent formational material. A factor of safety greater than 3 was used in evaluating the above bearing capacity value. This value may be increased by 300 psf for each additional foot in depth and 150 psf for each additional foot of width to a maximum value of 4,000 psf.

Lateral forces on footings may be resisted by passive earth resistance and friction at the bottom of the footing. Foundations may be designed for a coefficient of friction of 0.35, and a passive earth pressure of 250 $lb/ft^2/ft$. The passive earth pressure incorporates a factor-of-safety of greater than 1.5.

All footing excavations should be cut square and level as much as possible, and should be free of sloughed materials including sand, rocks and gravel, and trash debris. Subgrade soils should be pre-moistened for the assumed medium or high expansion potential (to be confirmed at the completion of grading). These allowable bearing pressures are applicable for level (ground slope equal to or flatter than 5:1[horizontal to vertical]) conditions only.

Bearing values indicated above are for total dead loads and frequently applied live loads. The above vertical bearing may be increased by one-third for short durations of loading which will include the effect of wind or seismic forces.

4.2.3 Post-Tension Foundation

Based on our review, the site may be considered suitable for the support of the proposed structure using a post-tensioned slab-on-grade foundation system for the anticipated low to medium expansion potential. The following section summaries our recommendations for the foundation system. Table 3 contains the geotechnical recommendations for the construction of a PT slab-on-grade foundation. The structural engineer should design the foundation system based on these parameters including the foundation settlement as indicated in the following section to the allowable deflection criteria determined by the structural engineer/architect.

As indicated above, the underslab vapor/moisture retarder (i.e., an equivalent

capillary break method) may consist of a minimum 15-mil vapor barrier in conformance with ASTM E 1745 Class A material, placed in general conformance with ASTM E1643, underlain by a minimum 1-inch of sand, as needed. The sand layer requirements above the vapor barrier are the purview of the foundation engineer/structural engineer and should be provided in accordance with ACI Publication 302 “Guide for Concrete Floor and Slab Construction”. These recommendations must be confirmed (and/or altered) by the foundation engineer, based upon the performance expectations of the foundation. Ultimately, the design of the moisture retarder system and recommendations for concrete placement and concrete mix design, which will address bleeding, shrinkage, and curling are the purview of the foundation engineer, in consideration of the project requirements provided by the architect and developer. The underslab vapor/moisture retarder described above is considered a suitable alternative in accordance with the Capillary Break Section 4.505.2.1 of the CAL Green code.

Table 3

Preliminary Geotechnical Parameters for Post-Tensioned Foundation Design

Parameter	Value	
Expansion Classification (Assumed to be confirmed at the completion of grading):	Low and Medium Expansion	
Thornthwaite Moisture Index (from Figure 3.3):	-20	
Constant Soil Suction (from Figure 3.4):	PF 3.6	
Center Lift Edge moisture variation distance (from Figure 3.6), e_m: Center lift, y_m:	**Low** 9.0 feet 0.35 inches	**Medium** 9.0 feet 0.5 inches
Edge Lift Edge moisture variation distance (from Figure 3.6), e_m: Edge lift, y_m:	**Low** 5.2 feet 0.65 inches	**Medium** 5.0 feet 1.1 inches
Expansion Potential:	**Low (21-50)**	**Medium (51-90)**
Soluble Sulfate Content for Design of Concrete Mix in Contact with Site Soils in Accordance with American Concrete Institute Standard 318, Section 4.3:	Negligible Exposure (Exposure Class S0)	
Corrosivity of Earth Materials to Ferrous Metals:	Corrosive	
Modulus of Subgrade Reaction, k (assuming presaturation as indicated below):	100 pci (low) 85 pci (medium to high)	

Additional Recommendations:

1. Presaturate slab subgrade to at least 1.2 times optimum moisture to minimum depth of 12 for low expansion potential and at least 1.2 times optimum moisture to a minimum depth of 18 inches below ground surface for medium expansion potential.
2. Install a 15-mil moisture/vapor barrier in direct contact with the concrete (unless superseded by the Structural/Post-tension Engineer*) with minimum 1 inches of sand below the moisture/vapor barrier.
3. Minimum perimeter foundation embedment below finish grade for moisture cut off should be 12 and 18 inches, respectively for low and medium expansion potentials, respectively.
4. Minimum slab thickness should be 5 inches.

* The above sand and moisture/vapor barrier recommendations are traditionally included with geotechnical foundation recommendations although they are generally not a major factor influencing the geotechnical performance of the foundation. The sand and moisture/vapor barrier requirements are the purview of the foundation engineer/corrosion engineer (in accordance with ACI Publication 302 "Guide for Concrete Floor and Slab Construction") and the homebuilder to ensure that the concrete cures more evenly than it would otherwise, is protected from corrosive environments, and moisture penetration of through the floor is acceptable to future homeowners. Therefore, the recommendations provided herein may be superseded by the requirements of the previously mentioned parties.

4.2.4 Mat Foundations

A mat foundation can be used for support of proposed residential buildings. An

allowable soil bearing pressure of 1,500 psf may be used for the design of the mat at the surface under the slab area.
for the design of the mat at the surface under the slab area.

The allowable bearing value is for total dead loads and frequently applied live loads and may be increased by one-third for short durations of loading which will include the effect of wind or seismic forces. A coefficient of vertical subgrade reaction, k, of 85 pounds per cubic inch (pci) may be used to evaluate the pressure distribution beneath the mat foundation.

The magnitude of total and differential settlements of the mat foundation will be a function of the structural design and stiffness of the mat. Based on assumed structural loads, we estimate that total static settlement will be on the order of an inch at the center of the mat foundation. Post construction differential settlement can be taken as one-half of the maximum estimated settlement.

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. Foundations may be designed for a coefficient of friction of 0.35.

Coordination with the structural engineer will be required in order to ensure structural loads are adequately distributed throughout the mat foundation to avoid localized stress concentrations resulting in potential settlement. The foundation plan should be reviewed by LGC to confirm preliminary estimated total and differential static settlements.

4.2.5 Foundation Settlement

Based on our current understanding of the project, the results of our site investigation and the recommended remedial grading with shallow foundations embedded into compacted fills or competent bedrock, we estimate the post-construction static settlement of the site to be less than 1-inch with a differential settlement of approximately of 0.5-inches in 30 feet.

For buildings located above the proposed segmental wall, with a portion of the building underlain by the geogrid reinforced soils, the proposed foundation should be designed for a minimum of a medium expansion potential and for a differential settlement of up to 2-inches in 30 feet. Recommendations to reduce the potential for differential settlements in the vicinity of the segmental walls are provided herein in Section 4.4.

4.2.6 Building Clearance and Foundation Setbacks

All building foundations located close to slopes should have a minimum setback per Figure 1808.7.1 of the 2022 CBC. The setback distances should be measured from competent materials on the outer slope face, excluding any weathered and loose materials.

Per the 2022 CBC Section 1808.7.1 and Figure 1808.7.1, building clearance from the

toe of an ascending slope should be equal one-half of the total slope height to a maximum setback of 15 feet. Retaining walls may be constructed at the base of the slope to achieve the required building clearances.

Per the 2022 CBC Section 1808.7.2 and Figure 1808.7.1, the building foundation constructed on or near a descending slope should be setback or deepened to provide a minimum footing setback equal to the total height of slope (H) divided by 3 (H/3). The footing setback should be a minimum of 5 feet for slopes up to 15 feet in height and vary up to 40 feet for slopes up to 120 feet in height. The footing setbacks should be measured from the edge of the footing to the competent materials on the outer slope face.

4.3 Lateral Earth Pressures for Retaining Walls

The following lateral earth pressures may be used for the design of any future site retaining walls. Due to the expansive nature of some of the on-site clayey formational materials, we recommend site retaining walls be backfilled with either the very low expansive bedrock or sandy soils (with minus 3-inch rock) or approved select soils. Approved select soils should consist of clean, granular soils (less than 15 percent passing the No. 200 sieve) of very low expansion potential (expansion index 20 or less based on UBC. 18-2). The recommended lateral pressures for approved select soils for level or sloping backfill are presented in Table 4.

Table 4

Lateral Earth Pressures for Retaining Walls

Conditions	Equivalent Fluid Weight (pcf)		
	Level Backfill	2:1 Backfill Sloping Upwards	Dynamic Load Increment (pcf) *
	Approved Select Material	Approved Select Material	
Active	35	50	Level -$10H^2$ 2H:1V - $17H^2$
At Rest	55	80	$16H^2$
Passive	250	--	--

* For walls with greater than 6-feet in backfill height, the above seismic earth pressure should be added to the static pressures given in the table above. The seismic earth pressure should be considered as a triangular distribution with the resultant acting at 0.4H in relation to the base of the retaining wall footing (where H is the retained height). The incremental seismic load was determined in general accordance with the standard of practice in the industry for determining earth pressures as a result of seismic events.

For design purposes, the recommended equivalent fluid pressure for each case for walls founded above the static ground water and backfilled with approved select soils is provided in Table 4. The equivalent fluid pressure values assume free-draining conditions. If conditions other than those assumed above are anticipated, the equivalent fluid pressure values should be provided on an individual-case basis by the geotechnical engineer. Surcharge loading effects from the adjacent structures should be evaluated by the geotechnical and structural engineers.

Retaining wall structures should be provided with appropriate drainage and appropriately waterproofed. The outlet pipe should be sloped to drain to a suitable outlet. Typical wall drainage design is illustrated in Figure 3. It should be noted that the recommended subdrain does not provide protection against seepage through the face of the wall and/or efflorescence. Efflorescence is generally a white crystalline powder (discoloration) that results when water, which contains soluble salts, migrates over a period of time through the face of a retaining wall and evaporates. If such seepage or efflorescence is undesirable, retaining walls should be waterproofed to reduce this potential.

Lateral earth pressures are provided as equivalent fluid unit weights, in psf/ft of depth or pcf. These values do not contain an appreciable factor of safety. A soil unit weight of 120 pcf may be assumed for calculating the actual weight of soil. For sliding resistance, a friction coefficient of 0.35 may be used at the concrete and soil interface. Wall footings should be designed in accordance with structural considerations. Refer to Section 4.2.2 for passive resistance and allowable soil bearing.

4.4 Segmental Retaining Wall Recommendations

Segmental retaining walls that may be constructed on the site are anticipated to have a level or up to a 2:1 (horizontal to vertical) sloping backfill above the walls. The zone of influence for geogrid-reinforced modular block walls is defined by a 1:1 (horizontal to vertical) projection from the heel of the bottom geogrid to the finished ground surface overlying the wall. Any building or vehicle loads within this zone should be considered in the wall design.

The following geotechnical parameters presented in Table 5 may be utilized by the wall engineer in design of the on-site segmental walls. Design of segmental retaining walls should be per the National Concrete Masonry Association (NCMA) guidelines (or equivalent guidelines).

Table 5 Design Soil Strength Parameters for Segmental Retaining Walls			
	Cohesion (psf)	**Friction Angle Peak/Ultimate (Degrees)**	**Unit Weight (pcf)**
Infill (Reinforced) Soil	50	35/30	120
Retained (Backfill) Soil	100	35/30	120
Foundation Soil	100	35/30	120

The design acceleration of 0.411g (or 2/3 PGAm), should be used for the proposed design. A Pseudo-Static Coefficient of 0.28g should be used for Slope Stability Analysis. Once the wall designer designs the wall considering external, internal, and local wall stability, LGC will then check the global slope stability. Where global slope stability is the controlling factor, additional geogrid will be added to the design and/or the geogrid will be lengthened, as needed. Thus, the final design is expected to satisfy both the "conventional method" of modular wall design as well as global slope stability.

All excavations should be made in accordance with Cal OSHA, as a general guideline. The backfill soils (having an expansion index less than 30 per UBC. 18-I-B) should be compacted to at least 90 percent relative compaction (based on ASTM Test Methods D2922 and D3017). The walls should be constructed and backfilled as soon as possible after back-cut excavation. Prolonged exposure of back-cut slopes may result in some localized slope instability. Excavation safety is the sole responsibility of the contractor.

The subject walls may be backfilled using the on-site native soils. For closed face walls we recommend a minimum 1-foot-wide drainage gallery be constructed immediately behind the face of the wall using Class II Permeable material and augmented with a perforated 4-inch PVC pipe, or per the wall manufactures specifications. This drainage layer and drain is not a requirement for open faced walls. The remainder of the wall may be backfilled using the on-site native soils. The subject segmental retaining walls should be constructed founded onto competent soils (i.e., compacted fills or competent native soils), or per manufactures specifications. For preliminary purposes, the allowable bearing capacities to be used in the wall design is 1,500 pounds per square foot.

From a geotechnical perspective, the on-site soils are generally suitable for use as compacted fill, provided they are screened of rocks greater than 8 inches in maximum dimension, organic materials, and construction debris. Fill soils should be brought to at least optimum-moisture content, and recompacted to at least 90 percent relative compaction (based on ASTM Test Method D1557). The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts generally not exceeding 8 inches in compacted thickness. Placement and compaction of fill should be performed in accordance with local grading ordinances under full-time observation

and testing of the geotechnical consultant. The geotechnical consultant shall review and approve all fill materials, including on-site and import materials.

Prior to placement of the geogrid, the surface of the compacted fill shall be prepared such that it has a maximum variation of 6 vertical inches over a distance of 15 feet. Each geogrid layer shall be pulled taut and secured in-place prior to placing backfill material on the geogrid. The geogrid layers shall be continuous and no splice and/or connection system will be accepted. The contractor shall not operate tracked construction equipment directly upon the geogrid reinforcement but shall use rubber tired equipment. All passes with tracked equipment for the purposes of obtaining compaction shall be done in straight lines and shall minimize the turning movements of the equipment to reduce the potential for displacing and/or damaging the geo-grids.

The manufacturer shall provide the owner with quality control testing for each lot of blocks which are shipped to the site. The contractor shall install the block per the manufacturer's recommended procedures.

All excavations should be made in accordance with Cal OSHA, as a general guideline. All excavations should be made at 1:1 inclinations or flatter. Once excavation has been initiated, the segmental retaining wall should be constructed as soon as possible after back-cut excavation. Prolonged exposure of back-cut slopes may result in some localized slope instability. Excavations should be planned so that they are not initiated without sufficient time to backfill them prior to weekends, holidays, or forecasted rain. ***Excavation safety is the sole responsibility of the contractor.***

We recommend the contractors proposed plan of operations be reviewed by this office prior to initiation of work and closely monitored by representatives of this office during excavation and construction.

A backdrain should be installed at the heel of the wall back-cut consisting of a 4-inch PVC pipe surrounded by ¾-inch crushed rock and wrapped in a filter fabric and outletted through the wall face or to another suitable outlet. If water seepage is encountered along the wall back-cut, a continuous chimney drain consisting of a one-foot layer Caltrans Class II permeable material shall be placed at the heel along the back-cut behind the geogrid, as necessary. The chimney drains should be outletted through the backdrain at the heel of the cut. The outlet pipes should be constructed at the low points of the subdrains and have a minimum 2 percent fall to the outlet location. Additional subdrains may be needed if seepage and/or areas of potential seepage are encountered during grading operations.

Positive drainage of surface water away from the base and top of the proposed segmental retaining walls are important. A concrete V-ditch shall be constructed behind the top of each of the proposed walls to prevent surface water from infiltrating the backfill soil. The V-ditch shall be designed and placed by the project civil engineer in accordance with the local codes.

Where proposed residential structures are located above the proposed segmental walls, where the proposed reinforced zones will encroach into the proposed buildings, the following recommendations should be considered in the design and site construction. The fill behind the wall within the reinforced zone should be comprised of on-site sandy granular soils with

a low expansion potential. Sandy/granular soils will interlock with the geogrid layers which is expected to reduce the potential for long-term, creep-type lateral deformation of the segmental wall, beyond the initial elastic deformation. As a result, the long-term differential settlement potential behind/above the segmental wall is expected to be reduced. Further, the backcut for wall construction should be excavated at a gradient no steeper than 2:1 (horizontal to vertical). This will help reduce the differential fill thickness beneath the proposed structures. The fills outside the reinforced zone should also consist of soils with relatively low expansion potentials and should be compacted to a minimum 93 percent relative compaction.

4.5 Soldier Pile Wall Recommendations

The following preliminary geotechnical parameters may be utilized by the soldier pile wall consultant for design of the permanent wall system. The recommendations provided herein with regard to the proposed wall design are based on assumed conditions, extrapolated from the data gathered from our site investigation and geotechnical analysis. The wall designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.
based on assumed conditions, extrapolated from the data gathered from our site investigation and geotechnical analysis. The wall designer should independently evaluate the parameters provided and conduct an additional investigation if they consider necessary.

Prior to construction, the contractor should verify underground clearance of any existing utility lines or structures that must be removed or protected in place during construction or may conflict with any proposed foundation system.

Typical cantilever soldier pile wall design, where deflection of the wall will not impact the performance of adjacent structures or streets, may be designed using the active equivalent fluid pressures of 40 pounds per square foot (psf) per foot of depth (or pcf). Restrained walls (with soil nails or tied-back) is recommended to limit defections or required due to the proposed wall height. Restrained or tied-back shoring with a level backfill may be designed using an active trapezoidal soil pressure of 38H in pounds per square foot (psf), where H is equal to the depth in feet of the wall (shape of the trapezoid should be 0.2H, 0.6H, 0.2H) or may be designed using an active triangular soil pressure of 60 pounds per square foot (psf). Any building, equipment, or traffic loads located within a 1:1 (horizontal to vertical) projection from the base of the wall should be added to the applicable lateral earth pressure. A minimum additional uniform lateral pressure of 100 psf for the upper 10 feet should be added to the appropriate lateral earth pressures to account for typical vehicle traffic loading.
the appropriate lateral earth pressures to account for typical vehicle traffic loading.
he appropriate lateral earth pressures to account for typical vehicle traffic loading.

A seismic earth pressure of 17 pcf should be added to the static pressures given in Table 4 above. The seismic earth pressure should be considered as an inverted triangular distribution with the resultant acting at 0.6H in relation to the base of the retaining wall footing (where H is the retained height).

Passive resistance of soldier piles may be assumed to be an equivalent fluid pressure of 350 pcf for level and 150 pcf for sloping down conditions to a maximum value of 3,500 psf. The passive earth pressure may be increased by 100 percent for isolated piles. Piles with spacing greater than 3 times of pile diameter can be considered as isolated piles. In order to develop the full lateral resistance, firm contact between the soldier pile and undisturbed soils must be assured. For vertical capacity, an allowable skin friction of 500 psf may be used for the embedded depth. End bearing should be neglected.

4.6 Preliminary Pavement Recommendations

Preliminary pavement sections utilizing asphalt concrete (AC), Portland Cement Concrete Pavement PCCP), and vehicular concrete pavers, are presented in the following sections.

4.6.1 Asphalt Concrete (AC) Pavement

Based on an assumed R-value of 7 (obtained during the preliminary investigation of an adjacent property), we utilized an assumed R-Value of 7 and recommend the following preliminary minimum street sections for Traffic Indices of 5, 6, and 7 (as indicated in Table 6). These recommendations should be confirmed with R-value testing of representative near-surface soils at the completion of grading. Final AC sections should be confirmed by the project civil engineer based upon the projected Traffic Index. In addition, additional sections can be provided based on other traffic indices.

Table 6

Preliminary AC Pavement Design Sections

Assumed Traffic Index	5	6	7
R-Value Subgrade	7	7	7
AC Thickness	4.0 inches	4.0 inches	4.0 inches
Aggregate Base Thickness	7.0 inches	12.0 inches	15.0 inches

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction –SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Aggregate base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.6.2 Portland Cement Concrete Pavement

Portland Cement Concrete Pavement (PCCP) may be designed using a minimum of 8-inches of Portland Cement Concrete over 8-inches of compacted aggregate base.

The modulus of rupture of the PCCP should be a minimum of 500 pounds per square inch (psi) at 28 days. Contraction joints should be placed at maximum 15-foot spacing. Where the outer edge of a concrete pavement connects to an asphalt pavement, the concrete slab should be thickened by 50 percent at a taper not to exceed a slope of 1 in 10. In addition, additional sections can be provided based on other desired anticipated traffic loadings.

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction - SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.6.3 Vehicular Concrete Paver Pavement

Typical vehicular pavers are 3-1/8 inches in thickness and the manufacturers usually recommend that the pavers be underlain by a 1-inch-thick sand layer. Based on ASCE 58-10 for interlocking pavers and considering a Traffic Index (TI) of 6 and an R-Value of 7 for the subgrade soils, we recommend that the vehicular pavers and sand layer be underlain by a minimum of 16-inches of aggregate base.

The aggregate base material should conform to the specifications for Crushed Aggregate Base or Crushed Miscellaneous Base (Standard Specifications for Public Works Construction –SSPWC Section 200-2). The subgrade should achieve a minimum relative compaction of 95 percent per ASTM- D1557. The base material should be compacted to achieve a minimum relative compaction of 95 percent. Base and subgrade materials should be moisture-conditioned to a relatively uniform moisture content at or slightly over optimum.

4.7 Nonstructural Concrete Flatwork

Preliminary nonstructural concrete flatwork designs are presented in the following sections. Portland Cement Concrete (PCC) flatwork (such as sidewalks, walkways, patios, entryways, etc.) have a high potential for cracking due to changes in soil volume related to soil-moisture fluctuations because these slabs are typically much thinner than foundation slabs and are not reinforced with the same dynamics as foundation elements. To reduce the potential for excessive cracking and lifting, concrete may be designed in accordance with the minimum guidelines outlined in Table 7. These guidelines will reduce the potential for irregular cracking and promote cracking along construction joints but will not eliminate all cracking

or lifting. Thickening the concrete and/or adding reinforcement will further reduce cosmetic distress.

Table 7 Nonstructural Concrete Flatwork		
	Private Sidewalks	**Patio/Entryways**
Minimum Thickness (in inches)	4	5
Presaturation	Presoak to 12-inches prior to placement	Presoak to 12-inches prior to placement
Reinforcement	--	No. 3 at 24 inches on centers or 6x6 No. 6 by No. 6 Welded Wire Mesh
Crack Control	Saw cut or deep tool joint to a minimum of 1/3 the concrete thickness	Saw cut or deep tool joint to a minimum of 1/3 the concrete thickness
Maximum Joint Spacing	5 feet	6 feet
Aggregate Base	--	2 inches

4.8 Corrosivity to Concrete and Metal

The National Association of Corrosion Engineers (NACE) defines corrosion as "a deterioration of a substance or its properties because of a reaction with its environment." From a geotechnical viewpoint, the "environment" is the prevailing foundation soils and the "substances" are the reinforced concrete foundations or various buried metallic elements such as rebar, piles, pipes, etc., which are in direct contact with or within close vicinity of the foundation soil.

In general, soil environments that are detrimental to concrete have high concentrations of soluble sulfates and/or pH values of less than 5.5. ACI 318R-14 Table 19.3.1.1, provides specific guidelines for the concrete mix design when the soluble sulfate content of the soils exceeds 0.1 percent by weight or 1,000 ppm. The minimum amount of chloride ions in the soil environment that are corrosive to steel, either in the form of reinforcement protected by concrete cover, or plain steel substructures such as steel pipes or piles, is 500 ppm per California Test 532.

Laboratory testing of representative on-site soils indicated that the on-site soils tested are

classified as having a Sulfate Exposure Class of S0 (per Table 19.3.1.2 of the ACI 318-19). As a preliminary recommendation, concrete in contact with on-site soils should be designed in accordance with ACI 318-19 Table 19.3.2.1 for the S0/negligible or not applicable category. It is also our opinion that on-site soil should be considered moderately corrosive to buried metals. Site grading will redistribute the materials, which may result in soils with different corrosion potentials. Therefore, the as-graded soil conditions should be verified with confirmatory sampling and testing during the grading phase of the project.

Despite the minimum recommendation above, LGC is not a corrosion-engineering firm. Therefore, we recommend that after site grading, consultation with a competent corrosion engineer be initiated to evaluate the actual corrosion potential of the site and to provide recommendations to reduce the corrosion potential with respect to the proposed improvements, as necessary. The recommendations of the corrosion engineer may supersede the above requirements.

4.9 Freestanding Walls

Freestanding wall footings should be founded a minimum of 24-inches below the lowest adjacent grade. To reduce the potential for unsightly cracks, we recommend inclusion of construction joints at 10- to 20-foot intervals.

Due to the potential creep of soils, where free standing walls are constructed close to a top-of-slope, some tilt of the wall should be anticipated. To reduce the amount of tilt, a combination of grade beam and caisson foundations may be used to support the wall. The system should consist of a minimum of 12-inch diameter caissons placed at 8 feet maximum on centers, and each 8 feet long and connected together at top with 12-inch by 12-inch grade beam.

4.10 Control of Surface Water and Drainage Control

Positive drainage of surface water away from structures is very important. No water should be allowed to pond adjacent to buildings. Positive drainage may be accomplished by providing drainage away from the building at a gradient of at least 2-percent for a distance of at least 5 feet, and further maintained by a swale or drainage path at a gradient of at least 1-percent. Where necessary, drainage paths may be shortened by use of area drains and collector pipes.

Planters with open bottoms adjacent to buildings should be avoided. Planters should not be designed adjacent to buildings unless provisions for drainage, such as catch basins, liners, and/or area drains, are made. Overwatering must be avoided.

4.11 Construction Observation and Testing

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC.

Geotechnical observation and testing should be performed by the geotechnical consultant during site excavations, subgrade for slab/foundation, backfill of utility trenches, preparation of any subgrade and placement of aggregate base, or when any unusual soil conditions are encountered at the site. Grading plans, foundation plans, and final project drawings should be reviewed by this office prior to construction.

5.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made, and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control.

Legend

Afo	Artificial Older Fill
Ts	Tertiary-aged Sespe Formation, circled where buried
?	Approximate limits of fill, queried where uncertain
B-6 TD=10.5'	Approximate Boring Location by LGC Valley (2024)
L-B-2 TD=60'	Approximate Boring Location by Lawmaster & Co. (1986)
N-B-2 TD=?	Approximate Boring Location by G. A. Nichol (1986)
N68W 33	Approximate Bedding Attitude

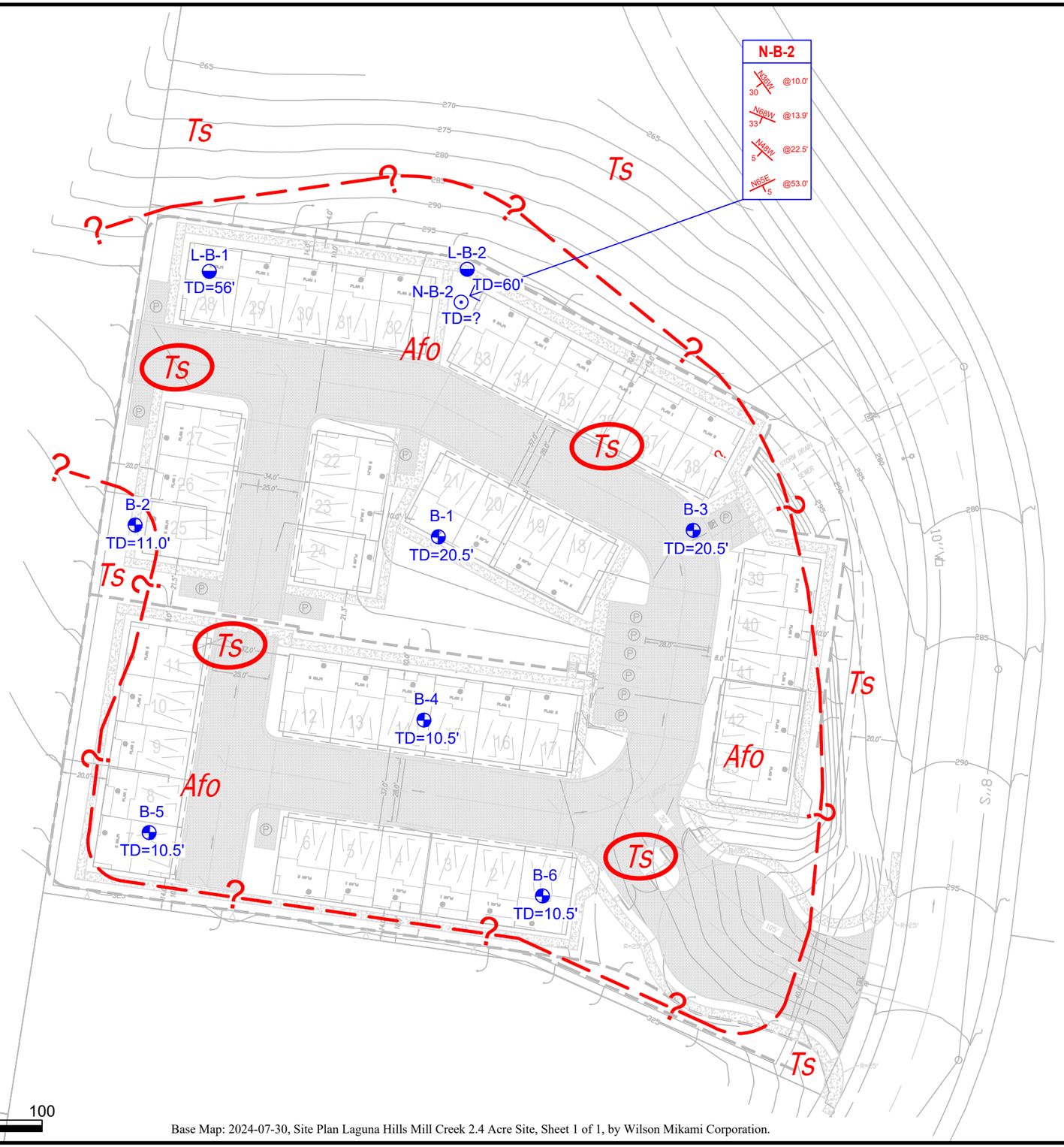
Geotechnical Map

23161 Mill Creek Drive
Laguna Hills, California

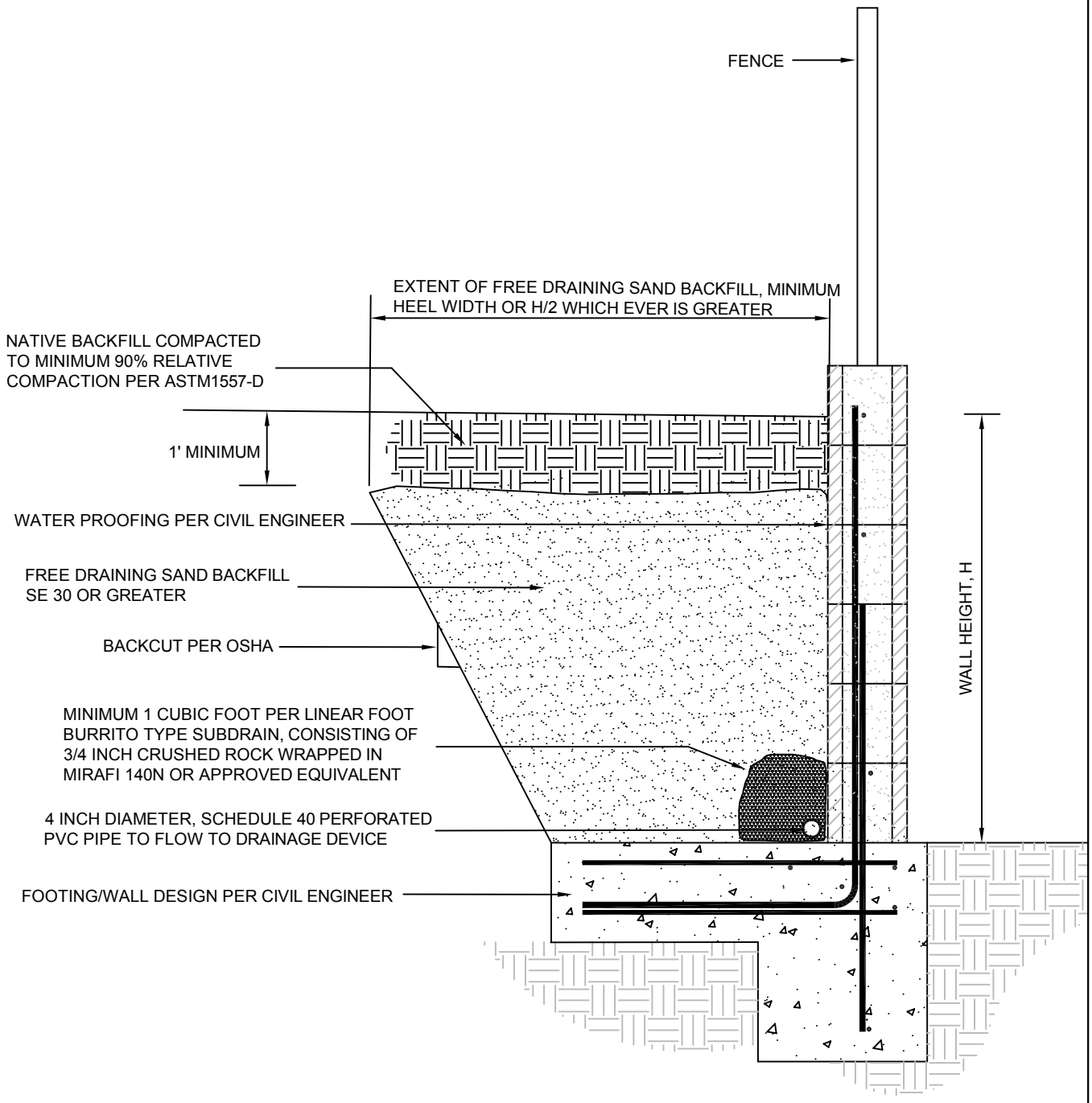
Project Name	Toll/23161 Mill Creek
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	1" = 50'
Date	August 15, 2024

LGC

Figure 2



Base Map: 2024-07-30, Site Plan Laguna Hills Mill Creek 2.4 Acre Site, Sheet 1 of 1, by Wilson Mikami Corporation.



LGC

Figure 3: Retaining Wall Detail, Sand Backfill

Project Name	Toll/Laguna Hills
Project No.	244006-01
Eng. / Geol.	BIH/RKW
Scale	Not-To-Scale
Date	August 15, 2024

APPENDIX A

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APPENDIX B

<u>Geotechnical Boring Logs (Current Study)</u>

Geotechnical Boring Log B-1

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +298 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
298	0							@ 0' 4.5-inches of asphalt concrete over 8-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			B1 @1'-5'					@ 1' Silty to clayey fine to medium SAND, very minor gravel; red brown to dark brown, damp, medium dense	COR, AL, EI
293	5		1	50/6"	110.9	6.9	CL/SM	**Sespe Formation (Ts):**	
			2	50/6"	110.5	8.2	SM	@ 5' Silty fine to medium sandy CLAYSTONE to silty fine to coarse SANDSTONE, very minor gravel; dark brown to red brown, damp, hard to very dense	
288	10		3	50/2"	114.2	2.0		@ 6' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
			B2 @10'-15'					@ 10' Silty fine to medium SANDSTONE, minor gravel; pale red brown, slightly damp, very dense; sample disturbed - rock in sampler	
283	15		4	50/6"				@ 15' Silty fine to medium SANDSTONE, minor gravel; red brown, damp, very dense	DS
278	20		5	50/4"					
								Total Depth = 20.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-2

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +306 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
306	0							@ 0' 5.5-inches of asphalt concrete over 6-inches of aggregate base	
			1 B1 @1'-6'	50/6"	111.3	14.0	SM	**Sespe Formation (Ts):** @ 1' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
301	5		2	86/8.5"	111.7	12.4		@ 5' Becomes a very silty fine to medium SANDSTONE	
296	10		3	88/9"	116.0	12.2	SM/ML	@ 10' Silty fine SANDSTONE to fine sandy SILTSTONE; red brown to dark red brown, damp, very dense to hard	

Total Depth = 11 Feet
No Ground Water Encountered
Backfilled 5/8/2024
with Native Soil and Concrete Plug

LGC

■ = Ring Sample
⊠ = SPT

LGC VALLEY, INC.
THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-3

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +297 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
297	0							@ 0' 5.5-inches of asphalt concrete over 8-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			1 B1 @1'-6'	69	119.3	5.7	SM	@ 1.1' Silty fine to coarse SAND, minor gravel and minor clay; red brown, damp, medium dense	
292	5		2	82	119.6	4.2		**Sespe Formation (Ts):** @ 2.5' Silty fine to coarse SANDSTONE, very minor gravel and minor clay; red brown, damp, dense	
			3	50/6"	119.1	7.5		@ 5' Silty fine to coarse SANDSTONE, very minor gravel; red brown, damp, dense	
287	10		4	50/6"	110.4	5.7		@ 10' Increase in coarse sand	
282	15		5	50/5"					
277	20		6	50/5"				@ 20' Decrease in coarse sand	
								Total Depth = 20.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil & Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-4

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +308 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
308	0							@ 0' 3-inches of asphalt concrete over 5-inches of aggregate base	EI, RDS, COR
			B1 @1'-3'				SC/SM	**Artificial Fill, Older (Afo):**	CN
			1	50/6"	113.4	12.1		@ 0.8' Silty fine to medium SAND, very minor gravel; dark red brown, damp, medium dense	
303	5		2	86/9"	113.9	8.8	SM	@ 1.5' Clayey fine to coarse SAND, very minor gravel; dark brown to red brown, damp, medium dense	
								Sespe Formation (Ts):	
								@ 3' Silty fine to coarse SANDSTONE; pale red brown, damp, very dense	
298	10		3	50/6"	110.3	9.4		@ 10' Becomes a very silty fine to coarse SANDSTONE	
								Total Depth = 10.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-5

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +317 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
317	0							@ 0' 8-inches of Asphalt over 5-inches of aggregate base	
							SM	**Artificial Fill, Older (Afo):**	
			1	52	115.8	13.4		@ 1.1' Silty fine to medium SAND, very minor gravel, slightly clayey; red brown, damp, medium dense	CN
							SM		
312	5		2	85/9"	115.6	9.6		**Sespe Formation (Ts):**	
								@3.5' Silty fine to medium SANDSTONE, very minor gravel; red brown, damp, very dense	
			3	50/6"	111.3	8.4		@7.5' Becomes a silty fine to medium SANDSTONE	
307	10		4	50/6"	105.2	6.5	SW	@10' Fine to coarse SANDSTONE; red brown to gray brown, damp, very dense	

Total Depth = 10.5 Feet
No Ground Water Encountered
Backfilled 5/8/2024
with Native Soil and Concrete Plug

Logged By: MET
Sampled By: MET

= Ring Sample
= SPT

LGC VALLEY, INC.
THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Geotechnical Boring Log B-6

Date: May 8, 2024 | **Page:** 1 of 1

Project Name: Toll/23161 Mill Creek | **Project Number:** 244006-01

Drilling Company: Martini Drilling | **Type of Rig:** Hollow Stem Auger

Drive Weight: 140 pounds | **Drop:** 30 inches | **Hole Dia:** 8 inches

Elevation of Top of Hole: +312 Feet | **Hole Location:** See Geotechnical Map

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION Logged By: MET Sampled By: MET	Type of Test
312	0							@ 0' 8-inches of asphalt concrete over 5-inches of aggregate base	
							SW	**Artificial Fill, Older (Afo):**	
			1 B1 @2.5'-5'	86/11"	118.1	6.0	SW	@ 1.1' Silty fine to coarse gravelly SAND, minor fine cobbles; dark red brown, damp, medium dense	SA, SE
307	5		2	80/8.5"	111.9	9.9	SM	**Sespe Formation (Ts):** @ 2.5' Silty fine to coarse gravelly SANDSTONE, minor fine cobbles; red brown, damp, very dense	
								@ 5' Silty fine to coarse SANDSTONE, very minor gravel; red brown, damp, very dense	
302	10		3	50/6"	105.1	9.8			
								Total Depth = 10.5 Feet **No Ground Water Encountered** **Backfilled 5/8/2024** **with Native Soil and Concrete Plug**	

LGC

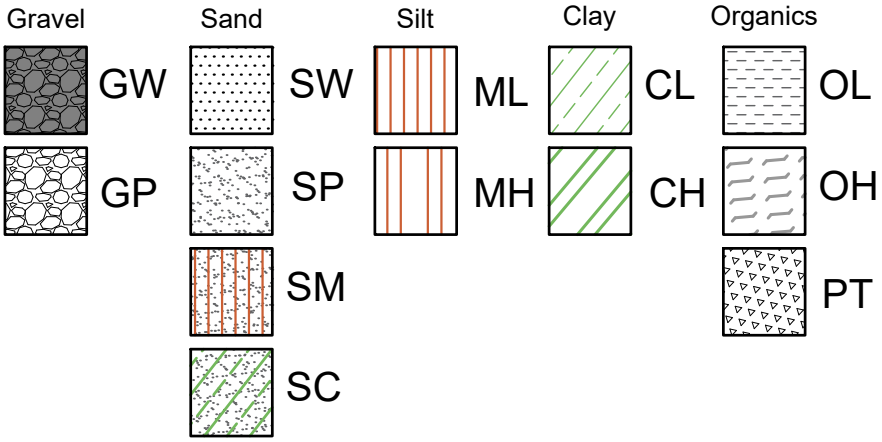
■ = Ring Sample

⊠ = SPT

LGC VALLEY, INC.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIOND ENCOUNTERED.

Key to Boring Logs



Symbol	Laboratory Test
SA	Sieve Analysis
H	Hydrometer Anlysis
SHA	Sieve & Hydrometer Analysis
-200	Percent Passing #200 Sieve
AL	Atterburge Limits
MAX	Maximum Density
DS	Undisturbed Direct Shear
RDS	Remolded Direct Shear
SE	Sand Equivalent
EI	Expansion Index
P	Permeability
CN	Consolidation
COL	Collapse
UC	Unconfined Compression
S	Sulfate Content
pHR	pH & Resistivity
COR	Corrosion Suite (pH, Resistivity, Chloride, Sulfate)
RV	R-Value

APPENDIX C

Laboratory Testing Procedures and Test Results (Current Study)

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type, and the results are presented on the following pages. LGC has reviewed the laboratory test data, procedures, and results with respect to the subject site, concurs with, and accepts responsibility as geotechnical engineer of record for their work (laboratory testing).

Soil Classification: Soils were classified according to the Unified Soil Classification System (USCS) in accordance with ASTM Test Methods D2487 and D2488. This system relies on the Atterberg limits and grain size distribution of a soil. The soil classifications (or group symbol) are shown on the laboratory test data and boring logs.

Atterberg Limits: The liquid and plastic limits ("Atterberg limits") were determined in accordance with ASTM Test Method D4318 for engineering classification of fine-grained material and presented on the following table:

Sample Location	Sample Description	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	27	15	12

Chloride Content: Chloride content was tested in accordance with CTM 422. The results are presented below:

Sample Location	Sample Description	Chloride Content (ppm)	Potential Degree of Chloride Attack*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	125	Negligible
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	140	Negligible

* Extrapolation from California Test Method 532, Method for Estimating the Time to Corrosion of Reinforced Concrete Substructures and previous experience.

Consolidation: Consolidation tests were performed on selected, relatively undisturbed ring samples (per Modified ASTM Test Method D2435). Samples (2.42 inches in diameter and 1 inch in height) were placed in a consolidometer and increasing loads were applied. The samples were allowed to consolidate under "double drainage" and total deformation for each loading step was recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curves are presented on the attached figures at the end of this appendix.

Direct Shear (Remolded or Undisturbed): Direct shear tests were performed on selected remolded and/or undisturbed samples, which were soaked for a minimum of 24 hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately 1 hour prior to application of shearing force. The samples were tested under various normal loads, a motor-driven, strain-controlled, direct-shear testing apparatus at a strain rate of less than 0.001 to 0.5 inch per minute (depending upon the soil type). The test results are presented on the following table and/or on the attached figures at the end of this appendix.

Sample Location	Sample Description	Peak/Ultimate Friction Angle (degrees)	Peak/Ultimate Apparent Cohesion (psf)
B-1 #4 @15'	Undisturbed	29/29	278/96
B-4 #B1 @ 1-3'	Clayey fine to medium SAND (Remolded)	30/30	227/198

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, UBC Standard No. 18-I-B and/or ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below:

Sample Location	Sample Description	Expansion Index	Expansion Potential
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	14	Very Low
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	38	Low

Laboratory Testing Procedures and Test Results (Current Study) (continued)

Maximum Dry Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM Test Method D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-4 #B1 @ 1-3’	Clayey fine to medium SAND	133.5	8.0

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings. The results of these tests are presented on the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Sieve Analysis: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve. The portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D422 (CTM 202). The sieve analysis curve is presented on the attached figure at the end of this appendix. The percent passing the #200 sieve is presented on the following table:

Sample Location	Sample Description	Percent Passing #200 Sieve
B-6 #B1 @2.5-5’	Silty fine to coarse gravelly SAND	26.5

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The electrical resistivity of a soil is a measure of its resistance to the flow of electrical current. As a result of soil's resistivity decreases corrosivity increases. The results are presented in the table below:

Sample Location	Sample Description	pH	Minimum Resistivity (ohms-cm)	Potential Degree of Corrosivity*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	7.82	1,700	Moderately Corrosive
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	8.15	1,300	Moderately Corrosive

* NACE Corrosion Basics, 1984.

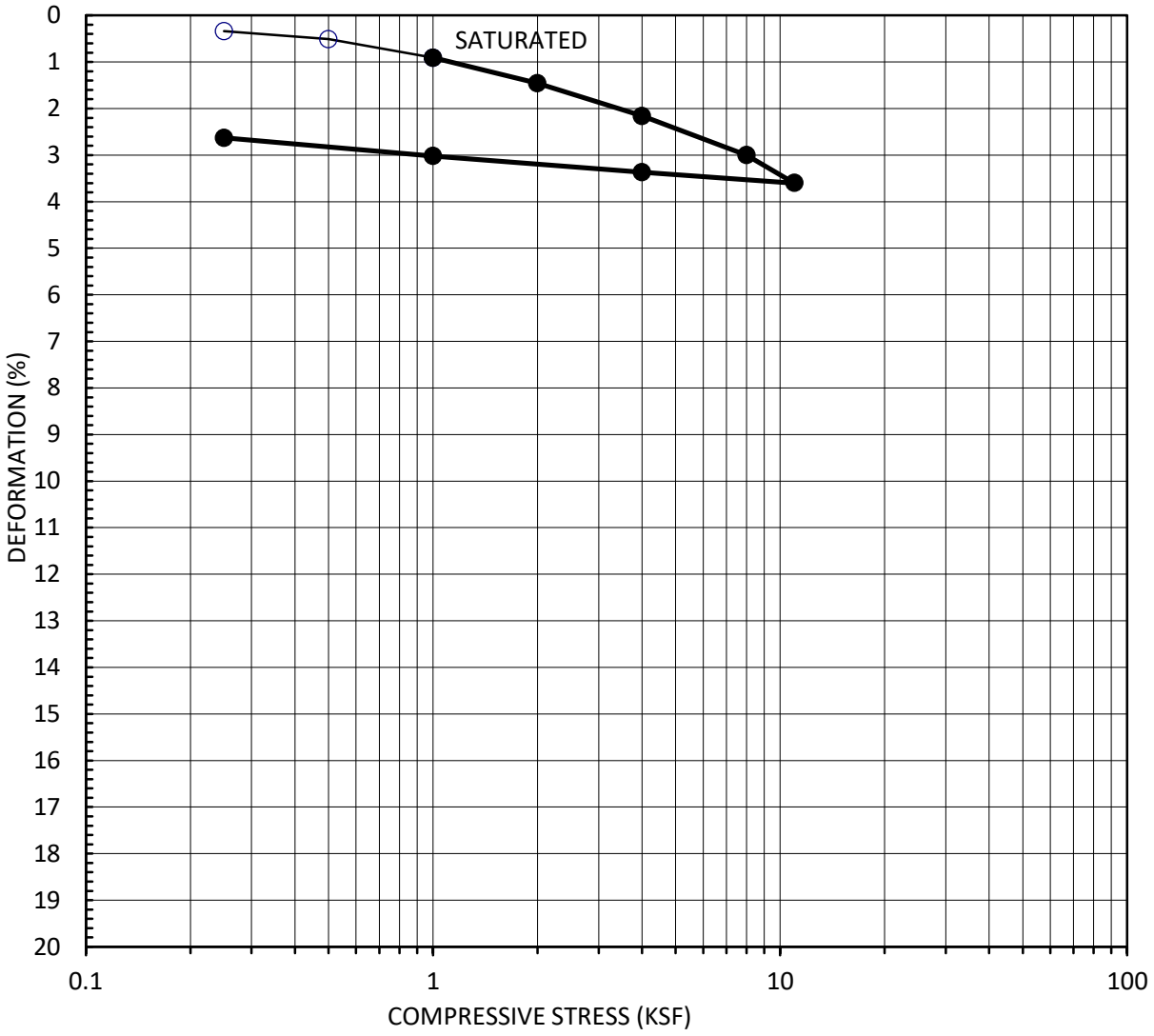
Sand Equivalent: The sand equivalent (SE) of selected samples was determined in accordance with ASTM D2419. The sand equivalent results are used to determine the applicability of material for use as backfill and to assess whether flooding or jetting is a suitable compaction method. The results are presented in the table below:

Sample Location	Sample Description	Sand Equivalent Value
B-6 #B1 @2.5-5'	Silty fine to coarse gravelly SAND	14

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below:

Sample Location	Sample Description	Sulfate Content (% by weight)	Exposure Class (Exposure Severity)*
B-1 #B1 @ 1-5'	Silty to clayey fine to medium SAND	0.007	S0 (Not Applicable)
B-4 #B1 @ 1-3'	Clayey fine to medium SAND	0.005	S0 (Not Applicable)

* Per ACI 318-19 Table 19.3.2.1 (ACI, 2019).



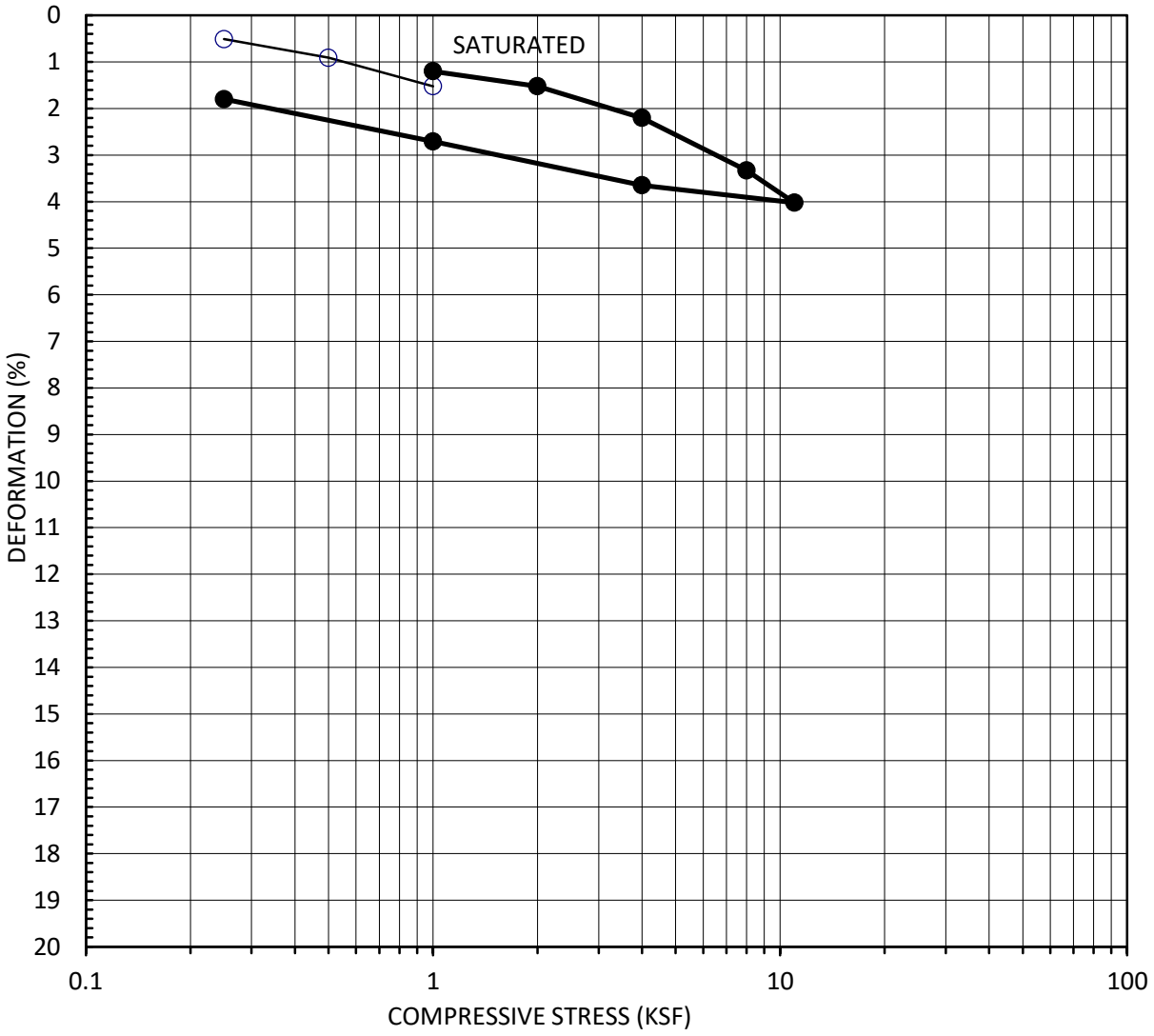
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density (PCF)	Init. Void Ratio
○	B-4	1	2.5	SM	12.1	115.1	0.463

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client: LGC Valley, Inc.
Job No.: 244006-01
EGLAB Project No.: 24-059-009

CONSOLIDATION

08/24 (ASTM D2435) Figure



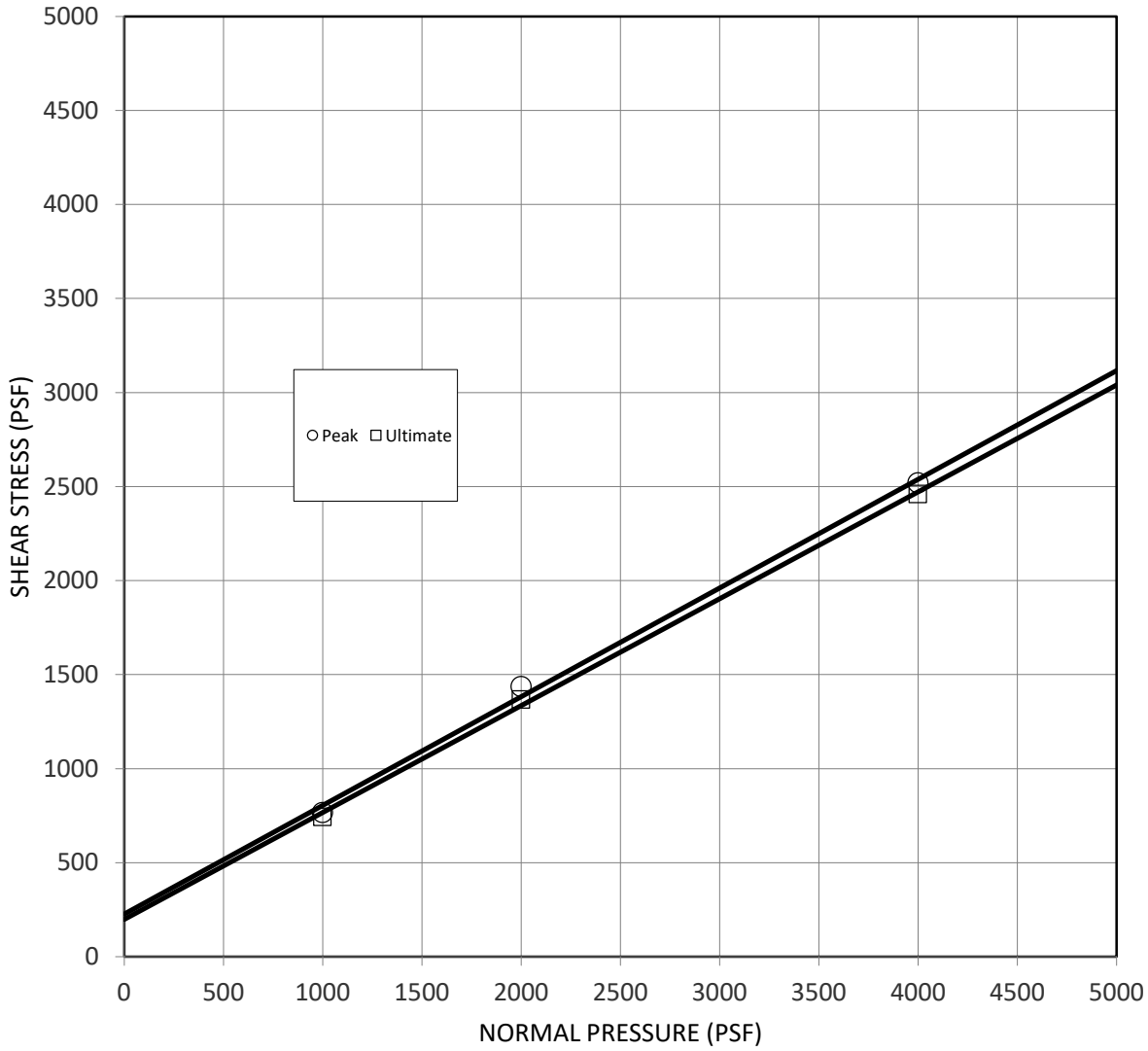
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density (PCF)	Init. Void Ratio
○	B-5	1	2.5	CL/SC	13.4	118.4	0.423

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client: LGC Valley, Inc.
Job No.: 244006-01
EGLAB Project No.: 24-059-009

CONSOLIDATION

08/24 (ASTM D2435) Figure



Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-1	4	15.0	Ring	SM	○	227	30
					□	198	30

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
1000	7.9	21.8	102.8	92
2000	7.9	21.3	103.5	92
4000	7.9	20.3	104.8	90

EGLAB, INC.

Project Name: Toll / Mill Creek 2

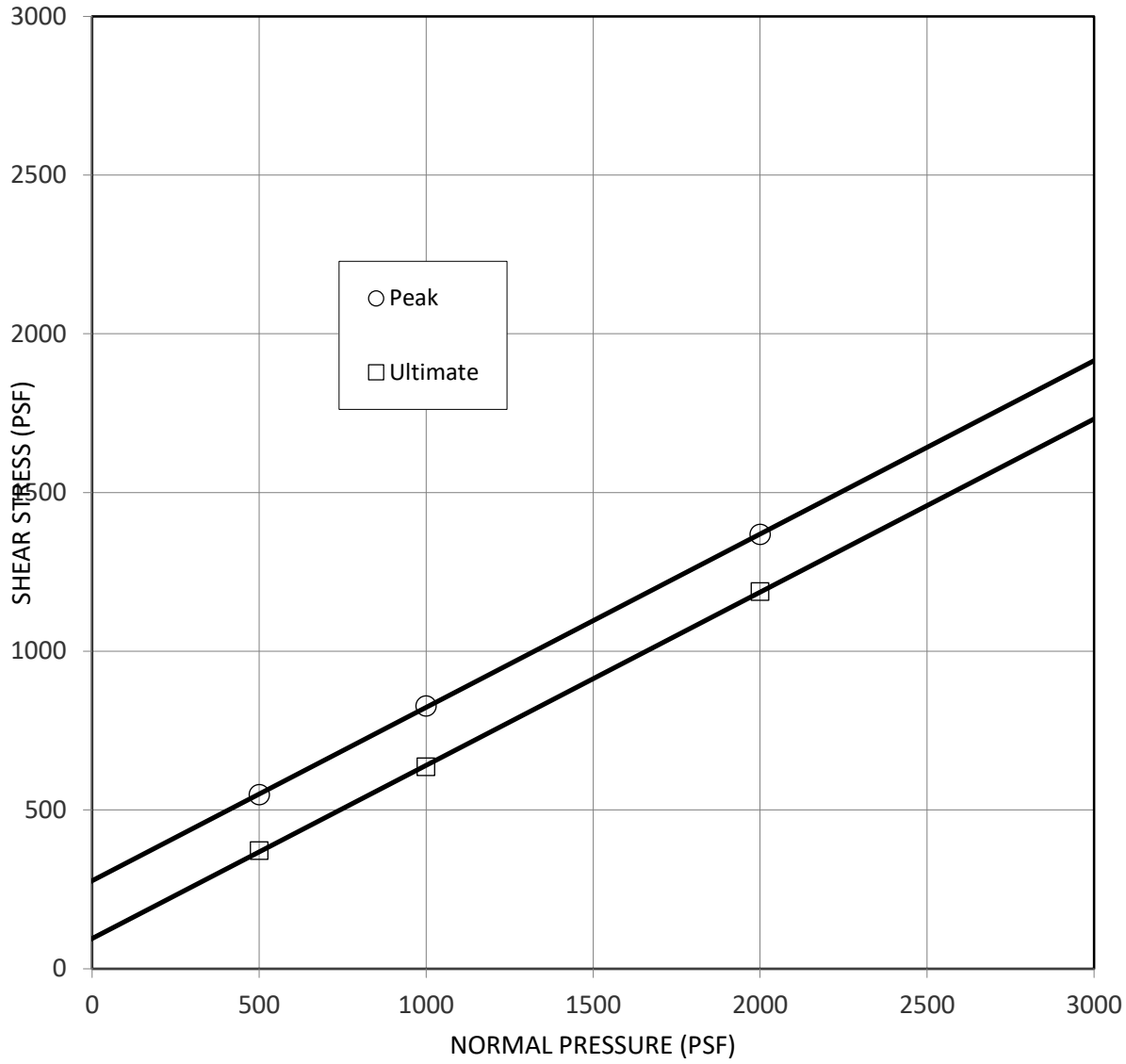
Client: LGC Valley, Inc.

Project No.: 244006-01

EGLAB Project No.: 24-059-009

DIRECT SHEAR

08/24 (ASTM D3080) Figure



Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-4	B1	1.0-3.0	Bulk	SC	○	278	29
					□	96	29

Note: Sample was remolded to **90 %** maximum relative density and optimum moisture

Maximum Dry Density: **133.5 pcf** Optimum Moisture: **8.0 %**

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)
500	7.8	19.5
1000	7.8	19.0
2000	7.8	18.1

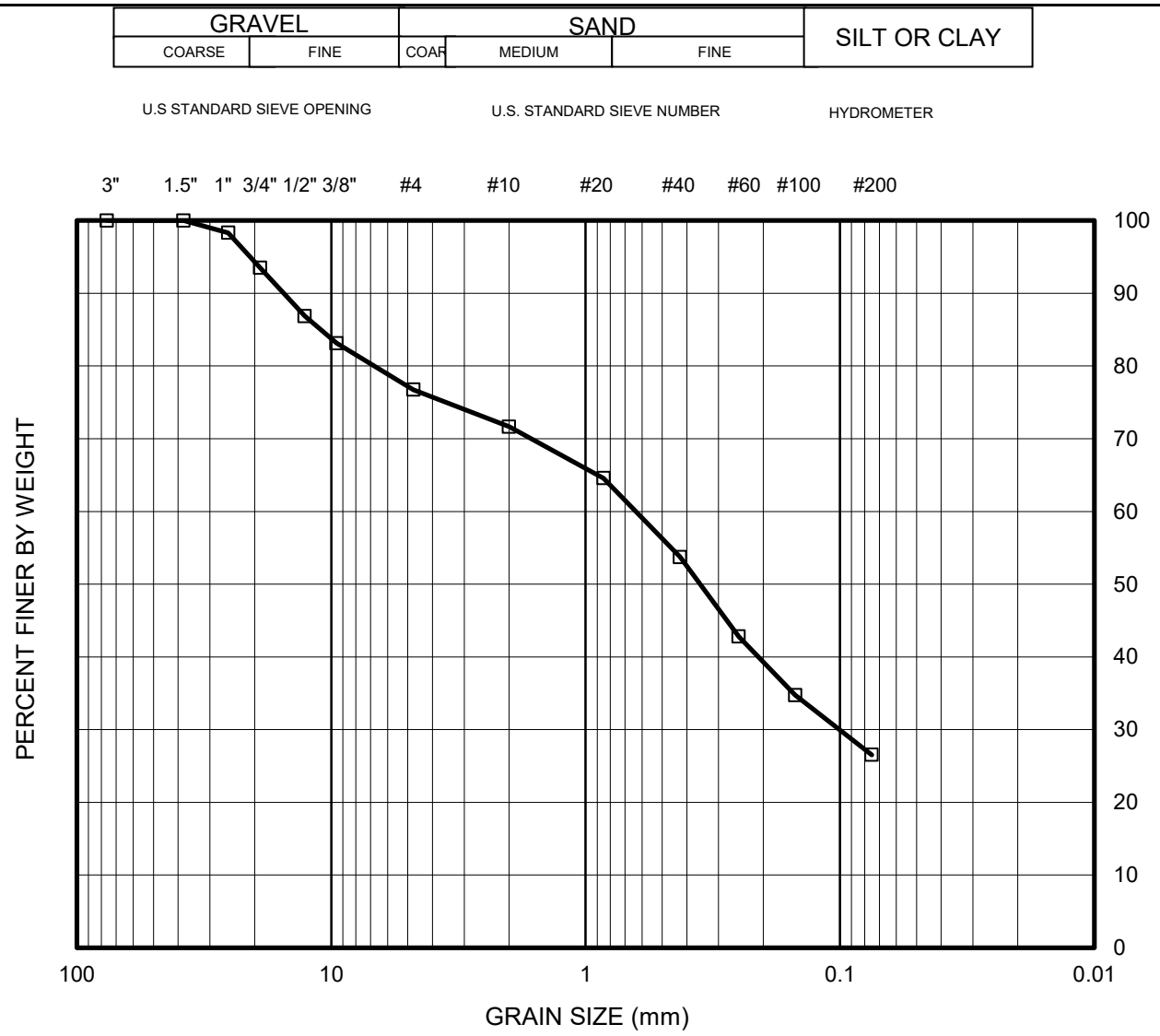
EGLAB, INC.

Project Address:
Toll / Mill Creek 2

Client: LGC Valley, Inc.
Project No.: 244006-01
EGLAB Project No.: 24-059-009

DIRECT SHEAR

08/24 (ASTM D3080) Figure



SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	LIQUID LIMIT	PLASTICITY INDEX
☐	B-6	B1	2.5-5.0	Bulk	SC	N/A	N/A

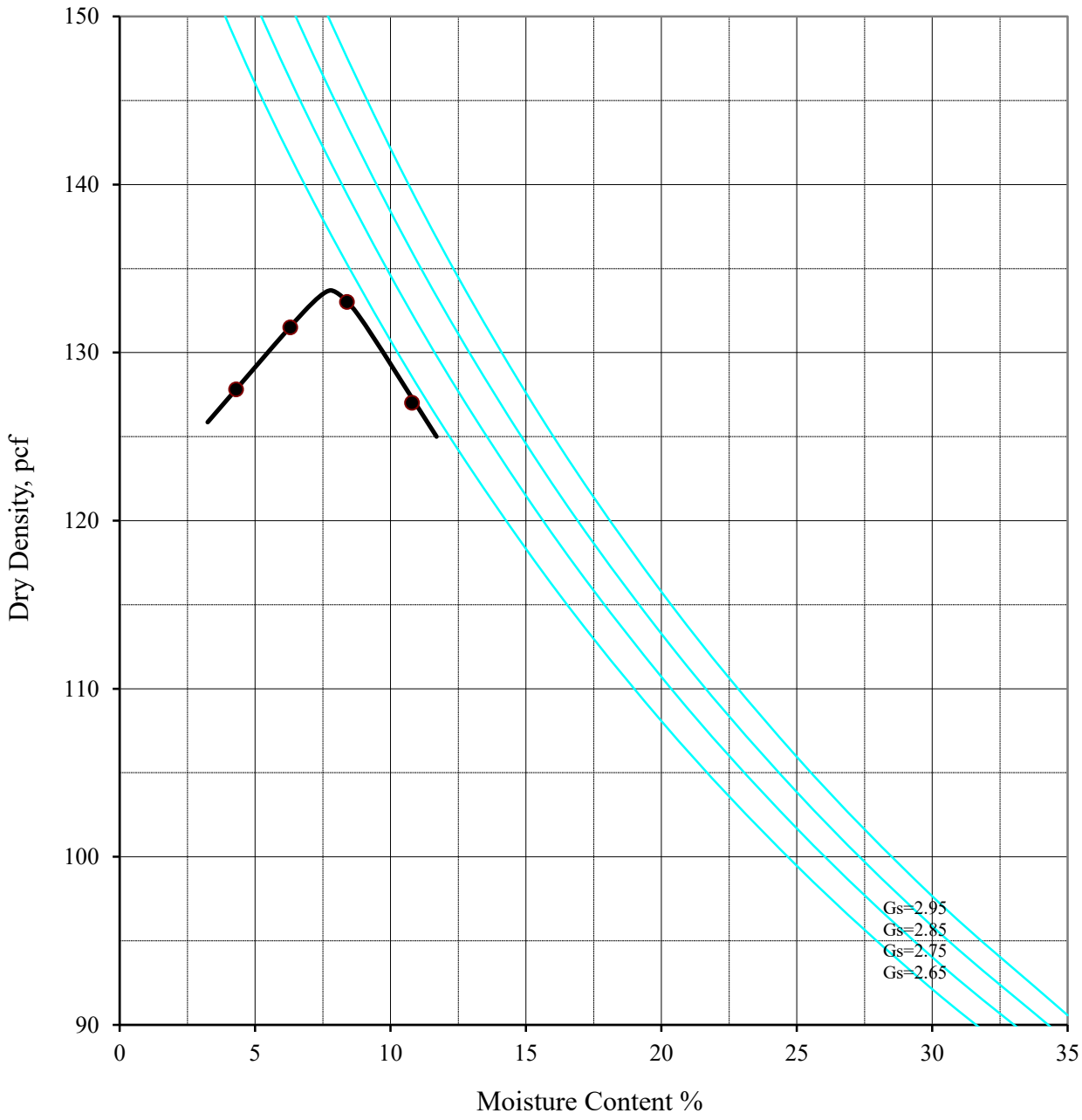
Gravel:	23.3%
Sand:	50.2%
Fine:	26.5%

EGLAB, INC.

Project Name: Toll / Mill Creek 2
Client Job No.: 244006-01
Client Name: LGC Valley, Inc.
EGLAB Project No.: 24-059-009

GRAIN SIZE DISTRIBUTION CURVE

08/07/24 (ASTM D422) FIGURE



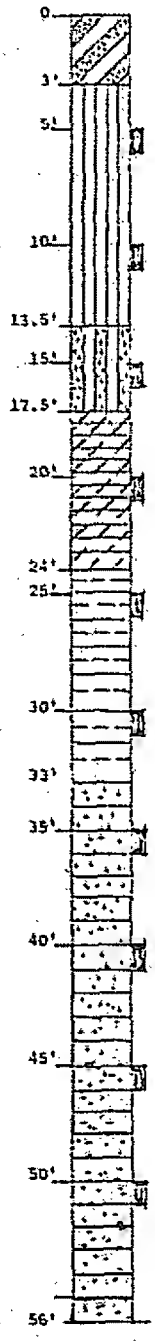
Method "A"

Maximum Dry Density = **133.5** pcf Optimum Moisture Content = **8.0** %	Boring No: B-4 Sample: B1 Depth : 1.0-3.0 feet Description : Clayey sand (SC), reddish brown, trace of gravel
EGLAB, INC.	Project Name: Toll / Mill Creek 2 Client Name: LGC Valley, Inc. Job No.: 244006-01 EGLAB Project No.: 24-059-009 Date : Aug-24 Figure
Modified Proctor **(ASTM D1557)**	

APPENDIX D

Previous Geotechnical Borings Logs (by Others)

TEST BORING LOG



Soil Classification	% Moisture	Dry Density, pcf	U.S.C.
FILL: Brown/reddish brown CLAYEY SAND			SC
NATURAL: Brown/reddish brown SANDY SILT, some clay (32/50/18) @ 5'			ML
	10	125	
	15	113	
Light reddish brown SILTY FINE-MEDIUM SAND			SM
	6	111	
BEDROCK: Brown/reddish brown CLAYSTONE, weathered			
	20	112	
Brown/reddish brown SILSTONE (30/50/14) @ 25'	11	112	
	13	114	
Reddish brown/gray SANDSTONE			
	10	115	
	9	121	
Light gray SANDSTONE	9	111	
	7	111	

NO GROUNDWATER
NO CAVING

LEGEND:

■ - Undisturbed core sample

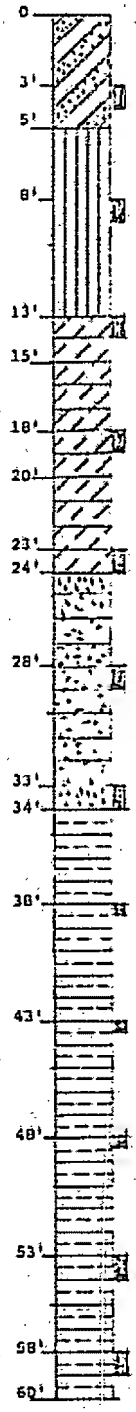
(%Sand/% Silt/% Clay) @ sample depth

U.S.C. - Unified Soil Classification System Group Symbol

PLATE B-1

FILE NO. 85-10789
H. V. LAWMASTER & CO., INC.

TEST BORING LOG



Soil Classification	% Moisture	Dry Density, pcf	U.S.C.
FILL: Brown/reddish brown CLAYEY SAND with silt			SC
	11	115	
NATURAL: Brown/reddish brown SANDY SILT, some clay (32/50/18) @ 8'			ML
	12	112	
BEDROCK: Brown/reddish brown CLAYSTONE	10	121	
	11	119	
	12	102	
Light grayish brown SANDSTONE			
	10	102	
	14	114	
Yellowish brown SILTSTONE/SANDSTONE			
	5	111	
	6	114	
	10	115	
	8	116	
	11	113	

NO GROUNDWATER
NO CAVING

PLATE B-2

FILE NO. 85-10789
H. V. LAWMASTER & CO., INC.

APPENDIX E

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent: These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record: Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation, and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading,

the number of "equipment" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 10 percent organic matter. Nesting of organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing: Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free from oversize

material and the working surface is reasonably uniform, flat, and free from uneven features that would inhibit uniform compaction.

2.3 ***Overexcavation:*** In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured, or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 ***Benching:*** Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 ***Evaluation/Acceptance of Fill Areas:*** All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 ***General:*** Material to be used as fill shall be essentially free from organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 ***Oversize:*** Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversized material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 ***Import:*** If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined, and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers: Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning: Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557-91).

4.3 Compaction of Fill: After each layer has been moisture conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557-91). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes: In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheeps-foot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557-91.

4.5 Compaction Testing: Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing: Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations: The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with

sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

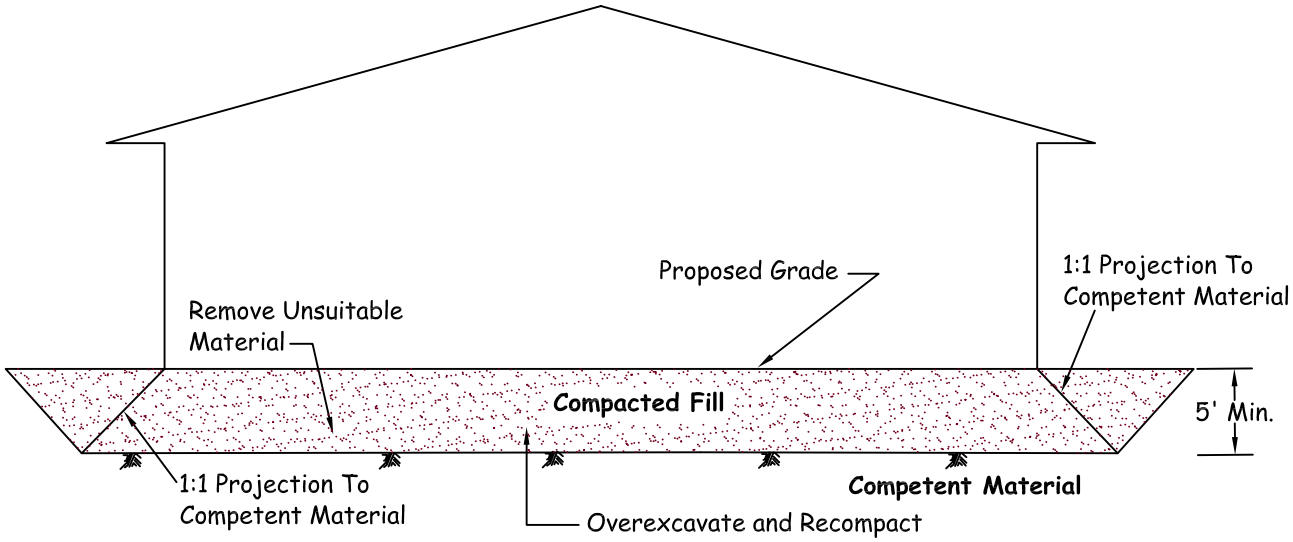
7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

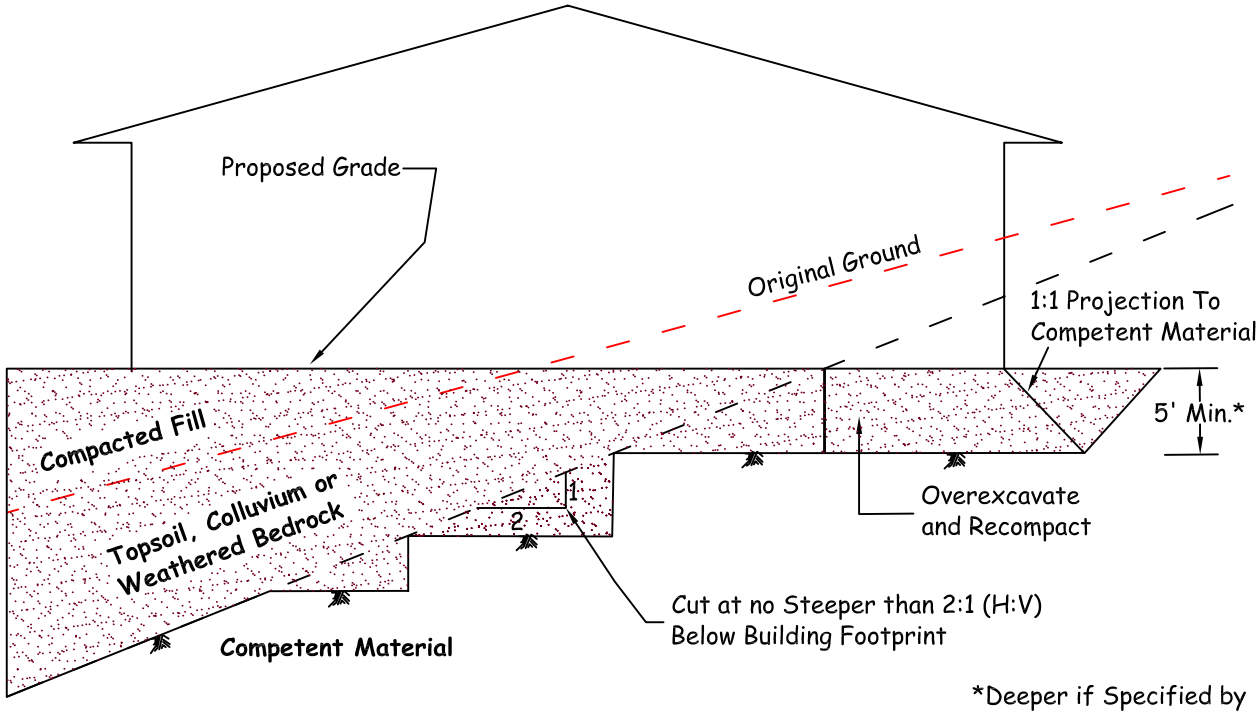
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

Cut/Fill Transition Lot



*Deeper if Specified by Soils Engineer

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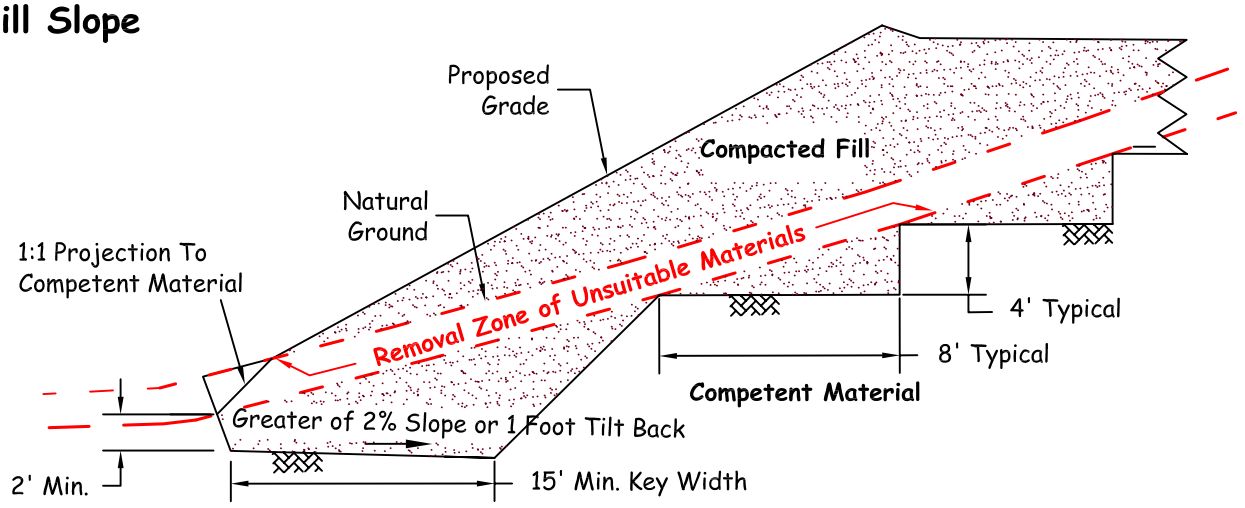
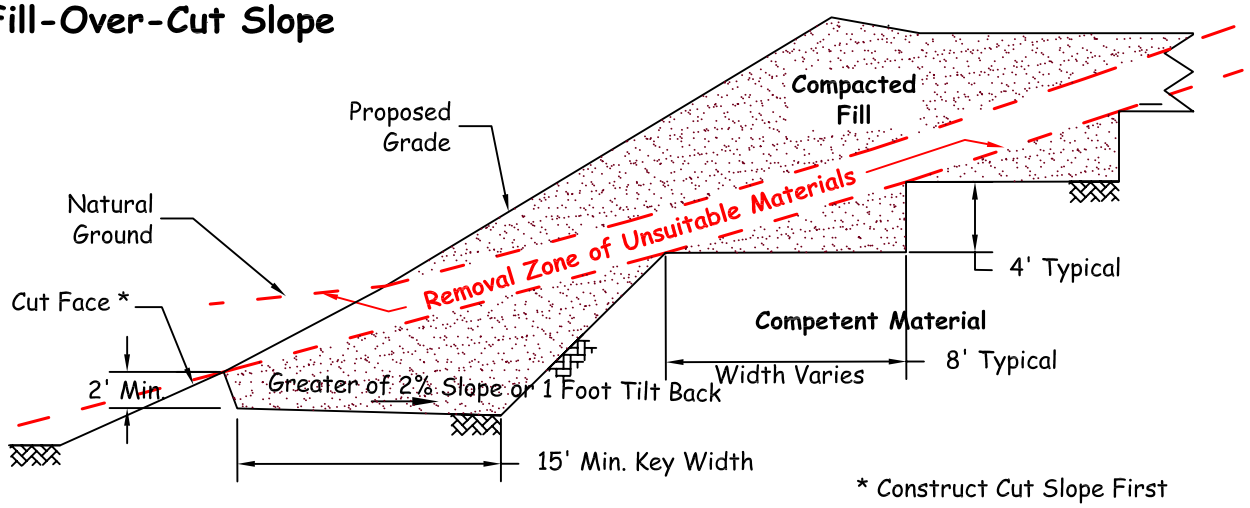
CUT AND TRANSITION LOT OVEREXCAVATION DETAIL

11/26/02

Fill Slope

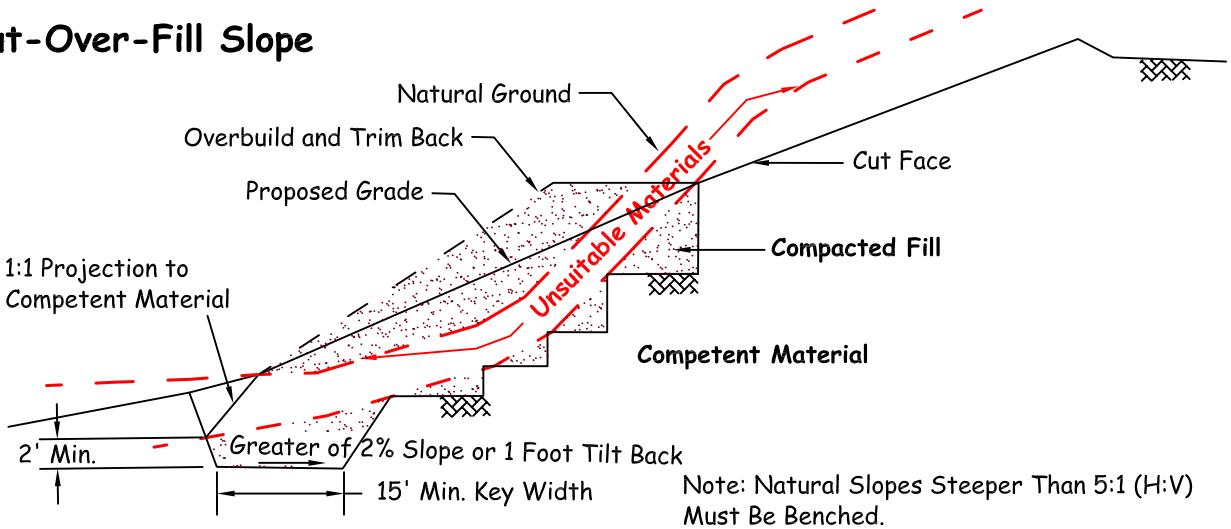


Fill-Over-Cut Slope



* Construct Cut Slope First

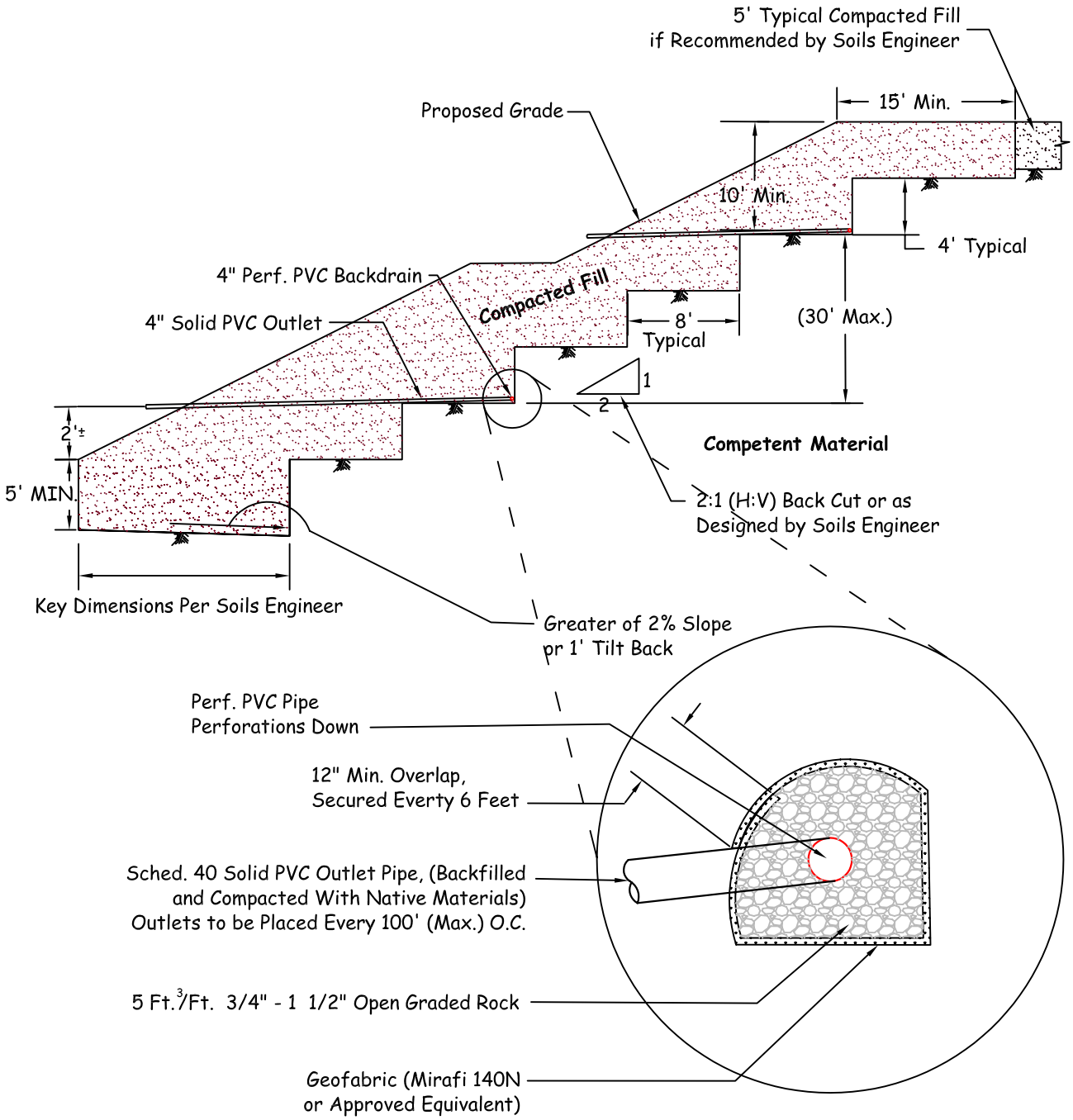
Cut-Over-Fill Slope



Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

LGC

KEYING AND BENCHING



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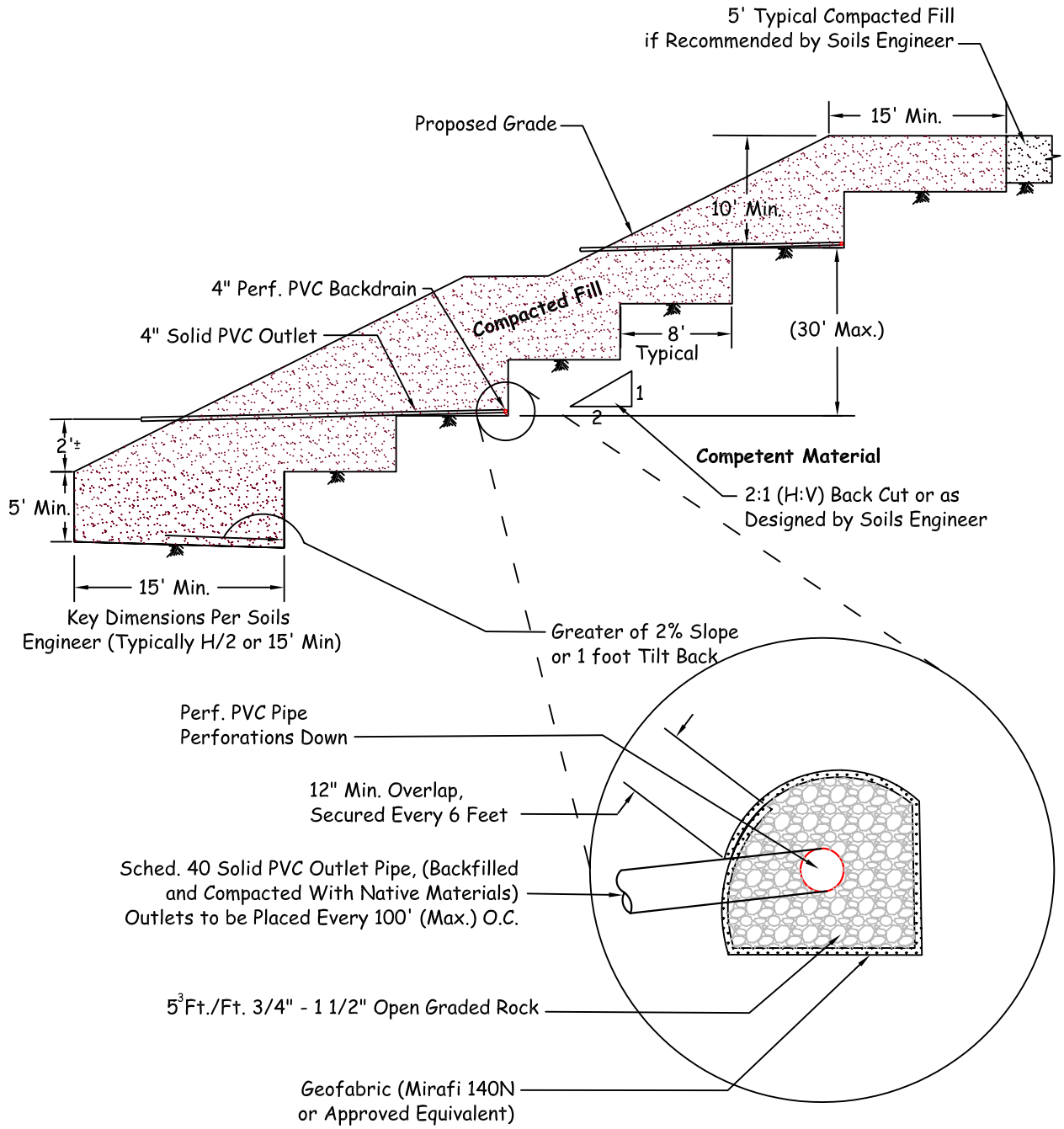
TYPICAL BUTTRESS DETAIL

11/26/02



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TYPICAL STABILIZATION FILL DETAIL

11/26/02

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

July 25, 2025
Mr. Evan Carey
Fire Prevention Analyst
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602

Subject: **Response to Service Code: PR105 Site Development Review for SR25002714/**

Dear Mr. Evan Carey:

On June 24, 2025, Toll West Coast LLC ("Toll Brothers"), received a site development review for OCFA Service Request SR 25002714 for our proposed development at 23161 Mill Creek Drive. It was noted that OCFA has reviewed the project, and the initial assessment has not returned and significant concerns. The review included the conditions of approval listed below with our responses.

CONDITIONS OF APPROVAL:

Plan Submittal: The applicant or responsible party shall submit the plan(s) listed below to the Orange County Fire Authority for review. Approval shall be obtained on each plan prior to the event specified.

Prior to OCFA clearance of a final map or issuance of a precise grading permit or a building permit, if a grading permit is not required:

- fire master plan (service code PR145)

Response: Noted.

Prior to issuance of a precise grading permit or a building permit, if a grading permit is not required:

- gates (service code PR180)

Response: Noted.

Prior to the issuance of a building permit:

- Underground piping for private hydrants and fire sprinkler systems if present (service code PR470-PR475)

  Response: An Underground Fire Protection Plan should not be required since all on-site hydrants will be public, not private, and all units will be protected by an NFPA 13-D system.

- fire sprinkler system (service codes PR400-PR465)

  Response: Noted.

Temporary/Final Occupancy Inspections:

Prior to issuance of temporary or final certificate of occupancy, all OCFA inspections shall be completed to the satisfaction of the OCFA inspector and be in substantial compliance with codes and standards applicable to the project and commensurate with the type of occupancy (temporary or final) requested. Inspections shall be scheduled at least five days in advance by calling OCFA Inspection Scheduling at 714-573-6150.

Response: Noted.

Lumber-drop Inspection:
After installation of required fire access roadways and hydrants, the applicant shall receive clearance from the OCFA prior to bringing combustible building materials on-site. Call OCFA Inspection Scheduling at 714-573-6150 with the Service Request number of the approved fire master plan at least five days in advance to schedule the lumber drop inspection.

Response: Noted.

We look forward to working further with you on this submittal. Should you have any questions or need additional information, please contact me at (949) 400-7214.

Sincerely,

Aylene Chu
Director of Land Entitlements
Toll West Coast, LLC

cc:
Salvador Avila, Toll West Coast LLC
Jason Certilman, Toll West Coast LLC
Peter Kim, Toll West Coast LLC
Alicia Guerra, Buchalter, PC
Braeden Mansouri, Buchalter, PC

LAGUNA HILLS HILLSIDE PLAZA REDEVELOPMENT PROJECT

Net Fiscal Impact Analysis
Prepared For: Toll Brothers, Inc.

January 2025

Prepared By:

kosmont companies

1601 N. Sepulveda Blvd. #382
Manhattan Beach, CA 90266
www.kosmont.com

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The analyses, projections, assumptions and any examples presented herein are for illustrative purposes and are not a guarantee of actual and/or future results. Actual results may differ from those expressed in this analysis, as results are difficult to predict as a function of market conditions, natural disasters, pandemics, significant economic impacts, legislation and administrative actions.

Executive Summary

Toll Brothers ("Client" / "Developer") is currently pursuing entitlements for the development of a 36-unit duplex residential project ("Project") on an approximately 2.43-acre property (APN 588-142-07) ("Site") located at 23161 Mill Creek Drive in the City of Laguna Hills ("City"). In order to assist the City's evaluation of the proposed Project, Client requested that Kosmont Companies ("Kosmont") prepare a Fiscal Impact Analysis ("Analysis") to estimate the projected net fiscal impacts of the Project to the City. Kosmont's Analysis also estimates the approximate impact of the existing office properties located on the Site, which would be redeveloped.

Kosmont's Analysis demonstrates that the redevelopment of the Project has a potential financial benefit to the City General Fund, driving ~$58,500 in annual fiscal revenues and ~$48,700 in annual fiscal costs, resulting in an annual net fiscal benefit of approximately $9,800.

Annual Fiscal Impact

The Project is estimated to generate an annual fiscal revenue of approximately $58,500 at full buildout in 2024 dollars, largely due to the significant increase in property value – the existing office properties have an estimated value of $15,000,000, compared to the Project's estimated value of $57,120,000 at completion.

The Project is expected to result in approximately $48,700 in General Fund expenditures, yielding a positive annual net fiscal impact of $9,800. The existing office properties are estimated to generate $18,500 in annual fiscal revenues and result in an estimated $24,400 in General Fund expenditures, yielding a current negative annual fiscal impact of ($5,900). In this regard, the Project compares favorably to the existing land use.

Fiscal revenues and expenses are summarized in the table on the following page.

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Table 1.1: Summary of Annual Fiscal Impact

Primary Fiscal Revenues	Current: Office	Full Buildout: Residential	Full Buildout: Residential (Per Unit)
Property Tax (Secured & Unsecured)	$4,900	$17,600	$ 489
Property Tax In-Lieu of VLF	$5,900	$22,500	$ 625
Property Transfer Taxes	$400	$4,500	$ 125
Sales & Use Tax (On-Site/Direct)	$0	$0	$ -
Sales & Use Tax (Off-Site/Indirect)	$2,800	$4,900	$ 136
Transient Occupancy Tax	$0	$0	$ -
Other Taxes and fees	$200	$300	$ 8
Franchise Fees	$1,500	$3,000	$ 83
Fines & Forfeitures	$200	$500	$ 14
Charges for Services	$2,600	$5,200	$ 144
Misc. Revenue	$0	$0	$ -
Total General Fund Revenues (Rounded):	**$18,500**	**$58,500**	**$1,625**
Primary General Fund Expenditures			
General Government	$400	$700	$ 19
Public Safety	$16,100	$32,300	$ 897
Public Works	$3,500	$6,900	$ 192
Non-Departmental	$200	$400	$ 11
Community Development	$1,000	$2,000	$ 56
Community Services	$3,200	$6,400	$ 178
Total General Fund Expenditures:	**$24,400**	**$48,700**	**$1,353**
NET FISCAL IMPACT (Rounded):	**($5,900)**	**$9,800**	**$270**

Source: Kosmont Companies, Laguna Hills, Toll Brothers

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Other Benefits

In addition to General Fund revenues, the Project will provide indirect benefits to City, County, the Saddleback Valley Unified School District ("School District"), and the Moulton Niguel Water District ("Water District").

- Local businesses will benefit from $1.85 million in increased spending from new residents, with an estimated $424,000 of taxable spending captured by businesses in the City of Laguna Hills;

- The City is estimated to receive one-time permit and plan check fees of ~$13,700 per unit, or ~$470,700;

- The School District is estimated to receive one-time developer school impact fees of ~$9,660 per unit, or ~$347,800.

- The Water District is estimated to receive one-time developer impact fees of ~$4,300 per unit, or ~$155,100.

- The School District is estimated to receive 47.73% of the increased basic 1% property tax levy, yielding an estimated $259,000 per year.

- The Orange County Fire Authority will receive 11.83% of the increased basic 1% property tax levy, yielding an estimated $64,200 per year.

As discussed above, the Project has indirect and direct benefits to the local community and City General Fund.

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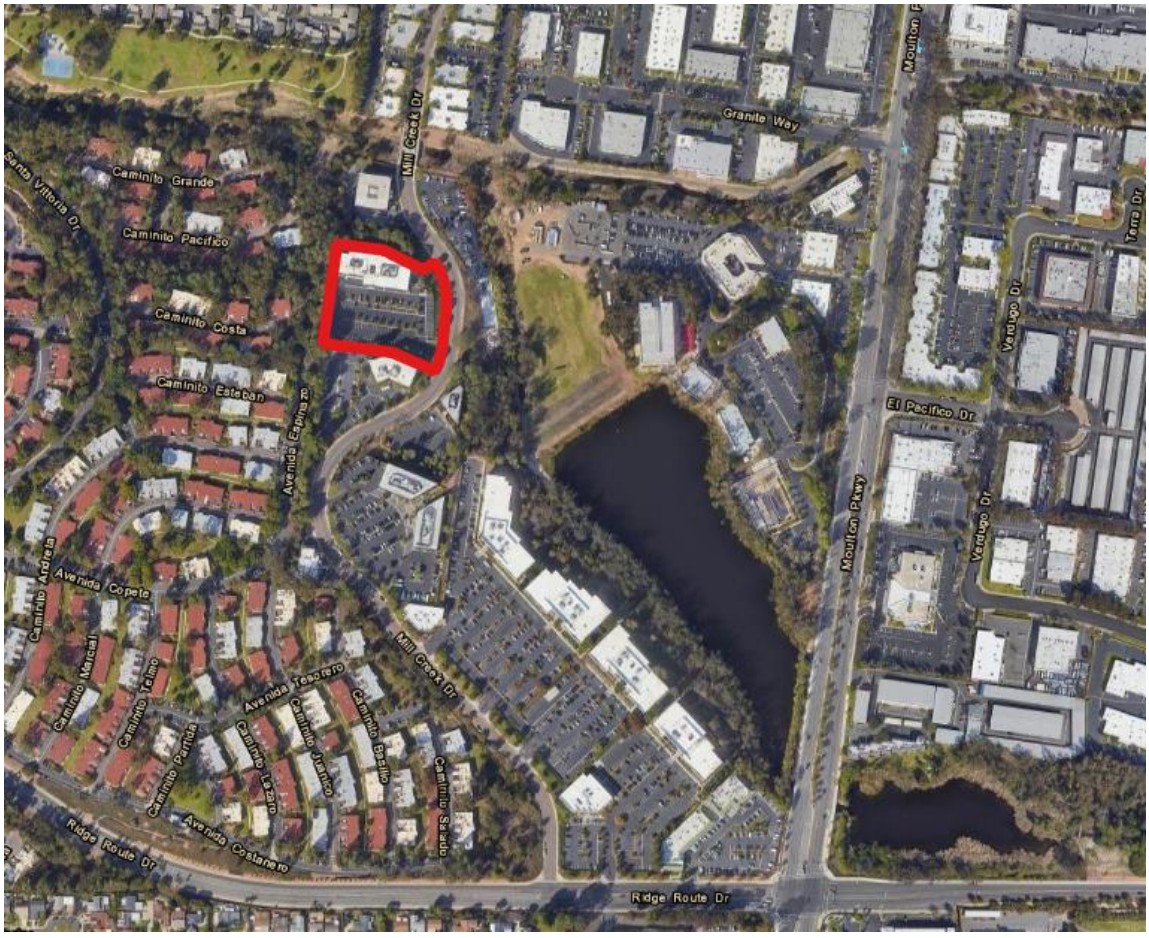
2.0 Project Description

The Project is planned to be developed on the ~2.43 acre Site at 23161 Mill Creek Drive, located north of the intersection of Mill Creek Drive and Ridge Route Drive in Laguna Hills, California. The Project is adjacent to small commercial / office buildings and is also proximate to residential neighborhoods.

Figure 2.1 Aerial Photo of Site and Immediate Neighborhood



2.2 Project Summary

The ~2.43-acre Site is currently occupied with a Class B office building (also known as Hillside Plaza) totaling ~48,800 SF (estimated current occupancy of 60%) built in 1987, as well as surface parking lots. The proposed Project will redevelop the site with 36 duplex housing units (with 2 of those units being affordable housing units). Figure 2.2 on following page shows the conceptual site plan.

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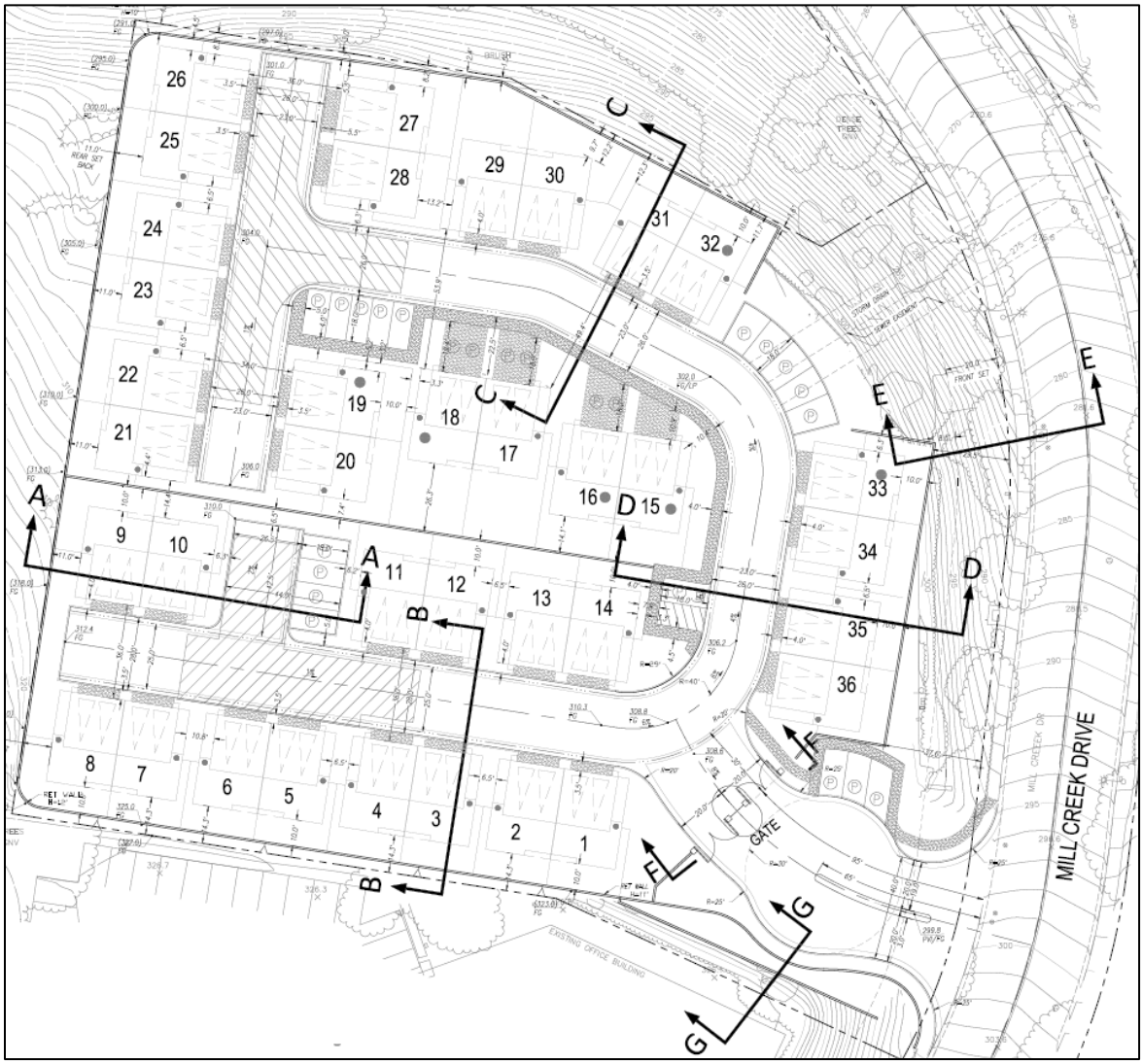
Figure 2.2 Site Plan



Source: Toll Brothers

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3.0 Fiscal Impacts

The Analysis evaluates the stabilized annual fiscal revenues expected for the City's General Fund for the proposed Project at completion. Fiscal revenue estimates were derived from estimating the various taxes including property taxes (secured and unsecured), property transfer taxes, indirect sales taxes, and other taxes and revenue. The Analysis is based on information provided by the Client, City, County Property Tax Auditor-Controller's Office, California Department of Finance ("DOF"), California Board of Equalization ("BOE"), CoStar, and ESRI.

3.1 General Assumptions

Given the uncertainty of actual development timing and future inflation rates for revenues and expenses, Kosmont has focused the fiscal analysis on annual impacts at stabilized occupancy in 2024 dollars.

3.2 Fiscal Revenue Analysis

3.2.1 Property Tax

Secured property tax revenues are estimated based on the anticipated assessed value of the Project upon full build-out and the applicable property tax rate for the City. The Site is located in County tax rate area ("TRA") #31096. The City's General Fund receives approximately 3.25% of the annual 1.0% secured property tax general levy placed by the County on the assessed value of the property ($0.03245131944 of each $1.00 of secured property tax revenue) within this TRA.

Additionally, unsecured property taxes are collected based on the assessed value of real property not affixed to the underlying land, such as business fixtures, and some types of vehicles. The rate of taxation and apportionment is generally the same as for secured property taxes. For the purposes of this Analysis, the assessed value of unsecured property associated with the Project is estimated to be 0.0% of the assessed value of secured property for the Project, and the assessed value of unsecured property associated with the existing office development is estimated to be 5.0% of the assessed value of secured property.

Based on an estimated average sale price of ~$1,680,000 per unit (and assuming an assessed value of $0 for the two affordable units), the Project is expected to yield an assessed value of ~$57,120,000 at completion. The Project is estimated to generate $**17,600** in property taxes to the City. The current office property, when valued based on the transacted price of $15,000,000, is estimated to generate $4,900 in property taxes to the City.

Additionally, the Orange County Fire Authority General Fund receives 11.83% of the annual 1.0% secured property tax general levy ($0.11834584895 of each $1.00 of secured property tax revenue) to fund fire services, and the Saddleback Valley Unified School District General Fund

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receives 47.73% of the annual 1.0% secured property tax general levy ($0.47725744067 of each $1.00 of secured property tax revenue) to fund educational services.

Exhibit 3.2.1 Property Taxes

		Current: Office	Full Buildout: Residential
Total Project Value (Rounded)		$15,000,000	$57,120,000
5% Adjustment to Assessed Value:		$750,000	$2,856,000
Total Estimated Assessed Value		$14,250,000	$54,264,000
Property Tax Rates			
General Levy - Secured	1.00%	$142,500	$542,640
City General Fund Distributions - Secured	3.25%	$4,624	$17,609
Unsecured Property as Percent of Secured		5.0%	0.0%
Estimated Unsecured Property Taxes to City		$231	$0
Total Property Tax to City (Secured + Unsecured) - Rounded:		**$4,900**	**$17,600**

Source: Toll Brothers, County Assessor, Kosmont Companies

3.2.2 Taxes in Lieu of VLF

Prior to 2004, a percentage of State of California motor vehicle license fee ("VLF") was distributed to cities. In 2005, the State instituted a revenue swap, guaranteeing that municipalities within California receive a distribution equal to the VLF collected, plus a percentage equal to the annual increase in assessed value. Property Tax In-Lieu of VLF resulting from the Project is estimated based on the incremental amount of assessed value the development will add to the City, thereby increasing the City's apportionment or estimated VLF revenues of **$22,500** in 2024 dollars. The current office property is estimated to generate $5,900 of VLF revenues in 2024 dollars.

Exhibit 3.2.2 Taxes in Lieu of VLF

	Current: Office	Full Buildout: Residential
Total Estimated Assessed Value	$14,250,000	$54,264,000
Total Assessed Value within City (2024)	$8,800,906,000	$8,800,906,000
Percent Share / Increase in Assessed Value	0.1619%	0.6166%
Estimated Property Tax In-Lieu of VLF in FY 23-24	$3,646,263	$3,646,263
Incremental Project Tax In-Lieu of VLF	**$5,900**	**$22,500**

Source: Toll Brothers, Kosmont Companies, City Budget and ACFR

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3.2.3 Real Property Transfer Tax

Property transfer tax revenue is estimated based on the expected average rate of turnover of ownership of 15.0% for residential product (on average, each property selling once every seven years) and 5.0% for commercial product (on average, approximately once every 20 years), estimated $2024 values, and the City's property transfer tax of 0.055% of gross sales price. The Project is estimated to generate an expected annual average of $**4,500** in property transfer taxes to the City. The current office property, when valued based on the sale price of $15,000,000, is estimated to generate $400 in property transfer taxes to the City.

Exhibit 3.2.3: Property Transfer Tax

Program Element	Estimated Assessed Valuation	Property Turnover Rate (per year)	Avg. Annual Property Transferred	Est. Effective Property Transfer Tax Rate	Current: Office	Full Buildout: Residential
Residential	$54,264,000	15.0%	$8,139,600	0.055%		$4,477
Office	$14,250,000	5.0%	$712,500	0.055%	$392	
City Property Transfer Tax Revenue					**$400**	**$4,500**

Source: Toll Brothers, Kosmont Companies, City Budget and ACFR

3.2.4 Sales Tax (Off-Site / Indirect)

The Project and the current office property are not expected to generate any direct / on-site sales tax.

Off-site / indirect sales tax revenue projections are estimated based on the taxable sales generated by the spending of Project residents, businesses and employees within the area. Employee spending is based on average household incomes and BLS Consumer Expenditure Survey data, which provides spending habits of consumers based on household income, as well as resident consumption patterns and retail sales patterns within the City. Capture rates for spending by employees and residents within the City are approximated by Kosmont based on an evaluation of retail amenities within the local trade area.

Annual Use Tax is given to each City based fair share allocation of online sales taxes through County Pools, averaging ~15% of the local sales taxes generated.

In order to estimate annual spending potential, Kosmont examined the average household earnings for the City residents (i.e. $172,700), as well as for the Project's Census Tract ($140,600)

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and assumed a mid-range household income value of $155,000 for the Project's market-rate housing units and $70,000 for the Project's affordable housing units, yielding a weighted average of ~$150,000.

At stabilized occupancy, the total annual resident taxable retail spending is estimated at an average of $1.41 million. Based on the Project's location near Irvine, Laguna Woods, and Lake Forest, the Analysis assumes 30% Citywide capture rate for annual taxable spending.

Exhibit 4.2.4 shows the annual sales tax to the General Fund estimated at **$4,900** per year as shown below. The current office property is estimated to generate $2,800 of off-site sales tax revenues in 2024 dollars (assuming office employee salaries of $95,000, 98 employees at the project, and a city capture rate of 10%).

Exhibit 3.2.4: Sales Tax (Off-Site/Indirect)

		Current: Office Property	Full Buildout: Residential
Residents			
Estimated Annual Taxable Spending / HH			$39,300
Estimated Capture within City (Off-Site)	30%	$0	$11,790
Estimated # Households			36
Total Resident Taxable Spending within City		$0	$424,440
Office Employees			
Estimated Annual Taxable Spending / Empl.		$24,900	
Estimated Capture within City (Off-Site)	10%	$2,490	$0
Estimated # Employees		98	0
Total Employee Taxable Spending within City		$242,909	$0
Total Off-Site / Indirect Taxable Sales		**$242,909**	**$424,440**
Annual Sales Tax to City	1.0%	$2,429	$4,244
City Share of Pool Taxes	15%	$367	$641
Annual Sales & Use Tax to City (Off-Site/Indirect)		**$2,800**	**$4,900**

Source: ESRI and Kosmont Companies

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3.2.5 Multiplier Based Revenues

In addition to the specific revenues identified above, a number of other City revenues are identified and evaluated generally based on a per resident, or per equivalent resident metric. These revenue sources include franchise fees, fines / forfeitures, charges for services, other taxes and fees, and miscellaneous revenue. These revenues are estimated based on historic City revenue metrics applied to the residents or equivalent residents attributed to the Project. These multiplier revenues to the General Fund generated by the Project are estimated at **$9,000** per year as shown below. The current office property is estimated to generate $4,500 of multiplier tax revenues in 2024 dollars

Exhibit 3.2.5 Multiplier-based Revenues

Budget Category	FY 2024-25 Adopted Budget	Calculation Basis	Relevent City Population	Discount for Operational Efficiency	Per Capita Factor	Current: Office	Full Buildout: Residential
General Fund Revenues							
						49 Equiv. Residents	98 Equiv. Residents
Property Taxes	13,396,286	Equiv. Residents	38,800	100%	$0.00	$0	$0
Sales Taxes	7,377,524	Equiv. Residents	38,800	100%	$0.00	$0	$0
TOT	1,135,000	Equiv. Residents	38,800	100%	$0.00	$0	$0
Other Taxes and fees	609,000	Equiv. Residents	38,800	80%	$3.14	$200	$300
Franchise Fees	1,205,000	Equiv. Residents	38,800	0%	$31.06	$1,500	$3,000
Fines & Forfeitures	190,000	Equiv. Residents	38,800	0%	$4.90	$200	$500
Interest Income	420,000	Equiv. Residents	38,800	100%	$0.00	$0	$0
Charges for Services	2,047,718	Equiv. Residents	38,800	0%	$52.78	$2,600	$5,200
Misc. Revenue	50,000	Equiv. Residents	38,800	80%	$0.26	$0	$0
Total:	*$26,430,528*					$4,500	$9,000
Total Multiplier Revenues:						**$4,500**	**$9,000**

Source: Kosmont Companies, City Budget and ACFR, ESRI, CA Dept of Finance

3.3 Fiscal Expenditure Analysis

General Fund Expenditures such as public safety, public works, community services, and community development are estimated on a per capita basis using the City's Fiscal Year 2024-2025 Adopted Budget, and the 30,300 resident population and 16,800 local employees (per Census data / City ACFR) within the City, yielding a resident-equivalent service population of 38,800 as shown in Exhibit 3.3.1 below.

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Exhibit 3.3.1 Citywide Service Population

City Resident Population (2024)	30,300
City Employee Population (2024)	16,800
Employee / Resident Weighting Factor	0.5
Effective Employee Population	8,400
Total City Service Population	**38,700**

Source: Kosmont Companies, City Budget and ACFR, CA Dept of Finance

At stabilized occupancy assuming 2.72 average residents per housing unit (the Citywide average) and with 100% occupancy, there will be 98 residents at the Project. The existing office development is assumed to have an employee count of 98 people (60% occupancy, 300 SF per employee), which are weighted at 50% to yield a population of 49 equivalent residents. Kosmont reviewed each department to estimate the fixed and variable components of the 2023/24 budget in order to estimate the per capita cost impact of the new residents (as well as a comparison with the cost impact of employees at the current office building).

Total expenses related to the Project and the current office development are estimated based on the number of residents or equivalent residents attributed to each. These multiplier expenses to the General Fund generated by the Project are estimated at **$48,700** per year as shown below. The current office property is estimated to generate $24,400 of multiplier expenses in 2024 dollars

Exhibit 3.3.2 Multiplier Based Expenses

Budget Category	FY 2024-25 Adopted Budget	Calculation Basis	Relevent City Population	Discount for Operational Efficiency	Per Capita Factor	Current: Office	Full Buildout: Residential
General Fund Expenditures						49 Equiv. Residents	98 Equiv. Residents
General Government	$2,871,903	Equiv. Residents	38,800	90%	$7.40	$400	$700
Public Safety	$12,780,894	Equiv. Residents	38,800	0%	$329.40	$16,100	$32,300
Public Works	$5,490,627	Equiv. Residents	38,800	50%	$70.76	$3,500	$6,900
Non-Departmental	$1,512,506	Equiv. Residents	38,800	90%	$3.90	$200	$400
Community Development	$1,577,963	Equiv. Residents	38,800	50%	$20.33	$1,000	$2,000
Community Services	$2,536,163	Equiv. Residents	38,800	0%	$65.37	$3,200	$6,400
Total:	*$26,770,056*					$24,400	$48,700
Total General Fund Expenditures:						**$24,400**	**$48,700**

Source: Kosmont Companies, City Budget and ACFR, ESRI, CA Dept of Finance

The analyses, projections, assumptions and any examples presented herein are for illustrative purposes and are not a guarantee of actual and/or future results. Actual results may differ from those expressed in this analysis, as results are difficult to predict as a function of market conditions, natural disasters, pandemics, significant economic impacts, legislation and administrative actions.

3.4 Annual Net Fiscal Impact

Based on the fiscal model discussed herein, the Project is estimated to generate approximately $58,500 in annual fiscal revenues (~$1,625 per unit) to the City's General Fund, and drive approximately $48,700 in annual fiscal expenses (~$1,350 per unit). As a result, the Project is expected to generate net positive revenues to the City's General Fund of approximately $9,800 per year.

The existing office development is estimated to generate approximately $18,500 in annual fiscal revenues to the City's General Fund, and drive approximately $24,400 in annual fiscal expenses. As a result, the existing office development generates net negative revenues to the City's General Fund of ($5,900).

For reference, and as shown in Table 3.3 below, primary revenue drivers include property taxes and off-site sales tax, while primary expenses include public safety, public works, and community services.

Exhibit 3.4.1 Fiscal Benefit Comparison

	Current: Office	Full Buildout: Residential	Full Buildout: Residential (Per Unit)
Primary Fiscal Revenues			
Property Tax (Secured & Unsecured)	$4,900	$17,600	$ 489
Property Tax In-Lieu of VLF	$5,900	$22,500	$ 625
Property Transfer Taxes	$400	$4,500	$ 125
Sales & Use Tax (On-Site/Direct)	$0	$0	$ -
Sales & Use Tax (Off-Site/Indirect)	$2,800	$4,900	$ 136
Transient Occupancy Tax	$0	$0	$ -
Other Taxes and fees	$200	$300	$ 8
Franchise Fees	$1,500	$3,000	$ 83
Fines & Forfeitures	$200	$500	$ 14
Charges for Services	$2,600	$5,200	$ 144
Misc. Revenue	$0	$0	$ -
Total General Fund Revenues (Rounded):	**$18,500**	**$58,500**	**$1,625**
Primary General Fund Expenditures			
General Government	$400	$700	$ 19
Public Safety	$16,100	$32,300	$ 897
Public Works	$3,500	$6,900	$ 192
Non-Departmental	$200	$400	$ 11
Community Development	$1,000	$2,000	$ 56
Community Services	$3,200	$6,400	$ 178
Total General Fund Expenditures:	**$24,400**	**$48,700**	**$1,353**
NET FISCAL IMPACT (Rounded):	**($5,900)**	**$9,800**	**$270**

Source: Toll Brothers, Laguna Hills, Kosmont Companies

The analyses, projections, assumptions and any examples presented herein are for illustrative purposes and are not a guarantee of actual and/or future results. Actual results may differ from those expressed in this analysis, as results are difficult to predict as a function of market conditions, natural disasters, pandemics, significant economic impacts, legislation and administrative actions.

Phase I Cultural Resources Report

23161 Mill Creek Project, City of Laguna Hills, Orange County, California

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September 2025

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Executive Summary

South Environmental was retained to complete a Phase I cultural resources assessment for the 23161 Mill Creek Project (proposed project, project site) located in the City of Laguna Hills, Orange County, California. This study includes the results of a California Historical Resources Information Center (CHRIS) records search of the project site and a one-half-mile radius; a California Native American Heritage Commission (NAHC) Sacred Lands File search and informational letters to local tribes; and an intensive-level pedestrian survey of the project site by a qualified archaeologist. This study was completed in compliance with the California Environmental Quality Act (CEQA), including Public Resources Code (PRC) Section 5024.1, Title 14 California Code of Regulations (CCR) Section 15064.5 of the CEQA Guidelines, and PRC Sections 21083.2 and 21084.1.

No cultural resources were identified within the project site as a result of the CHRIS records search, NAHC Sacred Lands File search, Native American coordination, and pedestrian survey by a qualified archaeologist. The entire project site has been disturbed by grading and previous development. Therefore, while the project site is unlikely to contain intact buried archaeological deposits, it is always possible to encounter resources during project-related ground disturbance. Standard Regulatory Requirements for archaeological resources and human remains have been provided in Section 6.2. With implementation of these requirements, impacts to archaeological and historical resources would be less than significant. No mitigation measures are required.

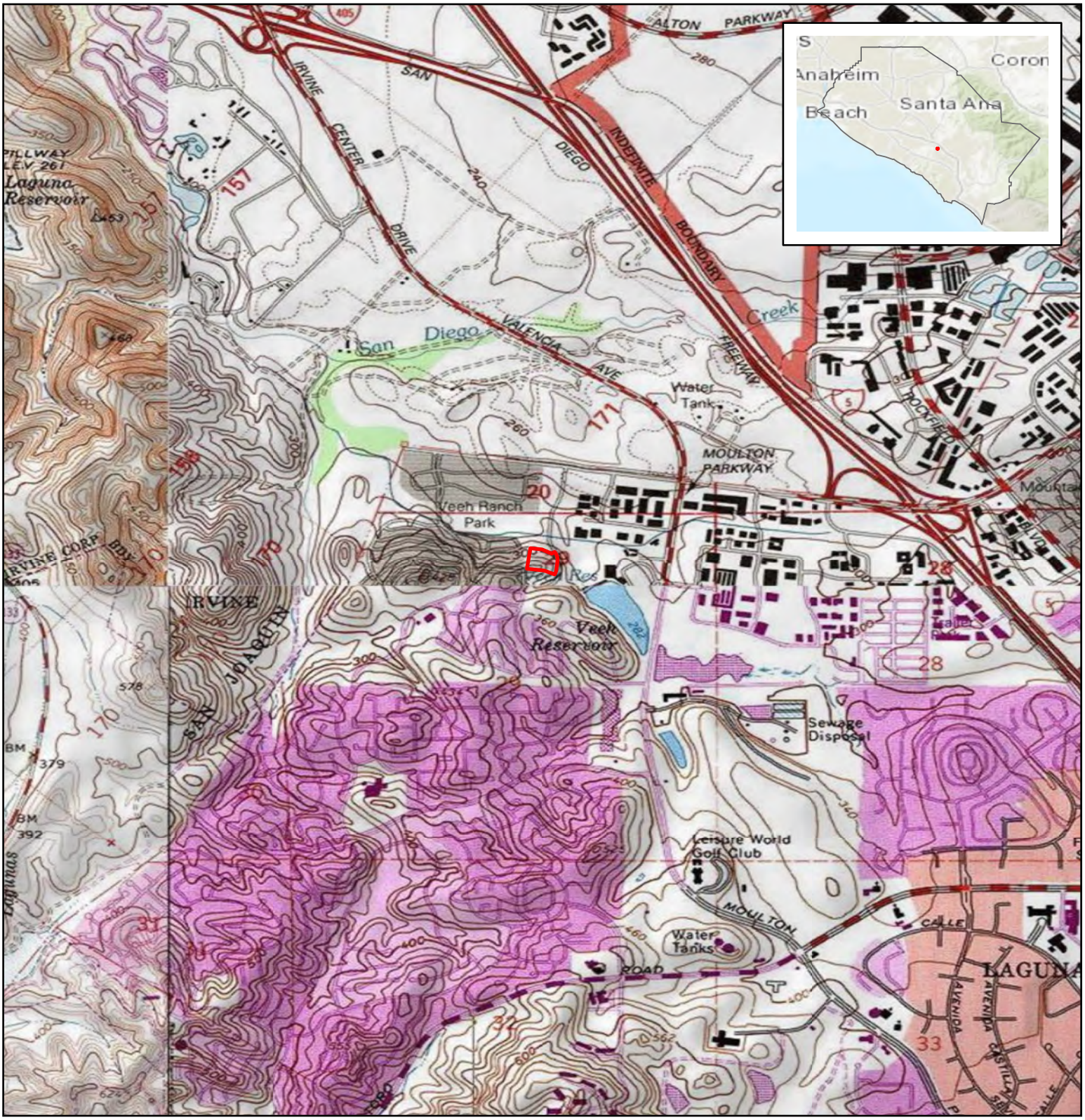
1 Introduction

South Environmental was retained to complete a cultural resources assessment for the 23161 Mill Creek Project (proposed project, project site) located in the City of Laguna Hills, Orange County, California. This study includes the results of a California Historical Resources Information Center (CHRIS) records search of the project site and a one-half-mile radius; a California Native American Heritage Commission (NAHC) Sacred Lands File search and informational letters to local tribes; and an intensive-level pedestrian survey of the project site by a qualified archaeologist. This study was completed in compliance with the California Environmental Quality Act (CEQA), including Public Resources Code (PRC) Section 5024.1, Title 14 California Code of Regulations (CCR) Section 15064.5 of the CEQA Guidelines, and PRC Sections 21083.2 and 21084.1.

This report was prepared by South Environmental Archaeologist Samantha Jovanovic, MA, MS, Principal Archaeologist Kevin Hunt, BA, and Archaeological Principal Investigator Samantha Murray, MA, RPA, who meets the Secretary of the Interior's Professional Qualification Standards for Prehistoric and Historic Archaeology. Resumes for all authors are provided in Appendix C.

1.1 Project Location

The project site falls within the United States Geological Survey (USGS) *San Juan Capistrano, California* 7.5-minute quadrangle map in Section 29 of Township 06 South and Range 08 West (Figure 1). The project site encompasses approximately 2.43 acres occupying Assessor's Parcel Number (APN) 588-142-07, located at 23161 Mill Creek Drive in the City of Laguna Hills in Orange County, California (Figure 2). The project site is bound by Mill Creek Road to the east and north, parking lots and commercial buildings to the south, and residential development to the west. A school is located across Mill Creek Road to the east. Veeh Reservoir is downslope to the east, below other commercial buildings within Lake Hills Corporate Park.



Source: ESRI USA Topo Maps and World Topo Map 2024

23161 Mill Creek Project

Figure 1. Project Location Map

Project Site

Project Location is within Laguna Hills, California, in Orange County on the USGS San Juan Capistrano 7.5-minute quadrangle map in Section 29 of Township 06 South and Range 08 West

Center Coordinate (Decimal Degrees):
Latitude: 33.6259973N Longitude: -117.7356113W

0 1,000 2,000 Feet

Scale: 1:24,000

N

SOUTH ENVIRONMENTAL

Source: Bing Aerial Imagery 2024

23161 Mill Creek Project

Figure 2. Project Site Detail Map

Project Site

0 50 100 Feet

Scale: 1:1,000

N

SOUTH ENVIRONMENTAL

1.2 Project Description

The proposed project consists of the demolition of the existing office building and associated surface parking lot and landscaping to construct 36 single-family attached condominium residential units, parking, on-site roadways, and associated infrastructure at a density of 14.8 dwelling units per acre (du/ac). Two units will be deed-restricted for very low-income households, while the remaining 34 units are designated as above-moderate income. The proposed project would be constructed on the 2.43-acre parcel located at 23161 Mill Creek Drive. The project site has a City of Laguna Hills General Plan land use designation of Mixed Use and is zoned MXU – Mixed Use.

Architecture

The 36 residential units will feature two plan types – Plan 1 and Plan 2. Each plan type will feature four bedrooms and four bathrooms. Eighteen (18) units will consist of Plan 1, which has a total unit area of 1,991 square feet, while the remaining 18 units will consist of Plan 2, which will have a total unit area of 2,033 square feet. The proposed project has a density of 14.8 du/ac, 64 percent maximum lot coverage, 300 feet minimum lot width, and 360 feet minimum lot depth. The proposed project will also build to a minimum setback of 20 feet to the front, five feet to the side (interior), 20 feet to the side street, and 7.5 feet to the rear. The proposed project also includes 14,500 square feet of private open space in the form of balconies and private yards.

Landscaping

The proposed project includes a landscape coverage of 20 percent and a minimum building separation of 6.5 feet. Landscaping will be distributed throughout the project site in the form of large accent trees, medium accent trees, perimeter screening trees, small accent trees, shrub and groundcover, and vines and espaliers.

Walls/Fences

The proposed project is designed to include a concrete masonry block wall with cap or a mechanically stabilized earth wall surrounding the project site, a 3-foot 6-inch high steel cable guard rail along the western and southern project site boundaries, a 6-feet high split face block wall with precision cap in between each unit, and a 6-feet high tubular steel view fence along the northern and eastern project site boundaries. The entrance will include a 7-feet high cultured stone veneer entry wall with cap.

Utilities

The proposed project includes a series of area drains and catch basins to collect street flow. The southern half of the project site drains out to Mill Creek Drive through a proposed parkway culvert near the proposed driveway. The north half of the project site drains out to Mill Creek Drive through a second proposed parkway culvert near the northeast corner of the project site.

Parking/Site Access

The proposed project is designed to provide 90 parking spaces in the forms of attached garages and uncovered parking stalls. Access to the project site is proposed via one full-access gated driveway along Mill Creek Drive. The existing driveway at the project site will be modified to include a gate entry with call box, a monument signage wall, separate entrance and exit points, and fire lane entrance signs. The driveway will be a minimum of 40 feet wide and features a gated entry and exit.

1.3 Project Study Area

The archaeological study area is the entirety of the approximately 2.43-acre project site and includes all areas where ground disturbance is expected to occur as a result of new construction.

1.4 Regulatory Setting

1.4.1 State

California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California PRC Section 5020.1(j)). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California PRC Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to California PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California' s history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than

50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- California PRC Section 21083.2(g) defines "unique archaeological resource."
- California PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of an historical resource.
- California PRC Section 21074(a) defines "tribal cultural resources."
- California PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- California PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California PRC Section 21084.1; CEQA Guidelines Section 15064.5(b).) If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of California PRC Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (California PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); California PRC Section 5020.1(q)). In turn, CEQA Guidelines section 15064.5(b)(2) states the significance of an historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (California PRC Section 21083.2[a], [b], and [c]).

California PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (California PRC section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (California PRC Section 21074(c), 21083.2(h)), further consideration of significant impacts is required. CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California PRC Section 5097.98.

California State Assembly Bill 52 (AB 52)

AB 52 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. Section 4 of AB 52 adds Sections 21074(a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource."

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any

place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the county coroner has examined the remains (Health and Safety Code Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Health and Safety Code Section 7050.5(c)). The NAHC will notify the "most likely descendant." With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by the NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

1.4.2 Local

Laguna Hills General Plan

Conservation and Open Space Element

The Conservation and Open Space Element of the Laguna Hills General Plan (City of Laguna Hills 2009) includes discussion and policies regarding the preservation and value of cultural resources. Specifically, this element states "Cultural resources that reflect the history of a community, from descendants of the earliest Native Americans to later explorers, settlers, and immigrants, are important to the community and, therefore, warrant protection by the City."

"The City will continue to review City of Laguna Hills General Plan conservation and Open space COS-15 future development proposals to ensure that cultural resources (including prehistoric, historic, and paleontological) are conserved in compliance with CEQA requirements" (City of Laguna Hills 2009).

Policy COS-1.15: Recognize that archaeological and paleontological resources are nonrenewable resources worthy of preservation.

Policy COS-2.7: Promote and expand the link between recreation and educational activities by exploring opportunities tied to sites of paleontological or archaeological interest and other environmentally sensitive areas.

2 Environmental Setting

Regionally, the project site is located in south Orange County approximately 6.98 miles inland of the Pacific Ocean. Locally, the site is located 1.4 miles south of Interstate 405, 0.8-mile southwest of Interstate 5, 2.55 miles north of State Route 73, and 1.16 miles east of State Route 133. The project site is within a developed urban setting with an existing development throughout the entire project site that includes two office buildings, a parking lot, and ornamental landscaping throughout. The site is also surrounded by dense urban development with similar commercial buildings, parking lots, and a residential neighborhood. Prior to the region's development, coastal sage scrub, grassland, and south oak woodland plant communities were likely present (Munz and Keck 1975).

The project site is at an elevation of approximately 335 feet above mean sea level (amsl) near the northern edge and slopes upward to 360 feet amsl near the center and south end (USGS 2024). The climate in the region is Mediterranean, with average summer high temperatures (°Fahrenheit) in the low-80s and average winter lows in the mid-40s. Average annual rainfall is approximately 14 inches with most of the precipitation occurring between December and March, with almost no precipitation between June and September (City of Laguna Hills 2024a; NOAA 2024).

The site is located on the eastern flank of the San Joaquin Hills, which are part of the Peninsular Range. The Peninsular Ranges geomorphic province extends southward from the Los Angeles Basin to the tip of Baja California and is characterized by elongated northwest-trending mountain ranges separated by sediment-floored valleys (Yerkes et al. 1965). The site sits atop the Sespe Formation, a widespread fossiliferous non-marine sedimentary geologic unit intermixed with metamorphosed marine sedimentary rock that formed during the Miocene era. The Sespe Formation includes Oligocene-aged nonmarine (continental) sedimentary rocks, comprised of well consolidated sandstone, shale, and conglomerate Adjacent geologic units include generally unconsolidated, undifferentiated Quaternary alluvium and marine deposits of Pleistocene to Holocene age (California Department of Conservation 2015).

According to the United States Department of Agriculture (USDA) Soils Database there is one major soil complex within the study area (USDA/NRCS 2024): Alo variant clay, 15 to 30 percent slopes. These soils occur in the entire project site and have a parent material of residuum weathered from sedimentary rock (USDA/NRCS 2024).

3 Cultural Setting

3.1 Prehistoric Context

While many chronological sequences have been developed to describe cultural changes in Southern California, the following builds on Wallace (1955, 1978), who developed a prehistoric chronology for the Southern California coastal region that is still widely used today. Four periods are presented in this sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The summary of prehistoric chronological sequences for Southern California coastal and near-coastal areas presented below is a combination of Wallace (1955) and Warren (1968) as well as more recent studies.

3.1.1 Early Man Horizon (ca. 10,000 – 6,000 B.C.)

Numerous pre-8,000 B.C. sites have been identified along the mainland coast and Channel Islands of Southern California (Moratto 1984; Erlandson 1991; Rick et al. 2001; Johnson et al. 2002; Jones and Klar 2007). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Johnson et al. 2002). The most widely accepted dates for archaeological sites on the southern California coast are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area about 10,000 years ago (Erlandson 1991:105).

Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas and on inland Pleistocene lakeshores (Moratto 1984).

3.1.2 Milling Stone Horizon (6,000 – 3,000 B.C.)

Set during the Altithermal, which began around 6,000 B.C., the Milling Stone Horizon is characterized by changing subsistence strategies in response to drier climate. This included a greater emphasis on plant foods and small game. Extensive seed processing is evident in the dominance of stone grinding implements in contemporary archaeological assemblages; namely, milling stones (metates) and handstones (manos). The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968). Other food resources including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969). Depending on the environmental setting (coastal or inland), food procurement strategies are found to be highly variable (Byrd and Raab 2007:220).

3.1.3 Intermediate Horizon (3,000 B.C. – A.D. 500)

The Intermediate Horizon is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred towards a greater adaptation to local resources including a broad variety of fish, land mammals, and sea mammals along the coast. This diversity was reflected in tool kits for hunting, fishing, and processing food and materials, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured. Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling tool. This change in milling stone technology indicates a transition from the processing and consumption of hard seed resources to the increased reliance on acorns (Glassow et al. 1988; True 1993).

3.1.4 Late Prehistoric Horizon (A.D. 500 – European Contact)

The Late Prehistoric Horizon is characterized by an increased diversity of plant food resources and land and sea mammal hunting. Material culture became more complex as demonstrated through more diverse classes of artifacts. During this period, the northern Channel Islands populations further developed craft specializations, including shell bead manufacture, that sustained trade with mainland settlements and with further trading partners to the east, creating a regional economy. Steatite quarried on Santa Catalina Island was used to make stone bowls, pipes, comals, sucking tubes, pendants, beads, and effigies. The lack of pottery in coastal and near-coastal sites implies that ceramic technology was not widely used, or that ceramics were obtained by trade with neighboring groups to the south and east. The lack of widespread pottery manufacture may also be due to the utility of tightly woven and watertight basketry that functioned in much the same way as ceramic vessels.

In areas of inland settlement, by the end of the Intermediate Period, mobility and long-distance migration towards the coast from seasonal camps was replaced by the development of permanent settlements. The period between A.D. 500 and European contact is divided into three regional patterns: Chumash (Santa Barbara and Ventura counties), Takic/Numic (Los Angeles, Orange, and western Riverside counties), and Yuman (San Diego County). Modern Gabrielino/Tongva, Juaneño, and Luiseño people in this region are considered to be the descendants of the Uto-Aztecan, Takic-speaking populations that settled along the California coast during this period (Warren 1968).

3.2 Ethnographic Context

3.2.1 Gabrielino/Tongva

The project is located within the southern edge of the Gabrielino/Tongva ethnographic territory, less than one mile northwest of Aliso Creek, which is considered the interface with the Juaneño/Acjachemen (Bean and Smith 1978:538; Kroeber 1925: Plate 57). Adjacent Native groups include the Chumash and Tataviam/Alliklik to the north, Serrano and Cahuilla to the east, and Juaneño to the south. Santa Catalina Island (*Pimu*) and San Clemente Island (*Kinki*) are located at the western

extent of Gabrielino ethnographic territory, with the Chumash having occupied most of the northern Channel Islands. The project site is on the eastern flank of the San Joaquin Hills, in the southern end of the traditional Gabrielino/Tongva territory.

Archaeological, linguistic, and genetic evidence documents interaction between the Gabrielino and their neighbors in the form of intermarriage and trade. The term "Gabrielino" denotes those people who were administered by the Spanish at Mission San Gabriel, which included people from the traditional Gabrielino territory as well as other nearby groups (Bean and Smith 1978; Kroeber 1925). Many modern Gabrielino who identify as descendants of the indigenous people who lived within the Los Angeles Basin refer to themselves as Tongva (King 1994:12), but this term is not universally used. This term is used in the remainder of this section to refer to the contact period indigenous inhabitants of the Los Angeles Basin and southern Channel Islands and their descendants. Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands: San Clemente, San Nicolas, and Santa Catalina (Bean and Smith 1978:538; Kroeber 1925:636).

The Tongva language belongs to the Takic branch of the Uto-Aztecan language family, which can be traced to the Great Basin region (Mithun 2004). This language family includes dialects spoken by the nearby Juaneño and Luiseño but is considerably different from those of the Chumash people living to the north and the Diegueño (including Ipai, Tipai, and Kumeyaay) people living to the south in modern San Diego and Imperial Counties. Tongva society was organized along patrilineal non-localized clans, a common Takic pattern. Each clan had a ceremonial leader and contained several lineages.

The Tongva established large permanent villages and smaller satellite camps in locations from the San Gabriel Mountains to the southern Channel Islands and throughout the Los Angeles Basin and Santa Ana Plain. Ethnohistoric work conducted by Stephen O'Neil (2002) suggests a total tribal population of nearly 10,000, roughly twice that of earlier estimates (Bean and Smith 1978:540). The Tongva village of *Kengaa* was located approximately nine miles west of the project site in the vicinity of modern Newport Beach's back bay (Kroeber 1925; McCawley 1996). The Tongva village of *Pasbenga* was located approximately nine miles northwest of the project site in modern Santa Ana (Kroeber 1925; McCawley 1996).

Tongva subsistence was oriented around acorns supplemented by the roots, leaves, seeds, and fruits of a wide variety of plants. Meat sources included large and small mammals, freshwater and saltwater fish, shellfish, birds, reptiles, and insects (Bean and Smith 1978; Langenwalter et al. 2001; Kroeber 1925; McCawley 1996). The Tongva employed a wide variety of tools and implements to gather and hunt food. The digging stick, used to extract roots and tubers, was frequently noted by early European explorers (Rawls 1984). Other tools included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Like the Chumash, the Tongva made oceangoing plank canoes (known as a *ti'at*) capable of holding six to fourteen people and used for fishing, travel, and trade between the mainland and the Channel Islands. Tule reed canoes were employed for near-shore fishing (Blackburn 1963; McCawley 1996:117-127).

Chinigchinich, the last in a series of heroic mythological figures, was central to Tongva religious life at the time of Spanish contact (Kroeber 1925:637–638). The religion was spreading south among other Takic-speaking groups at the same time the Spanish were establishing Christian missions. Elements of *Chinigchinich* suggest it was a syncretic mixture of native and Christian belief and practices (McCawley 1996:143-144).

Prior to European contact and subsequent assimilation, the Tongva practiced burial and cremation funerary traditions. Burial was more common on the Channel Islands and the adjacent mainland coast, while cremation was practiced primarily in the interior (Harrington 1942; McCawley 1996:157). After pressure from Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996:157).

3.3 Historic Context

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present).

3.3.1 Spanish Period (1769–1822)

In search of the legendary Northwest Passage, Spanish explorer Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. Cabríllo explored the shorelines of present-day Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Spain laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885:96–99; Gumprecht 1999:35).

The 1769 overland expedition by Captain Gaspar de Portolá marks the start of California's Historic period. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Father Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

By the time the Spanish started colonizing Alta California, they had developed an effective system for establishing resilient, long-lasting settlements. With the goal of reaching self-sustainability as quickly as possible, the Spanish used a three-pronged approach comprising military presence to enforce order and mount a defense against attack, commerce for the production and trade of necessary goods, and religion (Kimbro and Costello 2009). This approach was meant to build stable communities that could sustain and protect themselves. With time, these communities expanded into towns and, eventually, modern cities such as San Diego, Santa Barbara, Los Angeles, and San Jose (Kimbro and Costello 2009).

In 54 years, the Spanish built twenty-one missions, four presidios and three pueblos in Alta California (Kimbro and Costello 2009). The mission system was fraught with successes and failures. As great churches and new crops rose from the ground, often the local Native American people and culture fell to disease and acculturation in droves (Kimbro and Costello 2009:1). However, experiences varied between the missions depending on the managerial personnel, tribal inclinations, and political and environmental events (Kimbro and Costello 2009:1).

In 1774, Juan Bautista de Anza led an overland expedition northward from Sonora, Mexico, to explore the inland areas of California and find an acceptable passage to Monterey in Alta California (National Park Service [NPS] 1996). In October 1775, de Anza led a group of 240 immigrants along the same 1,200-mile route, traversing the San Jacinto Valley and crossing the Santa Ana River near the modern City of Riverside before arriving at Mission San Gabriel in the first week of January 1776 (Anza Trail Foundation 2024). The group successfully made it to Monterey in April 1776 with only one fatality. Some continued to San Francisco to establish the presidio and mission on the peninsula (NPS 1996).

3.3.2 Mexican Period (1822–1848)

After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955:14).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts (Dallas 1955). The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

In 1842, Rancho Niguel was established in a 13,000-acre land grant to Juan Avila that included modern day cities along Aliso Creek such as Laguna Hills, Aliso Viejo, Laguna Niguel, and Dana Point on which Avila raised cattle herds. After the Mexican-American War, Avila was able to patented his land claim with the United States government (Laguna Beach Historical Society 2024).

3.3.3 American Period (1848–Present)

The Mexican–American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period. California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories.

The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005:102–103).

Orange County

In July 1769, the Portolá expedition traversed the region that became Orange County (Smith 1965). Portolá named the area El Valle de Santa Ana (the Valley of Santa Ana). After Mexican independence from Spain, few ranchos in the future Orange County were granted to Mexican citizens who would cultivate land for the government. After the secularization of the missions by the Mexican government in 1933, nine additional ranchos were granted between 1837 and 1846 (Middlebrook 2024).

The future Orange County remained dominated by ranches in the early American period. 1n 1862, however, a disastrous flood, smallpox outbreak, and subsequent drought resulted in many large ranch owners as well as farmers losing their properties through inability to pay taxes (Middlebrook 2024). Many of the large ranches were broken up and townships plotted throughout the Santa Ana Valley including Anaheim (1857), Santa Ana (1870), and Orange (1870) (Dumke 1970[1944]:112-115). The Santa Fe Railroad reached Anaheim in 1887, the same year that the Southern Pacific Railroad reached Santa Ana.

The County of Orange was established in 1889 from a 780-acre portion of Los Angeles County that included 40 miles of coastline and some of the best citrus groves in Southern California (Dumke 1970[1944]:118).

Despite significant population growth throughout the early twentieth century, Orange County largely retained its agricultural character. After World War II, inadequate housing supply due to a population boom resulted in many of the agricultural fields and groves being replaced by suburban housing tracts. Construction of the Santa Ana Freeway (Interstate 5) in the 1950s and the Riverside Freeway (State Highway 91) in the early 1960s established further transportation routes to and through Orange County. With its mild climate, miles of beach, and development of amusement parks such as Disneyland and Knott's Berry Farm, the county became known as a tourist destination in the late

twentieth century. In the twenty-first century Orange County continues development and redevelopment of aging urban and suburban areas.

Laguna Hills (post-1830s)

During Spanish and throughout Mexican occupation, the area around Laguna Hills was used for grazing herds of cows with large land grants forming Rancho San Joaquin, Rancho Loma de Santiago, and Rancho Niguel (City of Laguana Hills 2024b). When cattle became unprofitable, sheep took their place. Lewis Moulton from Boston leased Rancho Niguel in 1874 and purchased it in 1895 along with 9,000 more acres, increasing the Rancho from Don Juan Avila's original 13,000 to 22,000 acres. Moulton and his business partner Jean Pierre Daguerre raised sheep, cattle, and crops on the land. This use was continued into the twentieth century until the 1960s when the land was broken up into smaller lots and developed for residential and commercial use (City of Laguna Hills 2024b). Laguna Hills became an official city in 1991 and annexed North Laguna Hills in 1995 (City of Laguna Hills 2024b).

4 Background Research

4.1 CHRIS Records Search

On December 4, 2024, South Environmental archaeologist Samantha Jovanovic performed a cultural resources records search of the project site and a one-half-mile search radius at the South Central Coastal Information Center (SCCIC), which houses cultural resources records for Orange County. This search included their collections of mapped prehistoric and historic archaeological resources and historic built-environment resources, State of California Department of Parks and Recreation Site Records (DPR forms), technical reports, archival resources, and ethnographic references. Additional consulted sources include historical maps of the study area, the NRHP, the CRHR, the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility list. A summary of the results of the records search is presented in Appendix A.

4.1.1 Previously Conducted Cultural Resource Studies

The SCCIC records search results indicate that two previously conducted cultural resource studies intersect the project site. A summary of these studies is provided following Table 1. An additional 24 studies were identified outside the project site within the one-half-mile records search radius. A list of all previously conducted studies identified within the records search radius is provided in Table 1.

Table 1. Previous Cultural Resources Investigations Within 0.5-Mile of the Project Site

SCCIC Report Number	Author	Year	Report Title	Proximity to Project Site
OR-00066	Desautels, Roger J.	1976	Archaeological Survey Reports on Ridge Route Drive and Moulton Parkway (VEEH Reservoir) Road Widening and Installation, Laguna Hills Area, Orange County, California	Outside (Approximately 0.33-mi E)
OR-00143	Desautels, Roger J.	1976	Archaeological Survey Report on 85(+ Or -) Acres of Land Located in the Laguna Hills Area of the County of Orange Tract No's 9610, 9611, 9612, and 9613	Outside (Approximately 0.02-mi SW)
OR-00274	Anonymous	1978	Report of Archaeological Resources Survey Conducted for Laguna and Peter's Canyons	Outside (Approximately 0.33-mi W)
OR-00305	Schroth, Adella	1979	The History of Archaeological Research on Irvine Ranch Property: The Evolution of a Company Tradition	Outside (Approximately 0.28-mi N)
OR-00737	Padon, Beth	1984	Cultural Resources Assessment Planning Area 34b Orange County, California	Outside (Approximately 0.26-mi N)

Table 1. Previous Cultural Resources Investigations Within 0.5-Mile of the Project Site

SCCIC Report Number	Author	Year	Report Title	Proximity to Project Site
OR-00742	Padon, Beth	1984	Historic Property Survey Report for Irvine Center Drive Widening	Outside (Approximately 0.26-mi N)
OR-00841	Mason, Roger D.	1986	Archaeological, Historical, and Paleontological Assessments for Planning Area 34b, City of Irvine	Outside (Approximately 0.26-mi N)
OR-00847	Padon, Beth	1985	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	Outside (Approximately 0.37-mi N)
OR-00945	Van Horn, David M.	1982	Rossmoor Business Park Liquidating Trust Properties	Outside (Approximately 0.29-mi SE)
OR-01032	White, Robert S.	1990	Archaeological Resource Assessment Two Road Alignments Within Village 34 Lake Forest Drive and Bake Parkway Orange County, California	Outside (Approximately 0.49-mi NW)
OR-01109	Padon, Beth	1986	Addendum to the Historic Property Survey Report for Irvine Center Drive Widening	Outside (Approximately 0.26-mi N)
OR-01127	Rosenthal, Jane	1991	Past to Present: Cultural and Scientific Resources, an Archival Inventory Irvine Ranch Open Space Reserve Orange County, California	Outside (Approximately 0.49-mi WSW)
OR-01129	Van Horn, David M.	1982	Cultural Resource Assessment: the Koll Property Near Laguna Hills; a Possible Annexation Area for the City of Irvine and its Sphere of Influence	**Within**
OR-01344	Rosenthal, Jane	1993	Cultural Resources Element City of Laguna Hills, Orange County, California	**Within**
OR-02225	Strozier, Hardy	1978	The Irvine Company Planning Process and California Archaeology- A Review and Critique	Outside (Approximately 0.32-mi W)
OR-02267	Hunt, Kevin P. and Brian F. Smith	2000	An Archaeological and Paleontological Survey of the Irvine Spectrum GPA Project	Outside (Approximately 0.26-mi N)
OR-02336	Demcak, Carol R. and Milos Velechovsky	2000	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 5, Irvine, Orange County, California	Outside (Approximately 0.26-mi N)
OR-02406	Duke, Curt	2001	Review of Cingular Wireless Facility SC 008-02	Outside (Approximately 0.25-mile SE)
OR-02534	unknown	1976	Annual Report to The Irvine Company from Archaeological Research, Inc.	Outside (Approximately 0.26-mi N)
OR-02626	Younger, Shannon and Smith, Brooks	2003	Results of Archaeological Construction Monitoring Planning Area 27 Needlegrass Creek Conservation Area, Irvine, California	Outside (Approximately 0.34-mi W)

Table 1. Previous Cultural Resources Investigations Within 0.5-Mile of the Project Site

SCCIC Report Number	Author	Year	Report Title	Proximity to Project Site
OR-02639	Drover, Christopher E.	1998	A Cultural Resources Inventory in Planning Area 18 Irvine, California	Outside (Approximately 0.32-mi W)
OR-03358	Archer, Gavin H., Sarah A. Siren, Lawrence G. Barnes, Andrew Schmidt, and Noelle Shaver	2005	Historical, Archaeological and Paleontological Resources Identification and Evaluation for the Planning Area 18 Project Including Impacts Analysis and Mitigation Measures	Outside (Approximately 0.32-mi W)
OR-03467	Bonner, Wayne H. and Sarah A. Williams	2006	Cultural Resource Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate OC0175 (Laguna Village HOA) 23441 Avenida Costanero, Laguna Hills, Orange County, California	Outside (Approximately 0.3-mile SW)
OR-03743	Losee, Carolyn	2009	Cultural Resources Investigation for T-Mobile LA02880E "Maxwell" 88 Maxwell, Irvine, Orange County, California 92618	Outside (Approximately 0.33-mi N)
OR-04107	Archer, Gavin H., David C. Hanna, and Mark R. Deering	2007	Cultural Resources Field Assessment for the Lake Forest Drive and Bake Parkway Extensions Project in City of Irvine Planning Area 34	Outside (Approximately 0.37-mi NW)
OR-04289	Stone, David and Victorino, Ken	2012	Archaeological Survey Report Tertiary Treatment Plant and Recycled Water Distribution System Expansion Project Laguna Hills and Laguna Woods, Orange County, California	Outside (Approximately 0.18-mi NW)

OR-01129

Cultural Resource Assessment: the Koll Property Near Laguna Hills; a Possible Annexation Area for the City of Irvine and its Sphere of Influence (David M. Van Horn 1982). This study by Archaeological Associates includes a records search for three project areas and a pedestrian survey of one project area. The current project site was not surveyed as part of this study; however, the records search identified one prehistoric archaeological resource southeast of the current project site (P-30-000432 [CA-ORA-432]). This study included a field inspection of P-30-000432 and stated that the site was "completely destroyed by grading operations conducted in connection with construction of an office building complex." The site is described in Section 4.1.2 below.

OR-01344

Cultural Resources Element City of Laguna Hills, Orange County, California (Jane Rosenthal 1993). This study presents the results of a records search and literature review for the entire city of Laguna Hills. The study includes the current project site; however, no survey was conducted as part of the study.

4.1.2 Previously Recorded Cultural Resources

The SCCIC records search results indicate that one previously recorded cultural resource (P-30-000432 [CA-ORA-432]) was located within one-half-mile of the project site; however, this resource was destroyed by development prior to 1982. No additional resources were identified within the 0.5-mile records search radius.

P-30-000432

This prehistoric archaeological site (also identified as CA-ORA-432) was recorded by C. Reeves and J.B. Houser in 1973. The site is a surface scatter of flaked and ground stone tools, as well as one marine shell fragment. Flaked artifacts identified include choppers and a scraper plane. Ground stone artifacts include a mano and a metate rim fragment. One fragment of *Pecten spp*. marine shell was also observed. No site dimensions or sketch map were included in the record. David Van Horn's (1982), "Cultural Resource Assessment: the Koll Property Near Laguna Hills; a Possible Annexation Area for the City of Irvine and its Sphere of Influence," stated that P-30-000432 was completely destroyed and the "area graded off completely."

4.2 Native American Scoping

A Native American Heritage Commission (NAHC) Sacred Lands File search was requested by South Environmental on November 15, 2024. The NAHC responded to the request on December 5, 2024, and reported negative results (i.e., no sacred lands or resources important to Native Americans are recorded in the vicinity of the project). The NAHC recommended contacting the Native American tribes listed in Table 1, for additional information or knowledge they may have regarding the presence of cultural resources that may be impacted by the proposed project. On December 5, 2024, South Environmental sent letters to each contact provided by the NAHC.

As summarized in Table 3, three tribal groups have responded to the outreach letters to date. No archaeological, historical, or tribal cultural resources were identified within the project site as a result of South Environmental's coordination with tribes and none of the responses expressed concern regarding the proposed project (see Table 3 below). All Native American outreach completed by South Environmental is documented in Appendix B.

Table 2. Summary of Native American Outreach

Native American Tribal Contact	Method of Notification/Date	Response Received
Cahuilla Band of Indians Anthony Madrigal, Tribal Historic Preservation Officer Cultural Affiliation: Cahuilla	Letter sent via email on December 5, 2024.	BobbyRay Esparza responded on December 18, 2024, behalf of Cahuilla Band of Indians. See below.
Cahuilla Band of Indians Erica Schenk, Chairperson Cultural Affiliation: Cahuilla	Letter sent via email on December 5, 2024.	BobbyRay Esparza responded on December 18, 2024, behalf of Cahuilla Band of Indians. See below.
Cahuilla Band of Indians BobbyRay Esparza, Cultural Director Cultural Affiliation: Cahuilla	Letter sent via email on December 5, 2024.	Responded on December 18, 2024, behalf of Cahuilla Band of Indians: "The Cahuilla Bans will defer this project to the Gabrielino/Tongva tribes."
Gabrieleño Band of Mission Indians - Kizh Nation Christina Swindall Martinez, Secretary Cultural Affiliation: Gabrieleño	Letter sent via email on December 5, 2024.	No response to date.
Gabrieleño Band of Mission Indians - Kizh Nation Andrew Salas, Chairperson Cultural Affiliation: Gabrieleño	Letter sent via email on December 5, 2024.	No response to date.
Gabrieleño/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson Cultural Affiliation: Gabrieleño	Letter sent via email on December 5, 2024.	No response to date.
Gabrielino Tongva Indians of California Tribal Council Christina Conley, Cultural Resource Administrator Cultural Affiliation: Gabrielino	Letter sent via email on December 5, 2024.	No response to date.
Gabrielino Tongva Indians of California Tribal Council Robert Dorame, Chairperson Cultural Affiliation: Gabrielino	Letter sent via email on December 5, 2024.	No response to date.
Gabrielino/Tongva Nation Sandonne Goad, Chairperson Cultural Affiliation: Gabrielino	Letter sent via email on December 5, 2024.	No response to date.
Gabrielino-Tongva Tribe Charles Alvarez, Chairperson Cultural Affiliation: Gabrielino	Letter sent via email on December 5, 2024.	No response to date.
Gabrielino-Tongva Tribe Sam Dunlap, Cultural Resource Director Cultural Affiliation: Gabrielino	Letter sent via email on December 5, 2024.	No response to date.
Juaneño Band of Mission Indians Sonia Johnston, Chairperson Cultural Affiliation: Juaneño	Letter sent via email on December 5, 2024.	No response to date.
Juaneño Band of Mission Indians Acjachemen Nation - Belardes Joyce Perry, Cultural Resource Director Cultural Affiliation: Juaneño	Letter sent via email on December 5, 2024.	No response to date.

Table 2. Summary of Native American Outreach

Native American Tribal Contact	Method of Notification/Date	Response Received
Juaneño Band of Mission Indians Acjachemen Nation 84A Heidi Lucero, Chairperson, THPO Cultural Affiliation: Juaneño	Letter sent via email on December 5, 2024.	No response to date.
La Jolla Band of Luiseno Indians Norma Contreras, Chairperson Cultural Affiliation: Luiseno	Letter sent on December 6, 2024.	No response to date.
Pala Band of Mission Indians Christopher Nejo, Legal Analyst/Researcher Cultural Affiliation: Cupeno Luiseno	Letter sent via email on December 5, 2024.	Shasta Gaughen responded on behalf of the Pala Band of Mission Indians on December 12, 2024. See below.
Pala Band of Mission Indians Alexis Wallick, Assistant THPO Cultural Affiliation: Cupeno Luiseno	Letter sent via email on December 5, 2024.	Shasta Gaughen responded on behalf of the Pala Band of Mission Indians on December 12, 2024. See below.
Pala Band of Mission Indians Shasta Gaughen, Tribal Historic Preservation Officer Cultural Affiliation: Cupeno Luiseno	Letter sent via email on December 5, 2024.	Responded on behalf of the Pala Band of Mission Indians on December 12, 2024, stating the project is outside the tribes' Traditional Use Area and, therefore they "have no objection to the continuation of project activities as currently planned and we defer to the wishes of Tribes in closer proximity to the project area."
Pauma Band of Luiseno Indians Temet Aguilar, Chairperson Cultural Affiliation: Luiseno	Letter sent via email on December 5, 2024.	No response to date.
Santa Rosa Band of Cahuilla Indians Steven Estrada, Tribal Chairman Cultural Affiliation: Cahuilla	Letter sent via email on December 5, 2024.	Vanessa Minott responded on behalf of the Santa Rosa Band on December 9, 2024. See below.
Santa Rosa Band of Cahuilla Indians Vanessa Minott, Tribal Administrator Cultural Affiliation: Cahuilla	Letter sent via email on December 5, 2024.	Responded on behalf of the Santa Rosa Band on December 9, 2024: "We defer any comments to Soboba Band of Luiseno Indians cultural resource department."
Soboba Band of Luiseno Indians Joseph Ontiveros, Tribal Historic Preservation Officer Cultural Affiliation: Cahuilla, Luiseno	Letter sent via email on December 5, 2024.	No response to date.
Soboba Band of Luiseno Indians Jessica Valdez, Cultural Resource Specialist Cultural Affiliation: Cahuilla, Luiseno	Letter sent via email on December 5, 2024.	No response to date.

4.3 Historical Topographic Map and Aerial Photograph Review

Historic topographic maps and aerial photographs of the project site were reviewed from Nationwide Environmental Title Research LLC and USGS National Geologic Map Database. These included

topographic maps for the years 1901, 1902, 1904, 1942, 1943, 1947, 1948, 1949, 1956, 1957, 1959, 1960, 1963, 1965, 1966, 1968, 1969, 1974, 1983, and 1986; aerial imagery for the years 1938, 1946, 1952, 1963, 1967, 1972, 1980, 1981, 1985, 1987, 1988, 1992, and 1993, (NETR 2024, USGS 2024c).

The earliest topographic maps from 1901 depict the proposed project site as open space (USGS 2024c). From the earliest aerial photograph (1932) through 1972 the project site and surrounding area were agricultural land (NETR 2024). Veeh Reservoir, to the east of the project site, is first depicted on the 1942 (1943 ed.) *Santiago Peak*, *California* topographic map. By 1980, the area west of Mill Creek Drive was developed with residences. The extant building in the project site is visible in the 1987 aerial photograph (NETR 2024).

5 Archaeological Survey

5.1 Methods and Results

South Environmental cultural resource specialist Samantha Jovanovic MA, MS, conducted an intensive-level pedestrian survey of the project site on December 4, 2024. Fieldwork included taking field notes, photography, and examination of close-scale field maps. Photographs were taken with an iPhone 12 camera and Solocator Photography app.

During the archaeological survey, all exposed ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, ground stone artifacts tools), historical artifacts (e.g., metal, glass, ceramics), sediment discolorations that might indicate the presence of a cultural midden, depressions, and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations).

No archaeological resources were identified within the project site during the intensive-level pedestrian survey. The project site consists of a fully developed lot with a multi-story office building, a parking lot, and landscaped islands with non-native grasses, flowers, and trees (Photograph 1-5). There is a landscaped outdoor patio area east of the office building with an assortment of plants and decorative hardscaping (Photograph 6-7). Most of the project site is flat but for a steep grade drop at the northern edge of the project site (Photograph 8). Ground surface visibility was very poor, at approximately 5 percent throughout the project site due to the project site being a fully developed lot with existing building and a parking lot.

Photograph 1 Overview along eastern side from southwest corner. View north.

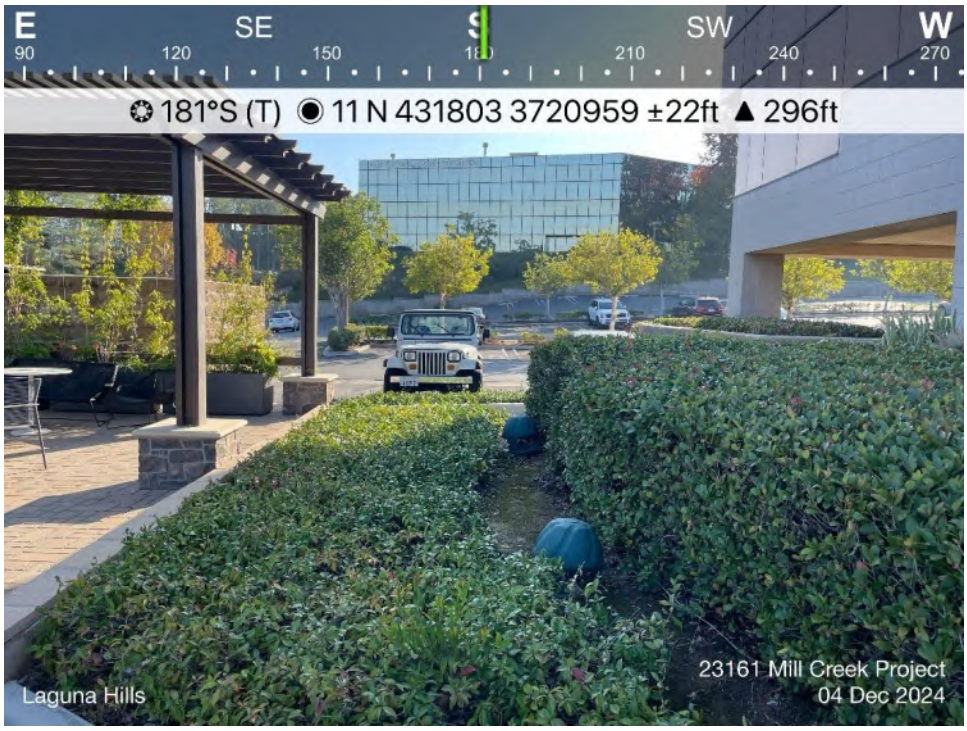
Photograph 2 Overview of site from southwest corner. View northeast.

Photograph 3 Overview along southern portion from southwest corner. View east.

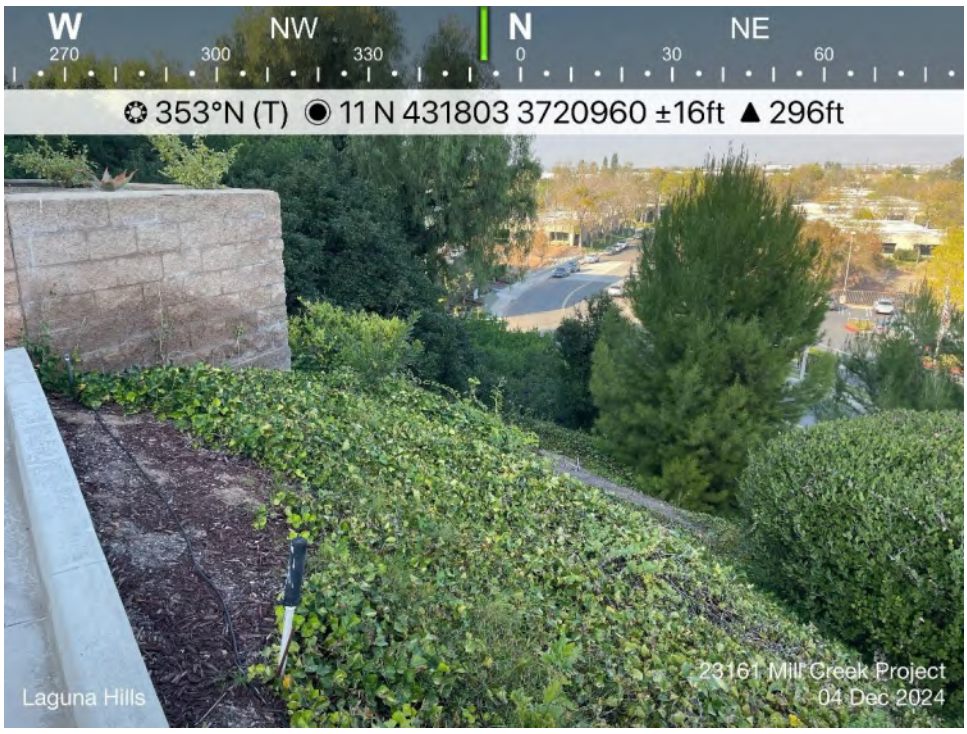
Photograph 4 Overview along eastern portion from southeast corner. View north.

Photograph 5 Overview from southeast corner. View northwest.

Photograph 6 Landscaped outdoor patio east of building.



Photograph 7 Outdoor patio space east of building with decorative plants. View south.



Photograph 8 Steep drop-off north of building. View north.

6 Findings and Recommendations

6.1 Findings

No archaeological resources were identified within the project site as a result of the CHRIS records search, NAHC Sacred Lands File search, Native American scoping, or pedestrian survey by a qualified archaeologist. Further, significant portions of the project site have been disturbed by grading and the development of the existing office building and parking lot. Therefore, while the project site is unlikely to contain intact buried archaeological deposits, it is always possible to encounter resources during project-related ground disturbance. The City's Standard Regulatory Requirements for archaeological resources and human remains have been provided below. With implementation of these requirements, impacts to archaeological and historical resources would be less than significant. No mitigation measures are required.

6.2 Standard Regulatory Requirements

California Administrative Code, Title 14, Section 4308 (14 CCR § 4308) (Accommodation for Unanticipated Cultural/Paleontological Resources). In compliance with the California Code of Regulations, during ground disturbance or any other construction activity, no person shall remove, injure, deface, or destroy any object of archaeological, or historical interest or value.

California Health and Safety Code, and Public Resources Code (Human Remains). In the event that human remains are discovered, there shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. These code provisions require notification of the County Coroner and the Native American Heritage Commission, who in turn must notify those persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains. Excavation or disturbance may continue in other areas of the Project site that are not reasonably suspected to overlie adjacent remains or archaeological resources.

7 Bibliography

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Appendix A:
Records Search Results Summary

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00066		1976	Desautels, Roger J.	Archaeological Survey Reports on Ridge Route Drive and Moulton Parkway (VEEH Resrvoir) Road Widening and Installation, Laguna Hills Area, Orange County, California	Scientific Resource Surveys, Inc.	
OR-00143		1976	Desautels, Roger J.	Archaeological Survey Report on 85(+ Or -) Acres of Land Located in the Laguna Hills Area of the County of Orange Tract No's 9610, 9611, 9612, and 9613	Scientific Resource Surveys, Inc.	
OR-00274		1978	Anonymous	Report of Archaeological Resources Survey Conducted for Laguna and Peter's Canyons	Archaeological Resource Management Corp.	30-000184, 30-000305, 30-000306, 30-000307, 30-000308, 30-000309, 30-000314, 30-000317, 30-000502, 30-000508, 30-000547, 30-000548, 30-000556, 30-000557, 30-000681, 30-000682, 30-000688, 30-000767, 30-000768, 30-000769
OR-00305		1979	Schroth, Adella	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition	Archaeological Resource Management Corp.	30-000002, 30-000044, 30-000047, 30-000048, 30-000051, 30-000053, 30-000059, 30-000060, 30-000061, 30-000062, 30-000063, 30-000064, 30-000065, 30-000066, 30-000067, 30-000068, 30-000069, 30-000070, 30-000071, 30-000072, 30-000073, 30-000077, 30-000091, 30-000099, 30-000100, 30-000104, 30-000106, 30-000107, 30-000109, 30-000111
OR-00737	Paleo -	1984	Padon, Beth	Cultural Resources Assessment Planning Area 34b Orange County, California	LSA Associates, Inc.	
OR-00742	Paleo -	1984	Padon, Beth	Historic Property Survey Report for Irvine Center Drive Widening	LSA Associates, Inc.	
OR-00841	Paleo -	1986	Mason, Roger D.	Archaeological, Historical, and Paleontological Assessments for Planning Area 34b, City of Irvine	Scientific Resource Surveys, Inc.	
OR-00847		1985	Padon, Beth	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	LSA Associates, Inc.	30-000161, 30-000349, 30-000361, 30-000383, 30-000478, 30-000494, 30-000495, 30-000496, 30-000499, 30-000545, 30-000601, 30-000734, 30-000735, 30-000767, 30-000803, 30-000804, 30-000805, 30-000806, 30-000807, 30-000808
OR-00945		1982	Van Horn, David M.	Rossmoor Business Park Liquidating Trust Properties	Ultra Systems, Inc.	30-000610

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01032		1990	White, Robert S.	Archaeological Resource Assessment Two Road Alignments Within Village 34 Lake Forest Drive and Bake Parkway Orange County, California	Scientific Resource Surveys, Inc.	30-001110
OR-01109		1986	Padon, Beth	Addendum to the Historic Property Survey Report for Irvine Center Drive Widening	LSA Associates, Inc.	
OR-01127	Paleo -	1991	Rosenthal, Jane	Past to Present: Cultural and Scientific Resources, an Archival Inventory Irvine Ranch Open Space Reserve Orange County, California	LSA Associates, Inc.	30-000079, 30-000184, 30-000273, 30-000310, 30-000311, 30-000312, 30-000345, 30-000384, 30-000386, 30-000476, 30-000494, 30-000495, 30-000496, 30-000501, 30-000502, 30-000523, 30-000524, 30-000547, 30-000557, 30-000705, 30-000706, 30-000707, 30-000709, 30-000720, 30-000731, 30-000734, 30-000735, 30-000736, 30-000751, 30-000767, 30-000787, 30-000798, 30-000799, 30-000800, 30-000801, 30-000802, 30-000803, 30-000804, 30-000805, 30-000811, 30-000822, 30-000932, 30-000933, 30-000939, 30-000940, 30-000941, 30-000943, 30-000996, 30-000998, 30-001000, 30-001001, 30-001006, 30-001029, 30-001032, 30-001033, 30-001034, 30-001054, 30-001055, 30-001077
OR-01129		1982	Van Horn, David M.	Cultural Resource Assessment: the Koll Property Near Laguna Hills; a Possible Annexation Area for the City of Irvine and its Sphere of Influence	Archaeological Associates, Ltd.	30-000014, 30-000015, 30-000016, 30-000267, 30-000268, 30-000414, 30-000415, 30-000421, 30-000432, 30-000551, 30-000604, 30-000610, 30-000823, 30-000854, 30-001007
OR-01344		1993	Rosenthal, Jane	Cultural Resources Element City of Laguna Hills, Orange County, California	LSA Associates, Inc.	30-000354, 30-000355, 30-000432, 30-000515, 30-000551, 30-000604, 30-000659, 30-000702, 30-000703, 30-000769, 30-000849
OR-02225	Other - Irvine Ranch	1978	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	The Irvine Company	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-02267	Paleo -	2000	Hunt, Kevin P. and Brian F. Smith	An Archaeological and Paleontological Survey of the Irvine Spectrum GPA Project	Brian F. Smith and Associates	30-000161, 30-000341, 30-000391, 30-000432, 30-000495, 30-000499, 30-000551, 30-000602, 30-000768, 30-000769, 30-000904, 30-001011, 30-001034, 30-001069, 30-001110, 30-100297, 30-100298
OR-02336	Paleo -	2000	Demcak, Carol R. and Milos Velechovsky	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 5, Irvine, Orange County, California	Archaeological Resource Management Corp.	
OR-02406	Cellular -	2001	Duke, Curt	Review of Cingular Wireless Facility SC 008-02	LSA Associates, Inc.	
OR-02534		1976		Annual Report to The Irvine Company from Archaeological Research, Inc.	ARI	30-000051, 30-000064, 30-000099, 30-000100, 30-000106, 30-000119, 30-000130, 30-000184, 30-000196, 30-000197, 30-000484, 30-000518, 30-000575
OR-02626		2003	Younger, Shannon and Smith, Brooks	Results of Archaeological Construction Monitoring Planning Area 27 Needlegrass Creek Conservation Area, Irvine, California	LSA Associates, Inc.	
OR-02639		1998	Drover, Christopher E.	A Cultural Resources Inventory in Planning Area 18 Irvine, California	The Keith Companies, Inc.	30-000767, 30-000769, 30-001547
OR-03358	Paleo -	2005	Archer, Gavin H., Sarah A. Siren, Lawrence G. Barnes, Andrew Schmidt, and Noelle Shaver	Historical, Archaeological and Paleontological Resources Identification and Evaluation for the Planning Area 18 Project Including Impacts Analysis and Mitigation Measures	The Keith Companies, Jones & Stokes	30-000769, 30-001547, 30-100390, 30-179839
OR-03467		2006	Bonner, Wayne H. and Sarah A. Williams	Cultural Resource Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate OC0175 (Laguna Village HOA) 23441 Avenida Costanero, Laguna Hills, Orange County, California	Michael Brandman Associates	30-000432, 30-001547
OR-03743		2009	Losee, Carolyn	Cultural Resources Investigation for T-Mobile LA02880E "Maxwell" 88 Maxwell, Irvine, Orange County, California 92618	Archaeological Resources Technology	
OR-04107		2007	Archer, Gavin H., David C. Hanna, and Mark R. Deering	Cultural Resources Field Assessment for the Lake Forest Drive and Bake Parkway Extensions Project in City of Irvine Planning Area 34	STANTEC	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-04289		2012	Stone, David and Victorino, Ken	Archaeological Survey Report Tertiary Treatment Plant and Recycled Water Distribution System Expansion Project Laguna Hills and Laguna Woods, Orange County, California	Dudek	30-000014, 30-000015, 30-000268

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-000432	CA-ORA-000432		Site	Prehistoric	AP02	1973 (REEVES, Archaeological Research, Inc); 1982 (David Van Horn, Archaeological Associates, ltd)	OR-01011, OR-01129, OR-01344, OR-01995, OR-02208, OR-02267, OR-03467

Appendix B:
Native American Scoping

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: 23161 Mill Creek Project

County: Orange

USGS Quadrangle Name: San Juan Capistrano

Township: 06 S **Range:** 08 W **Section(s):** 29

Company/Firm/Agency: South Environmental, LLC

Street Address: 2061 N. Los Robles Ave. Suite 205

City: Pasadena, CA **Zip:** 91104

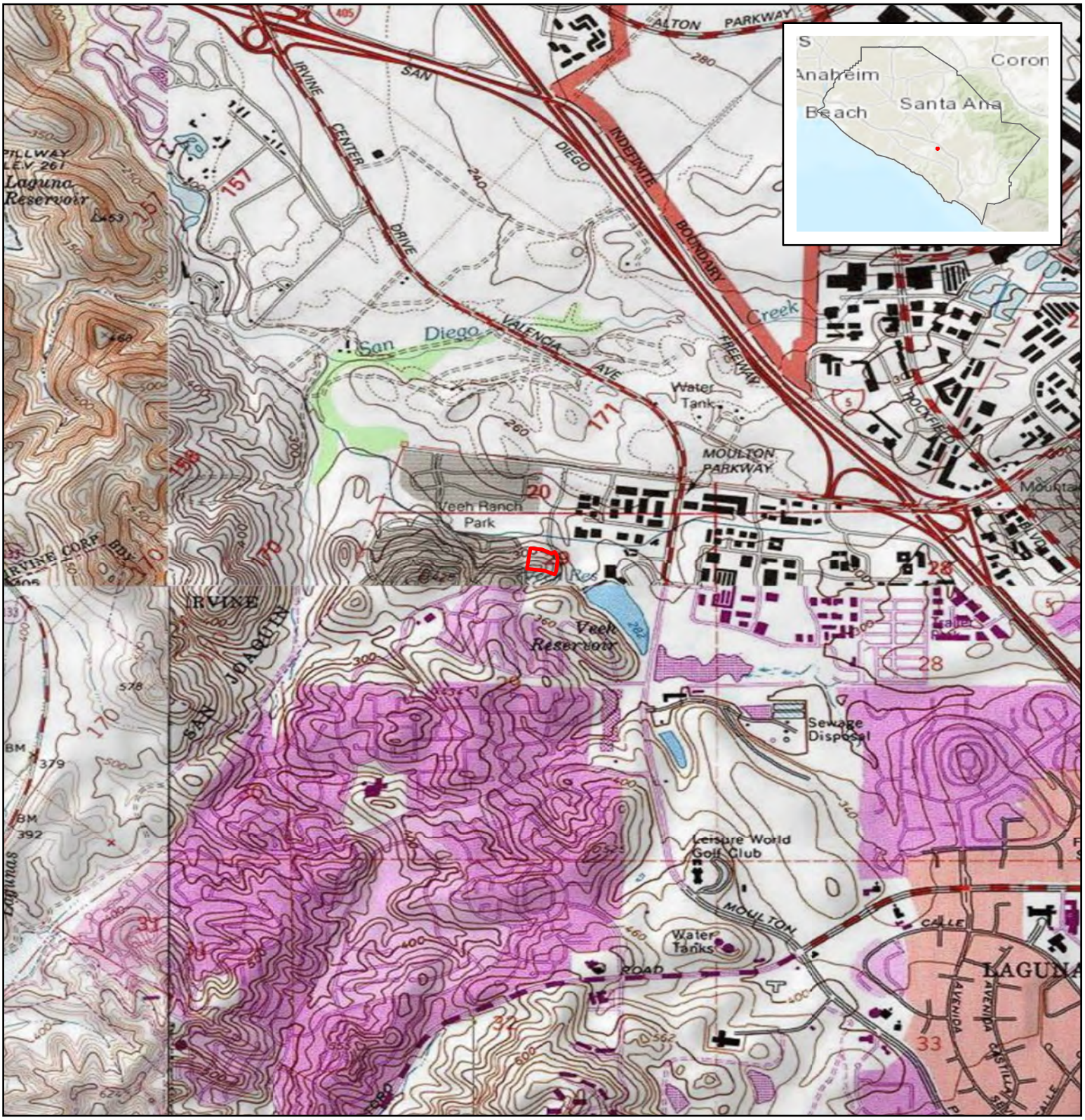
Phone: (562) 900-8816

Fax: N/A

Email: sjovanovic@southenvironmental.com

Project Description:

The project site occupies a 2.43-acre area located at 23161 Mill Creek in the City of Laguna Hills, California. The project proposes to demolish the existing building (constructed in 1987) and develop 43 residential duplexes with attached garages, guest parking, and green space.



Source: ESRI USA Topo Maps and World Topo Map 2024

23161 Mill Creek Project

Figure 1. Project Location Map

Project Site

Project Location is within Laguna Hills, California, in Orange County on the USGS San Juan Capistrano 7.5-minute quadrangle map in Section 29 of Township 06 South and Range 08 West

Center Coordinate (Decimal Degrees):
Latitude: 33.6259973N Longitude: -117.7356113W

0 1,000 2,000 Feet

Scale: 1:24,000

N

SOUTH ENVIRONMENTAL

December 5, 2024

To all NAHC-listed Tribal Contacts
for the project identified below

RE: 23161 Mill Creek Project, City of Laguna Hills, Orange County, California

Dear NAHC Tribal Contact:

South Environmental was retained to conduct a cultural resources inventory for the proposed 23161 Mill Creek Project (proposed project). The project site occupies an approximately 2.43-acre area located at 23161 Mill Creek in the City of Laguna Hills, California. The proposed project site is located on the United States Geological Survey (USGS) *San Juan Capistrano*, California 7.5-minute Quadrangle Map in Section 29 of Township 06 South and Range 08 West (see enclosed Figure 1). The project proposes to demolish the existing building (constructed in 1987) and develop 43 residential duplexes with attached garages, guest parking, and green space.

As part of the process of identifying potential cultural resources, South Environmental contacted the Native American Heritage Commission (NAHC) and requested a Sacred Lands File search on November 15, 2024. The NAHC responded to the request on December 5, 2024, reporting negative results. The NAHC also provided a list of tribal contacts who may have knowledge of the presence of cultural resources in the vicinity of the proposed project.

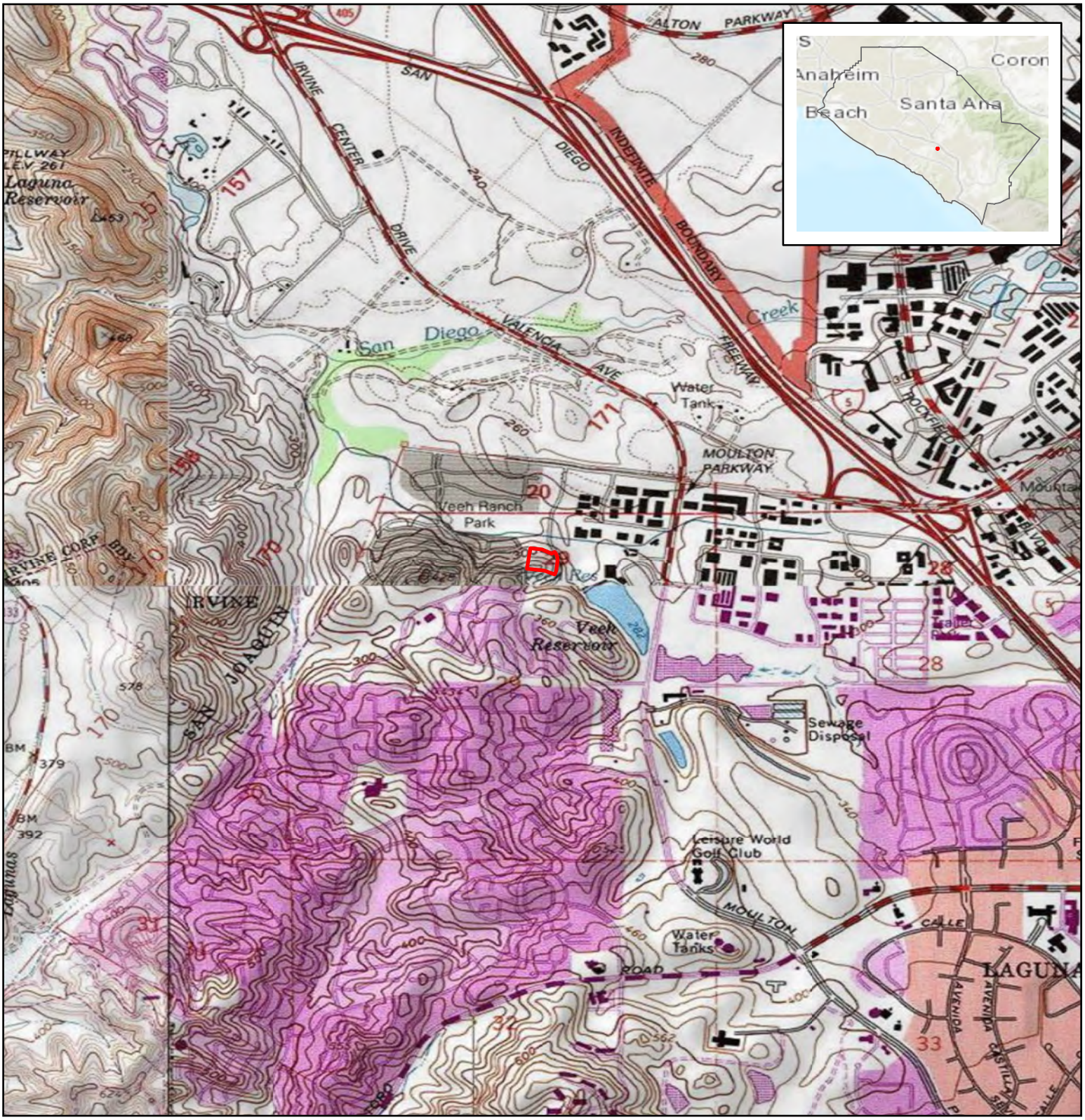
If you have any knowledge of cultural resources that may exist within or near the project site, please contact me at sjovanovic@southenvironmental.com or 562-900-8816, or via U.S. mail at the address above.

Please note that the request herein is for informational purposes only and does not constitute Assembly Bill 52 notification or initiation of consultation.

Respectfully Submitted,

Samantha Jovanovic, MA, MS
Archaeologist

Attachment: Figure 1. Project Location Map



Source: ESRI USA Topo Maps and World Topo Map 2024

23161 Mill Creek Project

Figure 1. Project Location Map

Project Site

Project Location is within Laguna Hills, California, in Orange County on the USGS San Juan Capistrano 7.5-minute quadrangle map in Section 29 of Township 06 South and Range 08 West

Center Coordinate (Decimal Degrees):
Latitude: 33.6259973N Longitude: -117.7356113W

0 1,000 2,000 Feet

Scale: 1:24,000

N

SOUTH ENVIRONMENTAL

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
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COMMISSIONER
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Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

ACTING EXECUTIVE SECRETARY
Steven Quinn

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

December 5, 2024

Samantha Jovanovic
South Environmental, LLC

Via Email to: sjovanovic@southenvironmental.com

Re: 23161 Mill Creek Project, Orange County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Orange County
12/5/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		anthonymad2002@gmail.com	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Cahuilla Band of Indians	F	Erica Schenk, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 590-0942	(951) 763-2808	chair@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/1/2024
Cahuilla Band of Indians	F	BobbyRay Esparza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		besparza@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson	P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	(626) 286-1262	GTTribalcouncil@aol.com	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	12/4/2023
Gabrielino Tongva Indians of California Tribal Council	N	Christina Conley, Cultural Resource Administrator	P.O. Box 941078 Simi Valley, CA, 93094	(626) 407-8761		christina.marsden@alumni.usc.edu	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino Tongva Indians of California Tribal Council	N	Robert Dorame, Chairperson	P.O. Box 490 Bellflower, CA, 90707	(562) 761-6417	(562) 761-6417	gtongva@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino/Tongva Nation	N	Sandonne Goad, Chairperson	106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479		sgoad@gabrielino-tongva.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/28/2023
Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson	23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048		Chavez1956metro@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director	P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351		tongvatcr@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
Juaneno Band of Mission Indians	N	Sonia Johnston, Chairperson	P.O. Box 25628 Santa Ana, CA, 92799			sonia.johnston@sbcglobal.net	Juaneno	Orange,Riverside,San Diego	
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	(949) 293-8522		kaamalam@gmail.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	3/17/2023
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, Chairperson, THPO	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(562) 879-2884		jbmian.chairwoman@gmail.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	3/28/2023
La Jolla Band of Luiseno Indians	F	Norma Contreras, Chairperson	22000 Highway 76 Pauma Valley, CA, 92061	(760) 742-3771			Luiseno	Orange,Riverside,San Diego	
Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564		cnejo@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537		awallick@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515		sgaughen@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pauma Band of Luiseno Indians	F	Temet Aguilar, Chairperson	P.O. Box 369 Pauma Valley, CA, 92061	(760) 742-1289	(760) 742-3422	bennaecalac@aol.com	Luiseno	Orange,Riverside,San Diego	

Native American Heritage Commission
Native American Contact List
Orange County
12/5/2024

Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	sestrada@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	vminott@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

Record: PROJ-2024-006254
Report Type: List of Tribes
Counties: Orange
NAHC Group: All

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 23161 Mill Creek Project, Orange County.

Outlook

RE: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From Vanessa Minott <vminott@santarosa-nsn.gov>
Date Mon 12/9/2024 11:59 AM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Acha'i Tamit,
Thank you for reaching out to Santa Rosa Band of Cahuilla Indians. We defer any comments to Soboba Band of Luiseno Indians cultural resource department.

Respectfully,
Vanessa Minott,
Tribal Administrator

Santa Rosa Band of Cahuilla Indians
P.O. Box 391820
Anza, CA 92539
951-659-2700 ext. 102
760-668-0460 work cell

From: Samantha Jovanovic <sjovanovic@southenvironmental.com>
Sent: Thursday, December 5, 2024 3:59 PM
To: Samantha Jovanovic <sjovanovic@southenvironmental.com>
Subject: [External] Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

Dear NAHC-listed Tribal Contact,

Attached please find a scoping letter and figure for the above referenced project. Please do not hesitate to contact me if you have any questions or comments regarding the proposed project.

Regards,

Samantha Jovanovic, MA, MS

Archaeologist

Outlook

Re: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From BobbyRay Esparza <besparza@cahuilla-nsn.gov>
Date Wed 12/18/2024 9:42 AM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Good morning,

The Cahuilla Bans will defer this project to the Gabrielino/Tongva tribes. Thank you.

Respectfully,

BobbyRay Esparza
Cultural Director
Cahuilla Band of Indians
Office: 951-763-5549
Cell: 760-423-2773
Fax: 951-763-2808
Email: besparza@cahuilla-nsn.gov

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From: Samantha Jovanovic <sjovanovic@southenvironmental.com>
Sent: Thursday, December 12, 2024 11:14 AM
To: Samantha Jovanovic <sjovanovic@southenvironmental.com>
Subject: Re: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

Some people who received this message don't often get email from sjovanovic@southenvironmental.com. Learn why this is important

Hello again,

Attached please find a scoping letter with figure for the 23161 Mill Creek Project in Laguna Hills, CA. I am sending this follow-up email to provide an additional opportunity to comment on or ask questions.

Please do not hesitate to contact me at your earliest convenience if you have any questions or comments.

Regards,

Samantha Jovanovic, MA, MS
Archaeologist

Mobile: 562-900-8816
www.southenvironmental.com

From: Samantha Jovanovic
Sent: Thursday, December 5, 2024 3:59 PM
To: Samantha Jovanovic <sjovanovic@southenvironmental.com>
Subject: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

Dear NAHC-listed Tribal Contact,

Attached please find a scoping letter and figure for the above referenced project. Please do not hesitate to contact me if you have any questions or comments regarding the proposed project.

Regards,

Samantha Jovanovic, MA, MS
Archaeologist

Mobile: 562-900-8816
www.southenvironmental.com

THPO
Pala Band of Mission Indians

TRIBAL HISTORIC PRESERVATION OFFICE
PALA BAND OF MISSION INDIANS
PMB 50, 35008 Pala Temecula Road | Pala, CA 92059
Phone 760-891-3510 | www.palatribe.com

December 12, 2024

Samantha Jovanovic, MA, MS
Archaeologist
sjovanovic@southenvironmental.com

Re: **23161 Mill Creek Project, City of Laguna Hills, Orange County, California**

Dear Samantha Jovanovic:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. The project is also beyond the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we have no objection to the continuation of project activities as currently planned and we defer to the wishes of Tribes in closer proximity to the project area.

We appreciate involvement with your initiative and look forward to working with you on future efforts. Pala is now offering tribal monitoring services. If you have questions or need additional information, please do not hesitate to contact the THPO office by e-mail at THPO@palatribe.com.

Sincerely,

Shasta C. Gaughen, PhD
Tribal Historic Preservation Officer
Pala Band of Mission Indians

ATTENTION: THE PALA TRIBAL HISTORIC PRESERVATION OFFICE IS RESPONSIBLE FOR ALL REQUESTS FOR CONSULTATION. PLEASE ADDRESS CORRESPONDENCE TO **SHASTA C. GAUGHEN** AT THE ABOVE ADDRESS. IT IS NOT NECESSARY TO ALSO SEND NOTICES TO PALA TRIBAL CHAIRMAN ROBERT SMITH.

Outlook

Read: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From Shasta Gaughen <sgaughen@palatribe.com>
Date Thu 12/12/2024 11:22 AM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Your message

To: Shasta Gaughen
Subject: Re: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA
Sent: Thursday, December 12, 2024 11:14:16 AM (UTC-08:00) Pacific Time (US & Canada)

was read on Thursday, December 12, 2024 11:22:20 AM (UTC-08:00) Pacific Time (US & Canada).

Outlook

Read: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From Shasta Gaughen <sgaughen@palatribe.com>
Date Thu 12/5/2024 6:50 PM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Your message

To: Shasta Gaughen
Subject: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA
Sent: Thursday, December 5, 2024 3:59:10 PM (UTC-08:00) Pacific Time (US & Canada)

was read on Thursday, December 5, 2024 6:50:12 PM (UTC-08:00) Pacific Time (US & Canada).

Outlook

Read: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From Chris Nejo <cnejo@palatribe.com>
Date Thu 12/5/2024 4:00 PM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Your message

To: Chris Nejo
Subject: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA
Sent: Thursday, December 5, 2024 3:59:10 PM (UTC-08:00) Pacific Time (US & Canada)

was read on Thursday, December 5, 2024 4:00:13 PM (UTC-08:00) Pacific Time (US & Canada).

Outlook

Read: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA

From Chris Nejo <cnejo@palatribe.com>
Date Thu 12/12/2024 4:16 PM
To Samantha Jovanovic <sjovanovic@southenvironmental.com>

Your message

To: Chris Nejo
Subject: Re: Scoping Letter: 23161 Mill Creek Project, Laguna Hills, Orange County, CA
Sent: Thursday, December 12, 2024 11:14:16 AM (UTC-08:00) Pacific Time (US & Canada)

was read on Thursday, December 12, 2024 4:15:52 PM (UTC-08:00) Pacific Time (US & Canada).

Appendix C:
Preparer's Qualifications

Email: khunt@southenvironmental.com
Mobile: 760-207-9736

Kevin Hunt

PRINCIPAL ARCHAEOLOGIST

Kevin Hunt is a cultural resources management professional with more than 30 years of experience in California with specific expertise in the cultural resources requirements of the California Environmental Quality Act (CEQA), CEQA-Plus, National Historic Preservation Act (NHPA), and National Environmental Policy Act (NEPA). His responsibilities include the management and preparation of cultural resources studies, Native American scoping and consultation, and quality assurance and quality control for cultural resources documents. Mr. Hunt draws from his experience and training to ensure that all projects consider the full spectrum of cultural resources including archaeological, historic built environment, and tribal cultural resources. He is an expert in Native American consultation and has strong working relationships with California tribes and Native American consultants. Mr. Hunt coauthored and instructed a Native American monitor training course at the Cahuilla Reservation in 2005. Mr. Hunt also served on the City of Oceanside's Historic Preservation Advisory Commission from 2020-2023, when he moved out of the city.

In addition to experience with cultural resources, Mr. Hunt has managed multidisciplinary projects that included biological and paleontological resources services. Mr. Hunt has conducted paleontological monitoring and salvage and is approved by the County of Orange as a paleontologist and the City of San Diego as a paleontological monitor.

EXPERTISE

- CEQA, CEQA-Plus, NEPA, and Sections 106 and 110 of the NHPA compliance documentation in consideration of impacts to historical, archaeological, and tribal cultural resources, and historic properties.
- Resource significance evaluations in consideration of National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local designation criteria.
- Design and execution of archaeological data recovery programs for mitigation of impacts/effects to significant archaeological resources.
- Management of cultural resources and multidisciplinary construction monitoring programs.
- Third party peer review of cultural resources technical studies and environmental document sections.

EDUCATION

B.A., Anthropology, minor in American Indian Studies, San Diego State University, 1995

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

TRAININGS

AB 52 and CEQA Training, 2016

Cultural Side of NEPA Seminar, 2007

Traditional Cultural Properties Management Seminar, 2005

RELEVANT PROJECT EXPERIENCE

Southern California Edison (SCE) Subconsultant Agreement for Capital Projects (2021-ongoing). South Environmental is a subconsultant to Rincon Consultants, Inc. on SCE's Environmental Clearance contract and provides cultural resources services throughout SCE's service territory in Southern California. Mr. Hunt provides senior oversight and review on archaeological and ethnographic studies in support of this program and participated in pedestrian survey of project alignments. Technical reports recently completed by South Environmental and reviewed by Mr. Hunt include the following:

- Ethnographic Literature Review Report for the Cal City 115 kv Upgrade Project in Kern and San Bernardino Counties

1901 Via Burton Project, Fullerton, Orange County, California (2022). During previous employment, Mr. Hunt served as Principal and Project Manager of the cultural resources study for this industrial development project subject to CEQA. The study included a cultural resource records search, Native American scoping, pedestrian survey, significance evaluation of a historic period building, and preparation of a technical report.

Yorba Linda HOFF Project, Yorba Linda, Orange County, California (2020-2021). During previous employment, Mr. Hunt served as Principal and Project Manager of the cultural resources study for this residential development project subject to CEQA.

Doheny Desalination Project, City of Dana Point, Orange County, California (2017-2018). During previous employment, Mr. Hunt served as Project Manager for the cultural resources study in support of this desalination project's EIR and CEQA-Plus compliance for State Revolving Fund-assistance through the California State Water Resources Control Board. The project owner is the South Coast Water District. The cultural resources study included a records search, Native American scoping, pedestrian survey, and preparation of a technical report.

Department of Water & Power Specific Plan Amendment EIR, Seal Beach, Orange County, California (2013). During previous employment, Mr. Hunt served as Project Manager of the cultural resources study for this redevelopment project. The study included a cultural resources records search, Sacred Lands File search and Native American scoping letters, pedestrian survey of the project site, and preparation of a technical report for CEQA compliance.

EVMWD Rice Canyon Reservoir Access Road and New Conduit Project, City of Lake Elsinore, Riverside County, California (2022). South Environmental was retained to complete a cultural resources technical report for the Elsinore Valley Municipal Water District (EVMWD). Efforts included the results of a CHRIS records search of the project site and a one-mile radius with the Eastern Information Center; a NAHC Sacred Lands File search and informational scoping letters to local tribes; a paleontological resources records search; and an intensive pedestrian survey of the project site by a qualified archaeologist and Native American monitor. Mr. Hunt conducted the pedestrian survey of the project site. South Environmental also assisted the District with its AB 52 obligations, including participating in meetings with tribes. This study was completed in compliance with Section 106 of the NHPA and CEQA.

Email: SJovanovic@SouthEnvironmental.com
Mobile: 562-900-8816

Samantha Jovanovic, MS

ARCHAEOLOGIST

Samantha Jovanovic is an archaeologist with over six years of professional experience in archaeology and museums, and supporting various cultural resources projects. Ms. Jovanovic currently works as an archaeologist and cultural resource technician at South Environmental LLC writing reports, performing pedestrian surveys, and monitoring in both urban and undeveloped contexts, and assessing artifacts and buildings for historical significance based on the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local-level designation criteria. Ms. Jovanovic has analyzed hundreds of artifacts in several museum institutions ranging from several thousand years to less than a decade old.

EXPERTISE

- CEQA, NAGPRA, and Section 106 of the NHPA compliance documentation in consideration of impacts to historical, archaeological, and tribal cultural resources, and historic properties.
- Resource significance evaluations in consideration of NRHP, CRHR, NAGPRA, ICOMOS (International Council of Monuments and Sites) and local designation criteria.
- Object conservation, stabilization, handling, and storage according to American Institute of Conservation (AIC) standards.

EDUCATION

M.S., Conservation for Archaeology & Museums, University College London, 2018

M.A., Principles of Conservation, University College London, 2016

B.S., Anthropology, University of California, Riverside, 2013

B.A., Art History, University of California, Riverside, 2013

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

Assoc. for Environmental Archaeology

Assoc. for Environmental Professionals.

Geological Society of America

PROFESSIONAL CERTIFICATIONS

Google Project Management Professional Certification, Coursera, (2021)

Relevant Project Experience

Metro Link Union Station (Link US) Utilities Project, Los Angeles, California (2024-ongoing). South Environmental is a subconsultant to HDR Engineering, Inc. providing cultural resources services to the Los Angeles County Metropolitan Transportation Authority (Metro). Ms. Jovanovic serves as the lead archaeological monitor ensuring compliance with state and local codes for cultural protection. To this end, Ms. Jovanovic coordinated with LADWP and Rasic Construction field representatives, provides WEAP training, ensures HASP compliance of cultural resource monitors, monitors soil disturbing activities, and writes daily reports. Ms. Jovanovic collaborates with local tribal monitors on the identification and significance of artifacts found in the field.

Avalon South Beach Restoration Project (2024). South Environmental was retained to complete a cultural resources study for this project to replace the old seawall on South Beach in Avalon. Ms. Jovanovic served as field archaeologist, performing pedestrian survey, conducted cultural resources records search, Sacred Lands File search, Native American outreach, and was primary author of the comprehensive cultural resources technical report.

Vallarta Palmdale Supermarket Project (2024). South Environmental was retained to complete a cultural resources study for this project to refurbish the existing grocery store and build a new one. Ms. Jovanovic served as field archaeologist, performing pedestrian survey, conducted cultural resources records search, Sacred Lands File search, Native American outreach, and was primary author of the comprehensive cultural resources technical report.

Southern California Edison (SCE) Pole Upgrade Projects (2023). Under Rincon Consultants, Ms. Jovanovic performed intensive-level archaeological surveys, historic built environment surveys, and evaluations around SCE power poles in various locations in Los Angeles, Orange, and Riverside Counties. These surveys seek to identify the presence of archaeological/historical resources.

On-Call Southern California Gas Company (SoCalGas) Support (2023). South Environmental is a sub-consultant to Rincon Consultants, Inc. on SoCalGas's on-call services contract and provides cultural resources services throughout SoCalGas's service territory. Ms. Jovanovic performs intensive-level pedestrian surveys of areas along gas lines in urban and undeveloped areas.

Sequoia National Forest (SQNF) Survey of Windy and Castle Burn Zones (2023). Under Rincon Consultants, Ms. Jovanovic performed intensive-level pedestrian surveys of the Castle Fire (2020) and Windy Fire (2021) burn zones within Sequoia National Forest.

Southern California Edison (SCE) Subconsultant Agreement for Capital Projects (2021-2022). South Environmental is a sub-consultant to Rincon Consultants, Inc. on SCE's Environmental Clearance contract and provides cultural resources services throughout SCE's service territory in Southern California. 2021-2022, Ms. Jovanovic performed a pedestrian survey along the SCE power lines near California City for the Cal City 115kV Upgrade project.

Athos I & II Solar Project in Desert Center, California (2021). Under Rincon Consultants, Ms. Jovanovic performed intensive-level pedestrian surveys and test pits of zones before construction, followed by archaeological monitoring and completion of cultural resources assessment reports in compliance with Section 106 of the NHPA.

Email: smurray@southenvironmental.com
Mobile: 818-458-1162

EDUCATION

M.A., Anthropology, California State University, Los Angeles, 2013

B.A., Anthropology, California State University, Northridge, 2003

CERTIFICATIONS

Registered Professional Archaeologist (RPA)

PROFESSIONAL AFFILIATIONS

California Preservation Foundation

Society of Architectural Historians

National Trust for Historic Preservation

Samantha Murray, MA

CULTURAL RESOURCES DIRECTOR

Samantha Murray is the cultural resources director at South Environmental and a principal archaeologist and architectural historian with over 18 years' experience in all elements of cultural resources management, including project management, architectural history studies, and historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local-level designation criteria. Ms. Murray has conducted thousands of historical resource evaluations and developed detailed historic context statements for a multitude of property types and architectural styles. She has also provided expertise on numerous projects requiring conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Ms. Murray meets the Secretary of the Interior's Professional Qualification Standards for both Architectural History and Archaeology. She is experienced managing multidisciplinary projects in the lines of private development, transportation, transmission and generation, federal land management, land development, and state and local government. She is an expert in preparation of cultural resources compliance documentation for projects that fall under the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Ms. Murray has also served as an expert witness in legal proceedings concerning historical resources under CEQA and local ordinance protection.

EXPERTISE

- CEQA, NEPA, and Section 106 of the NHPA compliance documentation in consideration of impacts to historical, archaeological, and tribal cultural resources, and historic properties.
- Resource significance evaluations in consideration of NRHP, CRHR, and local designation criteria.
- Project design review for conformance with the Secretary of the Interior's Standards.
- Assistance with complex mitigation including HABS/HAER/HALS, salvage, and interpretive displays.
- Peer review.

SELECT PROJECT EXPERIENCE

2101-2019 East Santa Clara Avenue Project, City of Santa Ana, Orange County, California (2023). South Environmental was retained by Psomas to prepare a historic built environment assessment report in support of the 2101-2109 East Santa Clara Avenue Project in the City of Santa Ana, California. The purpose of the report was to determine if the proposed project would result in impacts to historic built environment resources located within the project site. The report was prepared in conformance of the requirements of CEQA Guidelines § 15064.5 for historical resources. Two single-family residences were evaluated for historical significance in consideration of CRHR and City designation criteria and recorded on State of California Department of Parks and Recreation Series 523 forms (DPR forms). As a result of the evaluation, no historical resources were identified within the project site. Ms. Murray served as the contract manager and provided QA/QC of all deliverables.

Santiago Creek Dam Outlet Tower and Spillway Improvements Project, Orange County, California (2023). South Environmental was retained by Psomas to complete a Historic Property Inventory Report (HPIR) for the Santiago Creek Dam Outlet Tower and Spillway Improvements Project. The report included an intensive-level pedestrian survey of all built environmental resources over 50 years old within the project's Area of Potential Effect (APE); building development and archival research; recordation and evaluation of the Santiago Creek Dam Complex (P-30-176757) and the Southern California Edison (SCE) Taiwan 12 kilovolt (kV) overhead distribution line for historical significance in consideration of federal, state, and local designation criteria and integrity requirements; and an assessment of project-related effects on historic properties/historical resources. Ms. Murray oversaw completion of the HPIR and reviewed all final deliverables.

Historical Resources Evaluation Report for the I-5 Improvement Project (San Diego County Line to Avenida Pico), City of San Clemente, Orange County, California (2022). South Environmental was retained to prepare a Historical Resource Evaluation Report in support of the I-5 Improvement Project in the City of San Clemente. South Environmental carried out a survey of the I-5 corridor from the San Diego County line to Avenida Pico in the City of San Clemente and identified six built environment resources over 45 years old. The resources were evaluated for historical significance in consideration of NRHP, CRHR and City designation criteria and integrity requirements and were found not eligible under all designation criteria and integrity requirements. The proposed project was found to have a less than significant impact on historical resources under CEQA. Ms. Murray served as the contract manager for this project and conducted QA/QC of the final document.

Peer Review for Fullerton College Performing Arts Complex project, City of Fullerton, California (2022). South Environmental was retained by another consultant and Fullerton College to prepare a peer review and conformance review of a proposed Performing Arts Complex project on the campus. This analysis included review of a previously prepared SOIS conformance review and proposed building plans. The peer review concluded that the project was not in conformance with the SOIS and design recommendations were developed to achieve conformance. Ms. Murray served as the contract manager for this project and conducted quality assurance/quality control of the final document.

Historical Resources under CEQA Presentation: Prepared for the Orange County Historic Preservation Planner Working Group. Presented by Samantha Murray, Dudek. December 1, 2016. Delivered a 1-hour PowerPoint presentation to the Orange County Historic Preservation Planner Working Group at the City of Santa Ana, which included planners from different municipalities in Orange County, regarding the treatment of historical resources under CEQA. Topics of discussion included identification of historical resources, assessing impacts, avoiding or mitigating impacts, overcoming the challenges associated with impacts to historical resources, and developing effective preservation alternatives.

THORNBURGH
CONSULTING, INC.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

23161 Mill Creek Road

Laguna Hills, California 92653

PREPARED FOR:

TOLL BROTHERS
350 COMMERCE, SUITE 200
IRVINE, CALIFORNIA 92602

THORNBURGH PROJECT NUMBER: 0049

MAY 10, 2024

24001 Muirlands Blvd., #242, Lake Forest, California 92630
Telephone (949) 457-9677 E-mail: ken.t@thornburghconsulting.com
www.Thornburghconsulting.com

THORNBURGH
CONSULTING, INC.

May 10, 2024

Ms. Aylene Chu
Toll Brothers
350 Commerce, Suite 200
Irvine, California 92602

RE: Phase I Environmental Site Assessment
23161 Mill Creek Road
Laguna Hills, California 92653
Thornburgh Project No: 0049

Dear Ms. Chu:

Thornburgh Consulting, Inc. has completed a Phase I Environmental Site Assessment of the above referenced property. This assessment was performed in conformance with our contract agreement and the scope and limitations of ASTM Practice E 1527-21, which is the latest version of the E1527 standard published by the ASTM.

We appreciate the opportunity to provide environmental consulting services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact our office at 949-309-0722.

Sincerely,

Thornburgh Consulting, Inc.

Stephen Krummlett
Divisional Manager

Ken Thornburgh
President

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List of Acronyms/Abbreviations

Thornburgh may use the following abbreviations and acronyms for common terminology described in our report. Not all abbreviations or acronyms may be applicable to this report:

AOC	– Area of Concern
AST	– Aboveground Storage Tank
ASTM	– American Society for Testing Materials
BER	– Business Environmental Risk
CERCLA	– Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	– Comprehensive Environmental Response Compensation and Liability Information System
CESQG	– Conditionally Exempt Small Quantity Generator
COC	– Chemicals of Concern
CORRACTS	– Corrective Action Sites
CREC	– Controlled Recognized Environmental Condition
DEC	– Department of Environmental Conservation
DEP	– Department of Environmental Protection
DHS	– Department of Health Services
DNPL	– Delisted National Priority List
DOB	– Department of Buildings
DOH	– Department of Health
DOT	– Department of Transportation
EPA	– Environmental Protection Agency
ERNS	– Emergency Response Notification System
FD	– Fire Department
FOI/FOIA/FOIL	– Freedom of Information / Freedom of Information Act / Freedom of Information Letter
HVAC	– Heating Ventilation & Air Conditioning
HREC	– Historical Recognized Environmental Condition
IAQ	– Indoor Air Quality
ISRA	– Industrial Site Recovery Act
LBP	– Lead-Based Paint
LCP	– Lead-Containing Paint
LQG	– Large Quantity Generator
LTANK	– Leaking Storage Tank
LUST	– Leaking Underground Storage Tank
SDS/MSDS	– Safety Data Sheet / Material Safety Data Sheet
NA	– Not Applicable
NFA	– No Further Action
NFRAP	– No Further Remedial Actions Planned
NPDES	– National Pollutant Discharge Elimination System
NPL	– National Priority List
OPRA	– Open Public Records Act
PAH	– Polycyclic Aromatic Hydrocarbon
PCE	– Perchloroethylene
RAO	– Response Action Outcome
RCRA	– Resource Conservation and Recovery Act
RCRIS	– Resource Conservation and Recovery Information System
REC	– Recognized Environmental Condition
SDG	– Significant Data Gap
SEMS	– Superfund Enterprise Management System
SRP	– Site Remediation Program
SQG	– Small Quantity Generator
SVOC	– Semi-Volatile Organic Compound
TCE	– Trichloroethylene
TSDF	– Treatment Storage and/or Disposal Facility
UST	– Underground Storage Tank
VEC	– Vapor Encroachment Condition
VOC	– Volatile Organic Compound

1.0 SUMMARY OF FINDINGS

1.1 Executive Summary

Thornburgh Consulting, Inc. (Thornburgh) performed a Phase I Environmental Site Assessment (ESA) of 23161 Mill Creek Road, Laguna Hills, California (the Subject Property) in accordance with our contracted scope of work and the ASTM Standard Practice E 1527-21 for Phase I Environmental Site Assessments and All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312. This section contains a summary of findings, opinions and conclusions made by this assessment. However, this section, alone, does not constitute the complete assessment. The report must be read in its entirety.

Summary of Project Details

Primary Street Address:	23161 Mill Creek Road				
City:	Laguna Hills	County:	Orange	State:	California
Tax ID/Parcel Number:	588-142-07				
Property Owner:	A G Mill Creek Owner				
Zoning Designation:	Mixed Use				
Approx. Property Area:	2.43 acres				
Buildings:	One, three story				
Approx. Building Size:	48,777 ft^2				
Approx. Year Built:	1987				
Commercial Occupants:	Various commercial offices occupants				
Current Use:	Commercial offices				
Inspected By:	Mr. Stephen Krummlett				
Site Contact/Company:	Mr. Alireza Mirzaei/Khoshbin Company				
Site Escort/Company:	Unescorted				
Inspection Date:	May 6, 2024				
Weather Conditions:	Sunny, 75 °F				

Findings Summary Table

Assessment Subject	No REC	REC	CREC	HREC	SDG	Rpt. Ref.
Property Regulatory Records Review:	X					4.3
Property Historical Records Review:	X					4.2
Bulk Petroleum Storage:	X					6.3
On-Site Operations:	X					6.3
On-Site Haz-Mat Storage/Use/Spills:	X					6.3
Transformers/Hydraulic Systems:	X					6.3
Waste Discharges:	X					6.3
Interviews:	X					5.0
Adjoining & Nearby Properties:	X					4.3 6.2
Prior Env. Reports/User Provided Info:	X					3.0

1.2 Findings, Opinions and Conclusions

Recognized Environmental Conditions & Significant Data Gaps

Thornburgh has performed a Phase I Environmental Site Assessment in accordance with the scope and limitations of ASTM Practice E 1527-21 of the Subject Property as described in Section 2.2 of this report. Any additions to, exceptions to, or deletions from this practice are also described in Section 2 of this report. This assessment has revealed no recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs) or significant data gaps (SDGs) in connection with the Subject Property.

RECOGNIZED ENVIRONMENTAL CONDITIONS
No RECs were identified.
CONTROLLED RECOGNIZED ENVIRONMENTAL CONDITIONS
No CRECs were identified.
SIGNIFICANT DATA GAPS
No SDGs were identified.
RECOMMENDATIONS
Based on the finding of no RECs, CRECs or SDGs, it is Thornburgh's opinion that no additional action or investigation is warranted at this time.

Historical Recognized Environmental Conditions (HRECs)

This assessment has revealed the following *historical recognized environmental conditions* (HRECs) in connection with the Subject Property:

HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS
No HRECs were identified

De Minimis and Other Environmental Conditions

The following *de minimis* and other environmental conditions were identified:

OTHER ENVIRONMENTAL CONDITIONS / DE MINIMIS CONDITIONS
The Property is listed on the CERS database due to the presence of nickel cadmium batteries as part of an AT&T facility.

Environmental Professional Statement

I/We declare that, to the best of my professional knowledge and belief, I/we meet the definition of *Environmental professional* as defined in § 312.10 of 40 C.F.R. 312. I/we have the specific qualifications based on education, training and experience to assess a *property* of the nature, history and setting of the *subject property*. I/We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

Stephen Krummlett
Environmental Professional

Davis Tang
Environmental Professional

1.3 Business Environmental Risks / Non-ASTM Scope

Thornburgh has performed a limited review of the following potential *business environmental risks* (BER), also known as "*Non-ASTM Scope*" concerns, in accordance with the contracted scope of work scope for this assessment. Additional details of the scope of work and findings are included in Sections 2 and 7.

Subject	Findings	Not Appl.	Rpt. Ref.
Asbestos	Suspected ACM noted within the accessed building areas included vinyl flooring, sheetrock wall systems, acoustic ceiling tiles, vinyl cove base, and carpet mastic.		7.1
Lead Paint		X	7.2
Radon	Property is located in the USEPA radon designation Zone 3 or 'low risk' area for radon.		7.3
Mold / Microbial Damage	Thornburgh did not observe evidence of significant problems with moisture intrusion or mold/microbial growth at the Subject Property.		7.4
NWI Wetlands	A review of the National Wetlands Inventory Wetlands Mapper did not indicate regulated wetlands on the Subject Property.		7.5
Lead in Drinking Water	Potable water service at the Subject Property is provided by the Moulton Niguel Water District. A recently published water quality report from the utility indicated compliance with USEPA water quality standards for lead in drinking water. A copy of the report has been attached in Appendix F.		7.6

2.0 INTRODUCTION

2.1 Purpose and Scope

This assessment was conducted utilizing generally accepted Phase I ESA industry standards in accordance with the ASTM Standard Practice E 1527-21. The ASTM describes these methodologies as representing good commercial and customary practice for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. § 9601) and petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner or bona fide prospective purchaser limitations on CERCLA liability ("landowner liability protections," or "LLPs"): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the Subject Property consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35) (B). The goal of the processes established by ASTM E 1527-21 is to identify *recognized environmental conditions* in connection with the Subject Property.

The term *recognized environmental condition* (REC) is defined by ASTM E 1527-21 as *"(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."*

The term *controlled recognized environmental condition* (CREC) is a type of recognized environmental condition and defined by ASTM E 1527-21 as a *"recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations)."*

The term *historical recognized environmental condition* (HREC) is defined as a *"previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations)."* The ASTM E 1527-21 standard has clarified that a *historical recognized environmental condition* is not a *recognized environmental condition*.

The term *de minimis condition* is defined by the ASTM, *"…a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."* A condition determined to be a *de minimis condition* is not REC nor a CREC.

The chief components of this assessment are generally described as follows:

- A non-invasive visual reconnaissance of the Subject Property and adjoining properties in accordance with ASTM guidelines for evidence of RECs.

- Interviews of past and present owners and occupants and state and local government officials, seeking information related to the potential presence of RECs at the Subject Property.

- A review of standard physical record sources for available topographic, geologic and groundwater data.

- A review of standard historical record sources, such as fire insurance maps, city directories, aerial photographs, prior reports and interviews, etc., to determine prior uses of the Subject Property from the present, back to the Subject Property's first developed use, or back to 1940, whichever is earlier.

- A review of standard environmental record sources including federal and state environmental databases, and additional environmental record sources, to identify potential regulatory concerns with the Subject Property, adjoining properties and properties located within the surrounding area.

An evaluation of environmental or other regulatory compliance matters is excluded from the scope of this assessment.

These methodologies are described as representing good commercial and customary practice for conducting an Environmental Site Assessment of a property for the purpose of identifying recognized environmental conditions.

Business Environmental Risks/Non-ASTM Scope Considerations

Thornburgh has performed a limited review of the following potential *business environmental risks* (BER), also known as "*Non-ASTM Scope*" concerns, in accordance with the contracted scope of work scope for this assessment. BER is defined by ASTM E 1527-21 as *"a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice."*

- Asbestos-Containing Building Materials (ACBM): A cursory non-intrusive visual screening for the presence of suspect ACBM within the accessed areas of buildings built prior to 1990 on the Subject Property. If the Subject Property contains buildings built in 1990 or later, the contracted scope of work excludes a cursory non-intrusive visual screening or any other level of evaluation for suspect ACM; however, the exclusion for buildings built ≥1990 should not be interpreted to suggest that any such buildings are free of ACBM or would not warrant evaluation of building materials for ACBM prior to disturbance. It is emphasized that this cursory non-

intrusive visual screening does not constitute an asbestos survey/inspection of the premises. An asbestos survey/inspection should be sought by the report User(s) if a greater certainty is desired regarding ACBM and potential asbestos hazards at the Subject Property. Furthermore, a review of regulatory compliance matters pertaining to asbestos is excluded from the scope of work.

- Lead-Based Paint (LBP): A cursory non-intrusive visual screening of the condition of painted surfaces in the accessed areas of residential buildings/units built prior to 1978 on the Subject Property. If the Subject Property contains buildings built in 1978 or later, the contracted scope of work excludes any cursory non-intrusive visual screening or other level of evaluation for suspect LPB; however, the scope of work exclusion for building built ≥1978 should not be interpreted to suggest that any such buildings are free of LPB or other lead hazards. It is emphasized that this cursory non-intrusive visual screening does not constitute a comprehensive survey for LBP or potential lead hazards. A comprehensive inspection should be sought by the report User(s) if more certainty is desired regarding LBP at the Subject Property. Furthermore, a review of regulatory compliance matters pertaining to lead-based paint is excluded from the scope of work.

- USEPA Designated Radon Potential: Review of general non site-specific data published by the USEPA regarding the Radon Zone classification for the area of the Subject Property.

- Mold/Microbial Damage: A cursory non-intrusive visual screening within the accessed areas of buildings on the Subject Property for evidence of systemic microbial problems, including visible mold growth, water damaged building materials or musty odors. It is emphasized that this cursory non-intrusive visual screening does not constitute a comprehensive survey for moisture/mold/microbial damage. A more comprehensive inspection should be sought by the report User(s) if more certainty is desired regarding the potential for moisture/mold/microbial damages at the Subject Property.

- NWI Wetlands: The Subject Property has been reviewed for jurisdictional wetlands using the National Wetlands Inventory-Wetland Mapper to determine whether mapped federal wetlands have been indicated on the Subject Property. Any further evaluation or legal delineation of regulated wetlands areas is excluded from the scope of work. It is also emphasized that a field delineation of regulated wetlands by a qualified professional would be warranted to more fully determine the presence or absence of regulated wetlands at the Subject Property.

- Lead in Drinking Water: Review of the potential for elevated levels of lead in the drinking water by determining the source of the drinking water supply and a review of available testing or compliance data reports.

2.2 Property Location/Legal Description

Property location and legal description details are described as follows:

Primary Street Address:	23161 Mill Creek Road				
City:	Laguna Hills	County:	Orange	State:	California
Tax ID/Parcel Number:	588-142-07				
Approx. Land Area:	2.43 acres				
Apprx. Latitude/Longitude:	North 33.6260000 degrees/West 117.7355770 degrees				
Additional Details (if appl.):	NA				
Property Owner:	A G Mill Creek Owner				
Zoning Designation:	Mixed Use				

2.3 Data Gaps

A *data gap* is defined by the ASTM as a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. A data gap is only significant if other information and/or professional experience raises reasonable concerns involving the data gap and the ability to determine the presence or absence of recognized environmental conditions. The following table summarizes data gaps encountered during the assessment as well as a discussion of their significance.

Data Gap:	Significant (Yes/No)?	Discussion
Historical records data failure	No	Records gaps exceeding five years were encountered; however, no significant site use changes are suspected during these intervals.
Response to agency records requests not received as of date of report.	No	Any additional information indicative of a REC will be forwarded upon receipt.

2.4 ESA Report Component Dates/Viability

The ASTM E 1527-21 standard states that an environmental site assessment (ESA) is presumed to be viable when it is conducted within 180 days prior to the date of acquisition of the Subject Property (or, for transactions not involving an acquisition such as a lease or refinance, the date of the intended transaction). Specifically, all of the following components must be conducted or updated within 180 days prior to the date of acquisition or prior to the date of the transaction. The following table summarizes the component completion dates:

ESA Component	Completion Date
Interviews:	N/A
Env Lien Search:	See Section 3.2
Government Records Review:	April 29, 2024
Visual Inspections:	May 6, 2024
Env. Professional Declaration:	May 10, 2024

2.5 User Reliance

This report is for the exclusive use of Toll Brothers and additional relying entities, if any, named on the front cover. No additional individuals or entities shall be permitted to rely upon any data, interpretation, reports or other information or documentation contained in this report, without first obtaining the consent of Toll Brothers; and without obtaining written consent from Thornburgh in the form of a reliance agreement/letter.

Thornburgh may, in its sole discretion, withhold its consent to additional reliance and/or Thornburgh may condition consent for reliance upon payment of a fee or other conditions.

2.6 Significant Assumptions

The following significant assumptions are made:

- The site operations at the time of the site visit are assumed to reflect typical site conditions relative to potential environmental conditions and that no concealment of environmental conditions or releases by site owners or occupants has occurred. Likewise, it is assumed that no areas of the Subject Property with potential environmental concerns or RECs were concealed or otherwise not reported, intentionally or unknowingly, by the Subject Property owners/occupants and/or site escort at the time of the site visit.

- For the purpose of estimating the approximate direction of groundwater flow in the absence of site-specific groundwater data, unless indicated otherwise, an assumption has been made that the gradient of groundwater flow follows the surface topography of the Subject Property and immediate surrounding area.

2.7 General Limitations and Exceptions

Limitations

The report turnaround time specified by the contract agreement for this assessment may present a limitation to the availability of pertinent regulatory agency records. Such limitations, if encountered, would be further specified in Section 4.1.

Significant limitations related to the condition or accessibility of the Subject Property at the time of the site reconnaissance, if encountered, are reported in Section 6.1.

Other Exceptions or Deletions

No other exceptions or deletions from the ASTM Standard E 1527 are reported.

Special Terms and Conditions

This Phase I Environmental Site Assessment has been prepared using reasonable efforts in each phase of its work to identify recognized environmental conditions associated with hazardous substances, wastes and petroleum products at the Subject Property. Findings within this report are based on information collected from observations made on the day of the site reconnaissance and from reasonably ascertainable information obtained from governing public agencies and private sources.

This report is not definitive and should not be assumed to be a complete or specific definition of the conditions above or below grade. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation, site development, redevelopment, or other construction purposes. No representation or warranty is made that the past or current operations at the Subject Property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes.

Findings, conclusions and recommendations presented in this report are based on visual observations of the Subject Property, interviews conducted, the records reviewed, information provided by the Client, and/or a review of readily available and supplied drawings and documents. No warranty or guarantee is made of the accuracy or completeness of information that was obtained from ostensibly knowledgeable individuals, regulatory agency representatives or other secondary sources, including information obtained during the assessment, whether written, graphic or verbal, provided by the Subject Property contact(s) or as shown on any documents reviewed or received from the Subject Property contact, owner or agent, or government agency source. Independent verification of the accuracy or completeness of all information reviewed or received during the course of this assessment is not made and excluded from the scope of work for this assessment.

Regardless of the findings stated in this report, Thornburgh is not responsible for consequences or conditions arising from facts that were concealed, withheld or not fully disclosed at the time the assessment was conducted.

This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

The regulatory database report provided is based on an evaluation of the data collected and compiled by a contracted data research company. Thornburgh can neither warrant nor guarantee the accuracy or completeness of the information obtained from the regulatory database report provider during the course of this assessment.

Subsurface conditions may differ from the conditions implied by the surface observations and can only be reliably evaluated through intrusive techniques.

Reasonable efforts have been made during this assessment to identify aboveground and underground storage tanks and ancillary equipment. Reasonable efforts are limited to information gained from visual observation of largely unobstructed areas, recorded database information held in public record and available information gathered from interviews. Such methods may not identify surficial and subsurface features that may have been hidden from view due to parked automobiles and other vehicles, snow cover, vegetative growth, pavement, construction or debris pile storage or incorrect information from sources.

No guarantee, explicit or implied, is made that the records pertaining to historical ownership or occupancy which were reviewed represent a comprehensive or precise delineation of past Property ownership or tenancy for legal purposes.

The ASTM E 1527-21 standard states that recommendations are not required to be included in a Phase I ESA report; however, further that recommendations are an additional service that may be useful in the User's analysis of landowner liability protections or business environmental risks; and that the User should consider whether recommendations for additional inquiries or other services are desired.

Recommended response actions offered in Section 1.3, if any, are provided as an option to the Client, and may have taken into account the Client's relation to the Subject Property and/or their intended purpose of this assessment. If included, it is not intended by Thornburgh to represent the only course(s) of action, or inaction, to take. Furthermore, it is emphasized that additional response actions may become advisable depending on the outcome of the initial action(s) taken. Thornburgh advises that Client and any additional authorized relying parties as specified on the report Cover and Section 2.5, or via letter of reliance extension, undertake consultation with legal counsel familiar with environmental and real estate law would be beneficial to the decision making process for the type and timing of a response action to identified RECs or Business Environmental Risks, if any.

Due to the limited nature of our review of potential Business Environmental Risks, the User(s) of the report should consider whether to take additional action(s) to further define, properly manage and/or mitigate potential BERs.

The User(s) assumes responsibility for business decisions that it makes utilizing information in the report provided by Thornburgh. Thornburgh shall not be responsible for any conclusions, interpretations and/or decisions of the User(s).

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the consulting services agreement for this project, the consulting services agreement shall control.

3.0 USER PROVIDED INFORMATION

The term "User" is defined by ASTM as the party seeking to use Practice E 1527-21 to complete an environmental site assessment of the Subject Property; specifically, the entity or entities named on the front cover to which the report has been addressed.

3.1 Prior Environmental Reports/Documentation

No prior environmental reports/documentation were provided.

3.2 User Responsibilities

The User must conduct inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31 to meet their responsibilities to qualify for one of the Landowner Liability Protections (LLPs) offered by federal regulations. The User should provide the following information to the environmental professional (Thornburgh). Failure to conduct these inquiries could result in a determination that "all appropriate inquiries" is not complete. To assist the report User to meet these requirements, Thornburgh has provided a questionnaire of the required inquiries (User Questionnaire) with instructions to complete and return to Thornburgh. A completed questionnaire was not returned to Thornburgh.

Question	Yes/No	Detail
1. Search of Land Title and Judicial Records: Has the User performed a search of land title records and judicial records for environmental liens and/or Activity and Use Limitations (AULs) filed or recorded against the Subject Property?	NR	
1.a. If yes to Question 1: Did the search identify any environmental liens or Activity and Use Limitations (AUL), such as engineering controls, land use restrictions or institutional controls that are in place at the Subject Property and/or have been filed or recorded against the Subject Property under federal, tribal, state or local law?	NR	
1.b. If yes to Question 1: Has the User provided the result of the search of land title and judicial records to Thornburgh?	NR	
2. Specialized knowledge or experience of the person seeking to qualify for the LLP: Do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	NR	
3. Relationship of the purchase price to the fair market value of the Subject Property if it were not contaminated: Does the purchase price being paid for this property reasonably reflect the fair market value of the Subject Property? If you conclude that there is a difference, have you considered whether the lower	NR	

Question	Yes/No	Detail
purchase price is because contamination is known or believed to be present at the Subject Property?		
4. Commonly Known or Reasonably Ascertainable Information: Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example: (respond below)		
4.a. -Do you know the past uses of the Subject Property?	NR	
4.b. -Do you know of specific chemicals that are present or were once present at the Subject Property?	NR	
4.c. -Do you know of spills or other chemical releases that have taken place at the Subject Property?	NR	
4.d. -Do you know of any environmental cleanups that have taken place at the Subject Property?	NR	
5. The degree of obviousness of the presence or likely presence of contamination at the Subject Property, and the ability to detect the contamination by appropriate investigation: Based on your knowledge and experience related to the Subject Property are there any obvious indicators that point to the presence or likely presence of releases at the Subject Property?	NR	
6. Litigation/Administrative Proceedings/Government Notice: As the User of this ESA, do you have knowledge of (1) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Subject Property; (2) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Subject Property; and (3) any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.	NR	
7. User's Reason/Purpose for Performing Phase I ESA:	The User did not indicate the purpose of the assessment. In accordance with ASTM E1527-21, it is assumed that the Phase I ESA was being performed in order to qualify for landowner liability protection to CERCLA liability.	

4.0 RECORDS REVIEW

4.1 Environmental Information

Physical Setting

Source	Discussion
USGS 7.5 minute Topographic Map Data: (EDR Geocheck-Physical Setting Source Addendum)	The Subject Property lies at an elevation of approximately 334 feet above mean sea level. An interpretation of topographic contour lines as well as a review of the EDR Geocheck-General Topographic Gradient suggested terrain sloping downward towards the northeast. The closest down gradient water body is a drainage ditch, located approximately 322 feet to the NE.
USDA SCS Soil Data: (EDR Geocheck-Physical Setting Source Addendum)	The soil type at the Subject Property is classified as "Alo Variant". This soil type is described as soils with a clay surface texture that are well drained and shallow to an impervious layer.
Geologic Data: (EDR Geocheck-Physical Setting Source Addendum)	The geologic formation in the vicinity of the Property is described as a stratified sequence of the Cenozoic Era, Tertiary System, and Miocene Series.
Prior Env. Reports: (Section 3.1)	No prior environmental reports were provided.
Additional Sources/ Data:	No additional physical setting sources or data was obtained.
Groundwater Flow Discussion:	Based on a review of the above information as well as observation of the site, the direction of shallow groundwater flow at the site is inferred to be towards the northeast.

Federal, State and Tribal Environmental Record Sources

Standard government records were obtained and reviewed primarily via a third-party regulatory database report, titled EDR Radius Map™ Report, prepared by Environmental Data Resources of Shelton, CT. The report provided government records from the standard environmental resources and within minimum search distances specified by Section 8.2.2-Table 2 of the ASTM E 1527-21; and were reviewed for the purpose of identifying potential RECs in connection with the Subject Property. Additional detail of the source and significance of the regulatory databases can be found in the regulatory database report in Appendix D. Thornburgh has also included discussion of records pertaining to the Subject Property from other government record sources not specifically listed under Table 2, as applicable.

Reported distances for adjoining property listings, if applicable, are approximate and indicative of the presence of a public roadway or right-of-way between the adjoining site and Property.

The reported gradients have been estimated based on a number of factors including but not necessarily limited to field observation, review of topographic maps, database listing details and/or site specific geo-technical data.

Limited analysis of the details of on-site, adjoining and vicinity database sites was conducted to identify potential sources of sub-surface vapor encroachment. This review was based on elements of the ASTM "Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions" (ASTM E 2600-15); and also, on elements of "Methodology for Identifying the Area of Concern Around a Property Potentially Impacted by Vapor Migration from Nearby Contaminated Sources" (Buonicore, 2011-S-103-AWMA). Vicinity database sites pertaining to non-petroleum product releases within 1,760 feet of the Subject Property in the up-gradient direction, 365 feet of the Subject Property in the cross gradient direction and 100 feet of the Subject Property in the down gradient direction; and vicinity database sites pertaining to petroleum product releases within 528 feet of the Subject Property in the up-gradient direction, 165 feet of the Subject Property in the cross gradient direction and 100 feet of the Subject Property in the down gradient direction were reviewed to identify active contamination sites with the potential to affect subsurface vapor conditions at the Subject Property. The potential for vapor encroachment was considered in assessing whether a REC exists in connection with the Subject Property when reviewing applicable sites within those distances.

Regulatory database sites with active petroleum or non-petroleum releases that are considered to constitute a vapor encroachment condition (VEC) to the Subject Property, if any, are identified and discussed in this section.

The EDR Radius Map report is attached in Appendix D.

Subject Property Listings

The following listings of the Subject Property were identified:

Name/Address:	AT&T California – LE0EV; 23133 Mill Creek Drive
Database(s):	CERS
Data Discussion:	The listing indicates that the site is a registered chemical storage facility due to the presence of nickel cadmium batteries. No violations are noted.
REC Discussion:	Based on the details provided above, a REC is not suspected in connection with the Subject Property.
VEC Discussion:	Based on the available data, a VEC is not suspected.

Adjoining Property Listings

The following adjoining property listings were identified.

Name/Address:	None				
Database(s):					
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

Surrounding Area Findings

The following is a discussion of non-adjoining sites identified as located within the ASTM specified search distance surrounding the Subject Property. In order to keep this discussion informative and concise, discussion(s) is/are provided of the listed site(s) for each database category that appears most likely to impact the Subject Property based on distance, area topography and/or regulatory status. Listings of sites within the applicable search distances not specifically discussed below were reviewed and concluded not to be RECs in connection with the Subject Property or VECs based on various factors including distance, area topography, known or inferred groundwater flow direction and/or regulatory status.

Federal NPL				# of sites:	0	Search Distance:	1-mile
Notable Listing:	None						
Distance in feet:		Direction:		Gradient:			
Data Discussion:							
REC Discussion:							
VEC Discussion:							

Federal Delisted NPL				# of sites:	0	Search Distance:	½-mile
Notable Listing:	None						
Distance in feet:		Direction:		Gradient:			
Data Discussion:							
REC Discussion:							
VEC Discussion:							

Federal SEMS				# of sites:	0	Search Distance:	½-mile
Notable Listing:	None						
Distance in feet:		Direction:		Gradient:			
Data Discussion:							
REC Discussion:							
VEC Discussion:							

Federal SEMS Archive				# of sites:	0	Search Distance:	½-mile
Notable Listing:	None						
Distance in feet:		Direction:		Gradient:			
Data Discussion:							
REC Discussion:							
VEC Discussion:							

Federal CORRACTS		# of sites:	0	Search Distance:	1-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

Federal RCRA-TSD		# of sites:	0	Search Distance:	½-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

State/Tribal Superfund & Hazardous Waste		# of sites:	0	Search Distance:	1-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

State/Tribal Landfilll / Solid Waste Disposal		# of sites:	0	Search Distance:	½-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

State/Tribal Leaking Storage Tanks		# of sites:	7	Search Distance:	½-mile
Notable Listing:	Dunn-Edwards Corporation; 23002 Moulton Parkway				
Distance in feet:	1,714	Direction:	ENE	Gradient:	Down/Cross
Data Discussion:	The listing indicates a status of "Completed – Case Closed" as of 02/19/1987. Soil was contaminated with paint thinner at the site.				
REC Discussion:	Based on the details provided above, a REC is not suspected in connection with the Subject Property.				
VEC Discussion:	Based on the available data, a VEC is not suspected.				

State/Tribal Voluntary Cleanup Sites		# of sites:	0	Search Distance:	½-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

State/Tribal Brownfields		# of sites:	0	Search Distance:	½-mile
Notable Listing:	None				
Distance in feet:		Direction:		Gradient:	
Data Discussion:					
REC Discussion:					
VEC Discussion:					

Unmapped/Orphan List Sites	
Thornburgh has also reviewed a list of unmapped sites (a.k.a. "Orphan List" sites) indicated by the database report. Unmapped sites that were identified as falling within an applicable specific search distance or warranting discussion have either been discussed in the preceding tables or are detailed below:	
Notable Listings:	None

Additional Environmental Record Sources

Requests have been submitted to local, municipal and state agencies for pertinent records pertaining to the Subject Property, particularly with regard to potential environmental concerns such as petroleum storage tanks, storage and usage of hazardous substances and petroleum products, and/or known or suspected environmental contamination. Where applicable, internet research of government environmental regulatory databases was also conducted, as well as a general cursory internet search of the Subject Property address, for information indicative of a REC. The following table summarizes the findings of the research:

Source	Type	Outcome
EPA MyProperty	FOI request	A response was received stating that no records were found.
EPA Envirofacts	Online search	Thornburgh searched online for records pertaining to the Property. No records pertaining to the property were found.
CA DTSC Envirostor database (www.envirostor.dtsc.ca.gov/public/)	Online search	Thornburgh searched online for records pertaining to the Property. No records pertaining to the property were found.
CA GeoTracker database (geotracker.waterboards.ca.gov/)	Online search	Thornburgh searched online for records pertaining to the Property. No records pertaining to the property were found.
CA DTSC	FOI request	No response was received prior to report issuance.
Regional Water Quality Control Board (RWQCB)	FOI request	No response was received prior to report issuance.
South Coast Air Quality	FOI request	No response was received prior to report issuance.

Source	Type	Outcome
Management District (SCAQMD)		
Orange Co. CUPA	FOI request	A response was received stating that no records were found.

Copies of obtained records referenced in the above table have been included in Appendix D.

4.2 Historical Research

Historical records have been compiled and analyzed for historical property information and developing a history of previous uses of the Subject Property, adjoining properties and surrounding area. These records were reviewed for the purpose of identifying the likelihood of past uses having led to RECs in connection with the Subject Property.

The historical record sources listed below have been sought with the objective to document past uses of the Subject Property from the present back to the Subject Property's first developed use, or back to 1940, whichever is earlier. The term "developed use" includes agricultural use, placement of fill dirt and other uses that do not involve structures. Thornburgh has sought to review historical records in minimum intervals of five years.

Fire Insurance Maps

A Certified Sanborn Map Report was obtained from EDR for a review of published historical fire insurance maps for the Subject Property and surrounding area. The following is a summary of site uses and notable details depicted by the available maps:

Year(s)	Subject Property	Adjoining Properties
	(No coverage)	

A copy of the Certified Sanborn Map Report is attached in Appendix E.

City Directories

An EDR City Directory Abstract report was reviewed for data of prior occupants of the Subject Property's street address. The following is a generalized summary of the findings of city directory research for past occupants of the Subject Property.

Subject Property	
Use and/or Occupants(s)	Years
Commercial offices	1992 – 2020

The EDR City Directory Abstract report was also reviewed for listings of prior occupants of the adjoining properties. The following is a generalized summary of the findings of city directory research for past occupants of the adjoining properties:

Adjoining Properties	
Use and/or Occupants(s)	Years
Commercial offices	1995 – 2020
School	2005 – 2020

A copy of the EDR City Directory report is attached in Appendix E.

Historical Topographic Maps

Historical topographic maps of the Property and vicinity obtained from an EDR Historical Topographic Map report (as attached in Appendix E) have been reviewed. The following interpretation of land usage was made by review of the maps:

Year(s)	Subject Property	Adjoining Properties
1902, 1932, 1942, 1949, 1950, 1965, 1978, 1981	No features or uses depicted	No features or uses depicted.
1948	Unmapped	Unmapped
1982, 1997	No features or uses depicted	Shaded to denote general urban development
2012	No building development depicted	No building development depicted
2015, 2018, 2022	No building development depicted	School

Historical Aerial Photographs

Historical aerial photographs of the Property and vicinity obtained from an EDR Aerial Photo Decade Package report, as attached in Appendix E, were reviewed. The following interpretation of land usage was made by review of the aerial photographs:

Year(s)	Subject Property	Adjoining Properties
1938, 1946, 1952, 1963, 1967, 1972, 1974	Undeveloped land	Undeveloped land
1989, 1994, 2002, 2005, 2009, 2012, 2016, 2020	Commercial office building	Commercial offices, residential, school

EDR High-Risk Historical Records

The EDR Radius Map™ report, which is discussed in greater detail in Section 4.1 and attached in Appendix E, provided a search of proprietary databases of potential historical high-risk uses at or in the vicinity of the Subject Property. These databases include EDR Hist Cleaner – a database of property addresses with records of historical occupancy by suspected cleaners businesses; EDR Hist Auto – a database of property addresses with records of historical occupancy by potential automotive gas/filling stations and repair facilities; and EDR MGP- a proprietary database of sites historically occupied by manufactured gas plants and related facilities.

EDR Database	On-site Listings:	Adjoining/Off-Site Listings
EDR Hist Cleaner: (on-site/adjoining only)	None	None
EDR Hist Auto: (on-site/adjoining only)	None	None
EDR MGP: (1-mile distance)	None	None

Petroleum/Natural Gas Well Review

The historical record sources and the California Geologic Energy Management Division (CalGEM) online mapping application were reviewed for records of historical petroleum and/or natural gas wells at the Subject Property. No record of any historical petroleum/natural gas wells at or adjoining the Property was identified.

Additional Historical Data

Where applicable, the following additional pertinent historical data was obtained:

Interviews/Anecdotal:	No additional pertinent historical data was obtained.
Local Gov't Records:	No additional pertinent historical data was obtained.
Prior Env. Reports: (Section 3.1)	Not applicable; no prior reports were provided.
Site Observations:	Indications of historic uses of the Property or adjoining properties were not observed during the site reconnaissance.
Other Sources:	No additional pertinent historical data was obtained.

Summary of Historical Subject Property Uses

The following table presents a summary of the types and approximate date ranges of identified prior uses of the Subject Property:

Date Range	Use
Unk to 1981	Undeveloped land
1987 to present	Commercial office building

Summary of Historical Adjoining Property Uses

The following table presents a summary of the types of identified prior uses of the adjoining properties:

Date Range	Use
Unk to 1981	Undeveloped land
1982 to present	Residential
1989 to present	Commercial office, school

Historical Records Data Failure

The ASTM E 1527-21 standard defines data failure as failure to achieve the historical research objective even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. The objective is to identify all obvious uses of the Subject Property from the present, back to the Subject Property's first developed use, or back to 1940, whichever is earlier. Furthermore, records of historical use/conditions were sought in intervals no less than approximately five years, unless the Subject Property conditions appear unchanged over a longer interval. In encountered, data failure and its significance as a data gap is discussed below:

Objective	Met?	Detail	Significant?
First developed use/date determined?	Yes	The first developed use of the Property was a commercial office building circa 1987.	NA
Record sources at 5-year intervals back to 1940 or first developed use?	No	Historical record gaps exceeding five years were encountered. However, significant site-use changes or undiscovered site uses appear unlikely to have occurred during the record gaps.	No
All obvious prior uses identified?	Yes	See Summary of Identified Past Uses of this section.	NA

Please refer to Section 2.3 for additional discussion of data gaps and their significance to the findings of the assessment.

Historical Uses REC Discussion

The review of historical records did not indicate evidence of a REC in connection with the Subject Property.

5.0 INTERVIEWS

5.1 Interviews with Owners, Operators and Occupants

Current Owner

Name	Contact Name	Affiliation	Interview Type
A G Mill Creek Owner			
Interview Date:			
Interview Outcome/Findings:			
Attempts were made via telephone and email (environmental questionnaire); however, no response was received.			

Key Site Manager/Operator

Name	Company/Title	Yrs @ Site	Interview Type
Interview Date:			
Interview Outcome/Findings:			
A key site manager was not made available for interview.			

Occupant(s)

Name	Company/Title	Yrs @ Site	Interview Type
Interview Date:			
Interview Outcome/Findings:			
Thornburgh was not at liberty to interview occupants at the time of the site visit.			

Prior Owners/Operators/Occupants

Name	Company/Title	Yrs @ Site	Interview Type
Interview Date:			
Interview Outcome/Findings:			
No prior owners, operators or occupants were interviewed.			

Neighboring Property Owner/Occupants

Name	Company/Title	Yrs @ Site	Interview Type
Interview Date:			
Interview Outcome/Findings:			
The Subject Property was not an abandoned property with evidence of unauthorized uses or uncontrolled access; therefore, interviews with adjoining or nearby property owners or occupants were not conducted.			

5.2 Interviews with State and/or Local Government Officials

State and/or local governmental officials have been interviewed to obtain information of potential RECs in connection with the Subject Property. Many government agencies and their officials require submittal of written request for records in order to respond. The details in Section 4.1 list the various state and local government agencies contacted as part of this assessment, and the outcome of each inquiry. In addition, the details of regulatory database research in Section 4.1 may have included detail of interviews with officials pertinent to government records review and identification of RECs.

Additional interview of government officials not previously detailed in Sections 4.1 are discussed below, if applicable.

Name	Agency Name/Title	Interview Type
Interview Outcome/Findings:		
No additional local/state government officials were interviewed.		

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

A site reconnaissance was conducted to collect information and make observations to help identify RECs in connection with the Subject Property. This included visual and/or physical observations of the Subject Property and its structures, adjoining properties as viewed from the Subject Property boundaries and the surrounding area based on visual observations from adjoining public thoroughfares and accessed Subject Property structures. Subject property building exteriors were observed at ground level, unless otherwise indicated. Where applicable, building interiors were accessed and observed to the extent they were made safely accessible with the cooperation of the site escort.

Site Inspection Personnel:	Mr. Stephen Krummlett
Escort Name/Company:	Unescorted
Inspection Date:	May 6, 2024
Weather Conditions:	Sunny, 75°F

Significant Inaccessible Areas

No significant areas of the Property inaccessible at the time of the inspection were noted.

Significant Limiting Site Conditions

No significant limiting site conditions were noted at the time of the site reconnaissance.

6.2 General Site Setting

Site and Vicinity Characteristics

Abutting Roadways:	Mill Creek Drive to the east
Current Property Use:	Commercial office building
Evidence of Past Property Uses:	None observed.
Evidence of Past Adjoining Property Uses:	None observed.
Surrounding Area Uses:	Commercial office, residential, school

Current Adjoini+ng Property Uses

Dir	Street Address	Description
N	23091 Mill Creek Drive	Commercial office building
E	23092 Mill Creek Drive	School
S	23201 Mill Creek Drive	Commercial office building
W	Caminito Pacifico	Residential

No visual observations indicative of a potential environmental concern were noted on the adjoining properties.

Topographic Characteristics

Terrain:	Flat to gently sloping
Direction of Downward Slope:	Towards the northeast
On-site Water Bodies:	None observed
Other Significant Features:	None observed

General Description of Structures and Improvements

Buildings:	One commercial office building
Approx. Building Size:	48,777 ft^2
Approx. Year Built:	1987
Number of Stories:	Three
Basement/Subgrade Levels:	None
Exterior Ground Cover:	Asphalt parking lot, grass lawn/landscaping
Ancillary Structures:	None
Sources of Heating & Cooling:	Natural gas and electric powered systems
Potable Water/Sewage Disposal:	Municipal utility connections

6.3 Site Features and Conditions

Storage/Usage of Hazardous Substances and Petroleum Products

The following approximate number of containers, and general description of their contents, capacity, container types and storage conditions, were observed to be stored and/or used at the Subject Property:

Occupant	Substance	Qty/Container Type	Storage Conditions
None identified			

Bulk Petroleum/Hazardous Material Storage Tanks

The following storage tanks for bulk petroleum or hazardous material storage were identified or reported to be present; or are suspected to be present based on visual observations:

AST/UST	Product	Capacity	Construction	Year Installed	Status	Location/Notes
None identified						

Strong, Pungent or Noxious Odors and their Sources

No strong, pungent or noxious odors were noted at the Subject Property.

Standing Surface Water/Pools & Sumps

No standing water, pools or sumps containing liquids likely to be hazardous substances or petroleum products were noted.

Drums, Totes and Intermediate Bulk Containers

No hazardous substance or petroleum product drums, totes or intermediate bulk containers were noted.

Unidentified Substance Containers

No unidentified substance containers suspected of containing hazardous substance or petroleum product were noted.

PCBs in Oil Filled Electrical/Hydraulic Equipment

PCBs in electrical/hydraulic equipment are considered unlikely at the Subject Property based on the post-1979 date of the current site development.

It is noted that identification of PCB containing fluorescent light ballasts, caulk, paint, or other materials located inside and are part of the building or structure is outside of the scope of the ASTM E 1527-21 standard and this assessment.

Stains or Corrosion on Floors, Walls or Ceilings

No stains or corrosion of floors, walls or ceilings, excluding any staining from water, were noted.

Drains and Sumps

No floor drains or sumps were noted at the Subject Property.

Pits/Ponds/Lagoons

No pits, ponds or lagoons were identified in connection with waste treatment or disposal.

Stained Soil, Pavement/Stressed Vegetation

No stained soil, pavement or stressed vegetation was observed.

On-Site Solid Waste Disposal/Fill Material

No evidence of on-site disposal of trash, construction debris, demolition debris or other solid waste was observed.

Waste Water

Sanitary sewage generated at the Subject Property is discharged via a connection to the local public sewer system.

Storm water runoff at the Subject Property is discharged off-site to local streams/drainage systems via overland flow.

No additional waste water discharges were identified at the Subject Property.

Septic Systems/Cesspools

No septic systems or cesspools were identified at the Subject Property.

Wells

No wells (including any dry wells, irrigation wells, injection wells, abandoned wells, or other wells) were identified at the Subject Property.

Railroad Spurs

No railroad spurs were identified on the Subject Property.

7.0 BUSINESS ENVIRONMENTAL RISKS

In accordance with the contract agreement for this assessment, Thornburgh has performed cursory reviews of several potential Business Environmental Risks (also known as "Non-Scope Considerations"). The ASTM E 1527-21 standard defines the term business environmental risk (BER) as, *"a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice."*

7.1 Asbestos-Containing Material (ACM)

The contracted scope of work included a cursory visual screening of the accessed portions of buildings at the Subject Property built prior to 1990 for suspect asbestos containing materials (ACM). The information provided in this section, where applicable, is limited to identification of potential suspect materials in the readily accessible and observed areas of the building, and their general condition. This is not intended to be a comprehensive survey for the presence of ACM, and no testing has been conducted.

Suspected ACM noted within the accessed building areas included vinyl flooring, sheetrock wall systems, acoustic ceiling tiles, vinyl cove base, and carpet mastic.

7.2 Lead-Based Paint

The contracted scope of work included a cursory visual screening of the condition of painted surfaces in the accessed areas of residential buildings/units built prior to 1978. This is not intended to constitute a comprehensive survey for LBP or potential lead hazards, and no testing has been conducted.

No residential buildings built prior to 1978 were present at the Property.

7.3 Radon

Data compiled by the USEPA, as summarized by the regulatory database report, indicated that the Subject Property is located in an area classified as Zone 3 or 'low risk' area for radon. Radon testing was not included in the scope of this assessment.

7.4 Mold/Microbial Damage

The contracted scope of work included a cursory visual screening of the accessed areas of the building for evidence of significant damage to building materials and finishes as result of moisture intrusion and/or mold/microbial growth. Thornburgh did not observe evidence of significant problems with moisture intrusion or mold/microbial growth at the Subject Property.

7.5 NWI Mapped Wetlands

The US Fish and Wildlife National Wetlands Inventory Wetland Mapper fwsprimary .wim.usgs.gov/wetlands/apps/wetlands-mapper/ was reviewed for indications of jurisdictional wetlands at or immediately adjoining the Subject Property. The scope of work for this assessment excluded a visual determination of regulated wetlands at the Subject Property. It is emphasized that, regardless of the data reviewed via the NWI Wetlands Mapper, a field delineation of regulated wetlands by a qualified professional would be warranted to determine the presence or absence of regulated wetlands at the Subject Property.

The review did not indicate regulated wetland areas on the Property.

7.6 Lead in Drinking Water

The scope of work for this assessment included a review of the potential for elevated levels of lead in drinking water by determining the source of the drinking water supply and a review of available compliance or testing data.

Potable water service at the Property is provided by a utility connection with the Moulton Niguel Water District. A recently published water quality report from the utility indicated compliance with USEPA water quality standards for lead in drinking water. A copy of the report has been attached in Appendix F.

8.0 REFERENCES

ASTM International, "Designation E 1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process"; ASTM, West Conshohocken, PA, 2021.

ASTM International, "Designation E 2600-15-Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction", ASTM, West Conshohocken, PA, 2015.

United States Environmental Protection Agency (USEPA), "EPA Map of Radon Zones by U.S. County, EPA 402/F19/004", www.epa.gov/radon/epa-map-radon-zones, 2019

U.S. Fish and Wildlife Service – National Wetlands Inventory, "Wetlands Mapper", fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/ 2022

Environmental Data Resources Inc. (EDR), "The EDR Radius Map™ Report with GeoCheck®", EDR, Sheldon, CT, 2024.

EDR, "The EDR-City Directory Abstract", EDR, Sheldon, CT, 2024.

EDR, "The EDR Aerial Photo Decade Package", EDR, Sheldon, CT, 2024.

EDR, "Certified Sanborn Map Report", EDR, Sheldon, CT, 2024.

EDR, "EDR Historical Topo Map Report with QuadMatch™", EDR, Sheldon, CT, 2024.

Buonicore A., "Methodology for Identifying the Area of Concern Around a Property Potentially Impacted by Vapor Migration from Nearby Contaminated Sources, Paper 2011-A301-AWMA", The Buonicore Group, Milford, CT, 2011.

9.0 APPENDICES

Appendix A	Site Diagram / Vicinity Map
Appendix B	Site Photographs
Appendix C	Questionnaires / User Provided Information
Appendix D	Regulatory Records
Appendix E	Historical Records
Appendix F	Other Documents / Lab Results
Appendix G	Project Personnel Qualifications

APPENDIX A

MAPS / DIAGRAMS

THORNBURGH CONSULTING, INC.

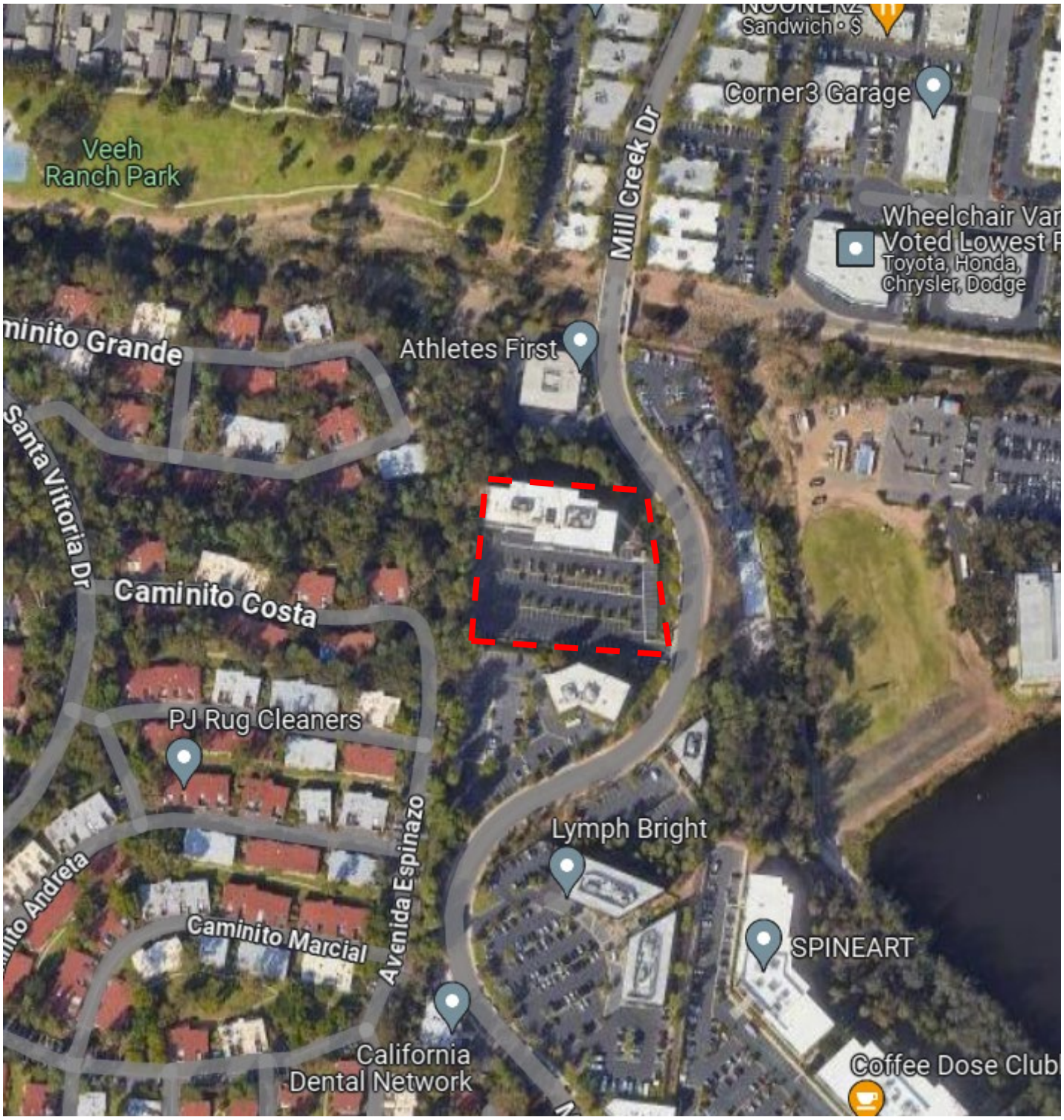
Figure 1: Site Vicinity Map

23161 Mill Creek Road
Laguna Hills, California

N

SCALE: (NOT TO SCALE)

PROJECT No.: 0049



THORNBURGH CONSULTING, INC.

Figure 2: Site Diagram

23161 Mill Creek Road
Laguna Hills, California

N

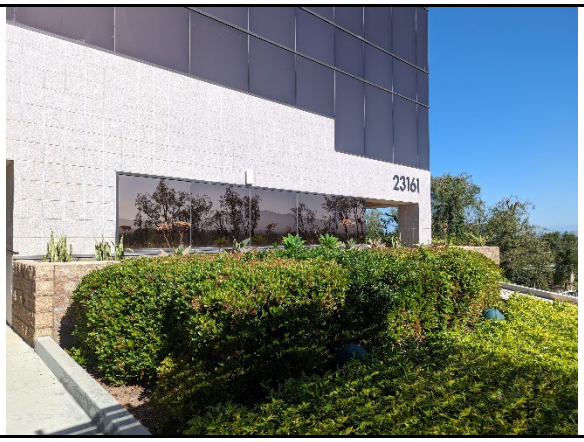
SCALE: (NOT TO SCALE)

PROJECT No.: 0049

APPENDIX B

SITE PHOTOGRAPHS

SITE PHOTOGRAPHS



View of eastern entrance

View of lobby

View of vacant office

View of vacant office

View of vacant office

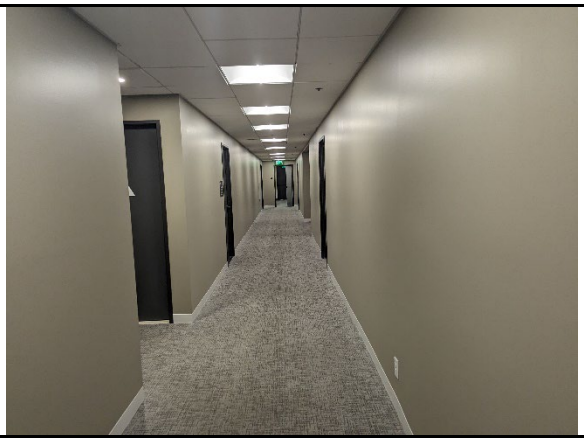
View of janitorial closet

23161 Mill Creek Road,
Laguna Hills, California

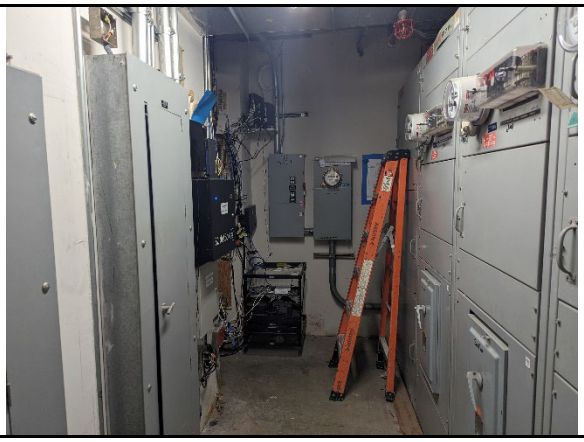
THORNBURGH
CONSULTING, INC.

Project No.:	0049

SITE PHOTOGRAPHS

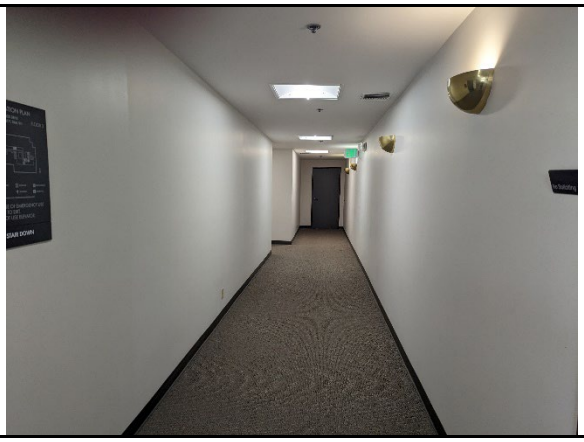


View of hallway



View of electrical room

View of vacant office



View of hallway

View of pad-mounted transformer

View of western side of building

23161 Mill Creek Road,
Laguna Hills, California

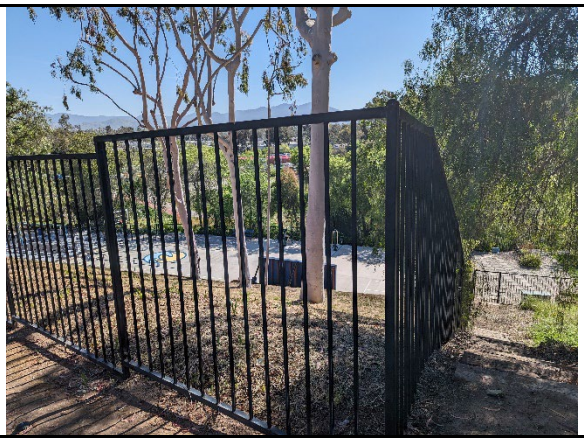
Project No.:	0049

THORNBURGH
CONSULTING, INC.

SITE PHOTOGRAPHS

View of adjoining properties to the north

View of adjoining properties to the south



View of adjoining properties to the east

View of adjoining properties to the west

View of parking lot

(Description)

23161 Mill Creek Road,
Laguna Hills, California

Project No.:	0049

THORNBURGH
CONSULTING, INC.

APPENDIX C

QUESTIONNAIRES/USER PROVIDED DOCUMENTATION

APPENDIX D

REGULATORY RECORDS

23161 Mill Creek
23161 Mill Creek
Laguna Hills, CA 92653

Inquiry Number: 7637810.2s
April 29, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

FORM EDRKH7

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

23161 MILL CREEK
LAGUNA HILLS, CA 92653

COORDINATES

Latitude (North):	33.6260000 - 33° 37' 33.60''
Longitude (West):	117.7355770 - 117° 44' 8.07''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	431772.6
UTM Y (Meters):	3720738.2
Elevation:	334 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50005786 LAKE FOREST, CA
Version Date:	2022
Southeast Map:	50006201 SAN JUAN CAPISTRANO, CA
Version Date:	2022
Southwest Map:	50005785 LAGUNA BEACH, CA
Version Date:	2022
Northwest Map:	50006231 TUSTIN, CA
Version Date:	2022

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200424
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
23161 MILL CREEK
LAGUNA HILLS, CA 92653

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	AT&T CALIFORNIA - LE	23133 MILL CREEK DR	CERS	Lower	1 ft.
A2	LARRY HOBBS	22455 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A3	LARRY HOBBS	22531 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A4	PMP MANAGEMENT	22482 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A5	BETTY FARRELL	22456 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A6	LAGUNA VILLAGE OWNER	22522 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A7	YUNKEZHU	22482 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
A8	LAGUNA VILLAGE OWNER	22511 CAMINITO ESTEB	RCRA NonGen / NLR	Higher	416, 0.079, WSW
B9	MOBIL OIL STATION	23431 MILL CREEK DR	EDR Hist Auto	Higher	525, 0.099, SSW
A10	LAGUNA VILLAGE OWNER	23202 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	529, 0.100, SW
A11	ADAM PADILLA	23201 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	529, 0.100, SW
A12	JEFF ORTIZ	23262 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	529, 0.100, SW
A13	LAGUNA VILLAGE OWNER	23202 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	529, 0.100, SW
A14	HAGERTY THOMAS	23271 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	529, 0.100, SW
C15	WHEELCHAIR VANS INC	22692 GRANITE WAY ST	RCRA NonGen / NLR	Lower	542, 0.103, NE
C16	ALFA PERFORMANCE CON	22692 GRANITE WY	RCRA-SQG, FINDS, ECHO	Lower	542, 0.103, NE
B17	NATHAN LITINSKI	23291 MILL CREEK	RCRA NonGen / NLR	Higher	650, 0.123, SSW
C18	LAGUNA HILLS BUSINES	22732 GRANITE WAY	UST	Lower	687, 0.130, NE
D19	TERRI BOYKIN	22982 MILL CREEK DR.	RCRA NonGen / NLR	Lower	707, 0.134, NNE
D20	TERIBOY KIN	22982 MILL CREEK DRI	RCRA NonGen / NLR	Lower	707, 0.134, NNE
21	LESA WEINERT	22421 CAMINITO GRAND	RCRA NonGen / NLR	Lower	719, 0.136, WNW
C22	HUKILL CUSTOM PAINT/	22681 GRANITE WAY	RCRA NonGen / NLR	Lower	727, 0.138, NNE
C23	VISION MOTORSPORTS I	22681 GRANITE WAY	RCRA NonGen / NLR	Lower	727, 0.138, NNE
C24	AUTOBODY BY CALDWELL	22681 GRANITE WAY	CERS HAZ WASTE, HWTS, HAZNET, CERS	Lower	727, 0.138, NNE
E25	SABRINA J HOLGUIN-KE	23225 CAMINITO MARCI	RCRA NonGen / NLR	Higher	728, 0.138, SW
E26	FARRHA KHAN	23336 CAMINITO MARCI	RCRA NonGen / NLR	Higher	728, 0.138, SW
E27	NITIN SHAH	23295 CAMINITO MARCI	RCRA NonGen / NLR	Higher	728, 0.138, SW
C28	949 AUTO REPAIR	22701 GRANITE WAY ST	HAULERS, CERS HAZ WASTE, HWTS, HAZNET, CERS	Lower	736, 0.139, NE
C29	949 ENTERPRISES INC	22701 GRANITE WAY UN	RCRA NonGen / NLR	Lower	736, 0.139, NE
C30	UNITED AUTOMOTIVE SE	22701 GRANITE WAY ST	RCRA NonGen / NLR	Lower	736, 0.139, NE
C31	CORNER 3 GARAGE	22701 GRANITE WAY ST	CERS HAZ WASTE, CHMIRS, CERS	Lower	736, 0.139, NE
32	CARDIAC SCIENCE CORP	23382 MILL CREEK DRI	RCRA NonGen / NLR	Higher	825, 0.156, SSE
E33	SERVICE FIRST RESTOR	23331 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
E34	LAGUNA VILLAGE OWNER	23381 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
E35	LAGUNA VILLAGE OWNER	23385 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
E36	MIKE MICHALEK	23331 CAMNTO ANDREA	RCRA NonGen / NLR	Higher	861, 0.163, SW
E37	MIKE MICHALEK	23331 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
E38	LAGUNA VILLAGE OWNER	23331 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
E39	LARRY PRITCHARD	23382 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW

MAPPED SITES SUMMARY

Target Property Address:
23161 MILL CREEK
LAGUNA HILLS, CA 92653

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
E40	LAGUNA VILLAGE	23385 CAMINITO ANDRE	RCRA NonGen / NLR	Higher	861, 0.163, SW
F41	BONITA EVANS	23345 CAMINITO JUANI	RCRA NonGen / NLR	Higher	869, 0.165, SSW
F42	CLAIRE RUDDY	23322 CAMINITO JUANI	RCRA NonGen / NLR	Higher	869, 0.165, SSW
G43	AUTOBODY BY CALDWELL	22772 GRANITE WAY	CERS HAZ WASTE, HWTS, HAZNET	Lower	903, 0.171, ENE
G44	SERVICE KING PAINT &	22772 GRANITE WAY	RCRA NonGen / NLR	Lower	903, 0.171, ENE
F45	JASON BELL	23341 CAMINITO BASIL	RCRA NonGen / NLR	Higher	929, 0.176, South
F46	THOMAS RENDINA	23355 CAMINITO BASIL	RCRA NonGen / NLR	Higher	929, 0.176, South
F47	MENDOZA, BLAS	23351 CAMINITO BASIL	RCRA NonGen / NLR	Higher	929, 0.176, South
H48	AL AKANS	23405 CAMINITO BASIL	RCRA NonGen / NLR	Higher	973, 0.184, South
H49	ADAM CRAB	23376 CAMINITO BASIL	RCRA NonGen / NLR	Higher	973, 0.184, South
F50	JEANETTE TROTMAN	23421 CAMINITO PARTI	RCRA NonGen / NLR	Higher	1002, 0.190, SSW
F51	LAGUNA VILLAGE OWNER	23421 CAMINITO PARTI	RCRA NonGen / NLR	Higher	1002, 0.190, SSW
I52	VINCENTE HERNANDEZ	23415 CAMINITO TELMO	RCRA NonGen / NLR	Higher	1093, 0.207, SW
J53	JULIE KERN	22912 AVENIDA VALVER	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J54	SHIRLEY MACCARTNEY	22952 CAMINITO POCO	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J55	QUIET FOREST TRUST	22952 CAMINITO DONOS	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J56	JAY HAWKINS	22891 CAMINITO SOL	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J57	SANDRA L HAMBRIC, TR	22881 CAMINITO ALTO	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J58	MATTHEW RYAN	22862 CAMINITO PLUMA	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J59	JUDITH ANN W. WATTS	22902 AVENIDA VALVER	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J60	DAN WALSH	22961 CAMINITO DONOS	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J61	DENISE ZABILSKI	22895 CAMINITO SOL	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J62	JAY HAWKINS	22891 CAMINITO SOL	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J63	GREGORY RUSSELL	22961 CAMINITO OLIVI	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J64	ANDREW BRAUN	22982 CAMINTO OLIVIA	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J65	SANDRA L HAMBRIC, TR	22881 CAMINITO ALTO	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
J66	JEANNE MUIS	22895 CAMINITO ALTO	RCRA NonGen / NLR	Lower	1097, 0.208, NNW
67	WALLABY MEDICAL, INC	22901 MILL CREEK DR.	RCRA NonGen / NLR	Lower	1140, 0.216, North
I68	LAGUNA VILLAGE OWNER	23355 CAMINITO MARCI	RCRA NonGen / NLR	Higher	1248, 0.236, SW
I69	MARIO VASQUEZ	23342 CAMINITO MARCI	RCRA NonGen / NLR	Higher	1248, 0.236, SW
I70	LAGUNA VILLAGE OWNER	23416 CAMINITO MARCI	RCRA NonGen / NLR	Higher	1248, 0.236, SW
K71	LAGUNA VILLAGE OWNER	23411 CAMINITO SALAD	RCRA NonGen / NLR	Higher	1262, 0.239, South
K72	KANDICE LARSEN	23461 CAMINITO SALAD	RCRA NonGen / NLR	Higher	1262, 0.239, South
K73	DANIELLE GRUBER	23442 CAMINOTO SALAD	RCRA NonGen / NLR	Higher	1262, 0.239, South
K74	GUILLERMO MARTINEZ	23455 CAMINITO SALAD	RCRA NonGen / NLR	Higher	1262, 0.239, South
K75	LAGUNA VILLAGE OWNER	23415 CAMINITO SALAD	RCRA NonGen / NLR	Higher	1262, 0.239, South
76	ANN LUDOLPH	23426 CAMINITO JUANI	RCRA NonGen / NLR	Higher	1278, 0.242, South
K77	JAY BUENVIAJE	23446 CAMINITO BASIL	RCRA NonGen / NLR	Higher	1281, 0.243, South
K78	JOHNNIE URBAN	23421 CAMINITO BASIL	RCRA NonGen / NLR	Higher	1281, 0.243, South

MAPPED SITES SUMMARY

Target Property Address:
23161 MILL CREEK
LAGUNA HILLS, CA 92653

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
79	SOUTH COUNTY KIDNEY	23141 MOULTON PARKWA	RCRA NonGen / NLR	Lower	1307, 0.248, East
L80	DUNN-EDWARDS CORPORA	23002 MOULTON PARKWA	RCRA-SQG, LUST, FINDS, ECHO, Cortese, HIST...	Lower	1714, 0.325, ENE
L81	DUNN EDWARDS PAINTS	23002 MOULTON PKY	LUST	Lower	1714, 0.325, ENE
L82	DUNN EDWARDS PAINT	23002 MOULTON PKWY	LUST	Lower	1714, 0.325, ENE
L83	DUNN EDWARDS PAINT	23002 MOULTON	UST FINDER RELEASE	Lower	1714, 0.325, ENE
L84	MIRAGE CLEANERS	22972 MOULTON LKWY	CPS-SLIC	Lower	1800, 0.341, ENE
M85	ARTISTIC MAINTENANCE	UNK SE MOULTON & RID	CPS-SLIC, Orange Co. Industrial Site, CERS	Lower	1952, 0.370, SE
M86	ROSSMOOR PROPERTY	23552 MOULTON	LUST, CHMIRS, Cortese, HIST CORTESE, CERS	Lower	1988, 0.377, SSE
N87	BRIGGS INVESTMENT PR	23261 DEL LAGO DR	LUST, CERS HAZ WASTE, Cortese, HIST CORTESE, CERS	Lower	2429, 0.460, ESE
N88	BRIGGS INVESTMENT PR	23261 DEL LAGO	UST FINDER RELEASE	Lower	2429, 0.460, ESE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROLS Institutional Controls Sites List

Federal ERNS list

ERNS Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE State Response Sites

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR EnviroStor Database

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF Solid Waste Information System

Lists of state and tribal leaking storage tanks

INDIAN LUST Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST Underground Storage Tank Listing
AST Aboveground Petroleum Storage Tank Facilities
INDIAN UST Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP Voluntary Cleanup Priority Listing
VCP Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT Waste Management Unit Database
SWRCY Recycler Database
HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
ODI Open Dump Inventory
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
Orange Co. Industrial Site ---- List of Industrial Site Cleanups
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees

INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
PFAS	PFAS Contamination Site Location Listing
AQUEOUS FOAM	Former Fire Training Facility Assessments Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
CHROME PLATING	Chrome Plating Facilities Listing
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
ICE	Inspection, Compliance and Enforcement
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
HWTS	Hazardous Waste Tracking System
HAZNET	Facility and Manifest Data
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
HAZMAT	Hazardous Material Facilities
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing

EXECUTIVE SUMMARY

CIWQS ---------- California Integrated Water Quality System
NON-CASE INFO ---------- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---------- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---------- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---------- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---------- Well Stimulation Project (GEOTRACKER)
UST FINDER ---------- UST Finder Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA generators

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/04/2023 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ALFA PERFORMANCE CON	***22692 GRANITE WY***	***NE 0 - 1/8 (0.103 mi.)***	***C16***	***40***

EXECUTIVE SUMMARY

EPA ID:: CA0000860734

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 5 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS CORPORA	***23002 MOULTON PARKWA***	***ENE 1/4 - 1/2 (0.325 mi.)***	***L80***	***225***
Database: LUST, Date of Government Version: 12/04/2023 Status: Completed - Case Closed Global Id: T0605902391				
DUNN EDWARDS PAINTS	23002 MOULTON PKY	ENE 1/4 - 1/2 (0.325 mi.)	L81	241
Database: LUST REG 9, Date of Government Version: 03/01/2001 Closed Date: 2/25/87 Status: Case Closed Case Number: 9UT152				
DUNN EDWARDS PAINT	23002 MOULTON PKWY	ENE 1/4 - 1/2 (0.325 mi.)	L82	241
Database: ORANGE CO. LUST, Date of Government Version: 10/10/2023 Facility Id: 86UT159				
ROSSMOOR PROPERTY	***23552 MOULTON***	***SSE 1/4 - 1/2 (0.377 mi.)***	***M86***	***245***
Database: LUST, Date of Government Version: 12/04/2023 Database: LUST REG 8, Date of Government Version: 02/14/2005 Database: ORANGE CO. LUST, Date of Government Version: 10/10/2023 Status: Completed - Case Closed Facility Id: 96UT013 Facility Status: Case Closed Global Id: T0605901942 Global ID: T0605901942				
BRIGGS INVESTMENT PR	***23261 DEL LAGO DR***	***ESE 1/4 - 1/2 (0.460 mi.)***	***N87***	***250***
Database: LUST, Date of Government Version: 12/04/2023 Database: LUST REG 8, Date of Government Version: 02/14/2005 Database: LUST REG 9, Date of Government Version: 03/01/2001 Database: ORANGE CO. LUST, Date of Government Version: 10/10/2023 Status: Completed - Case Closed Closed Date: 7/3/92 Facility Id: 91UT075 Facility Status: Case Closed Status: Case Closed Global Id: T0605901415 Global ID: T0605901415 Case Number: 9UT2361				

CPS-SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the CPS-SLIC list, as provided by EDR, has revealed that there are 2 CPS-SLIC sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MIRAGE CLEANERS	22972 MOULTON LKWY	ENE 1/4 - 1/2 (0.341 mi.)	L84	243
Database: CPS-SLIC, Date of Government Version: 12/04/2023 Facility Status: Completed - Case Closed Global Id: T10000018307				
ARTISTIC MAINTENANCE	***UNK SE MOULTON & RID***	***SE 1/4 - 1/2 (0.370 mi.)***	***M85***	***244***
Database: CPS-SLIC, Date of Government Version: 12/04/2023 Facility Status: Completed - Case Closed Global Id: T10000020592				

Lists of state and tribal registered storage tanks

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LAGUNA HILLS BUSINES	22732 GRANITE WAY	NE 1/8 - 1/4 (0.130 mi.)	C18	45
Database: UST, Date of Government Version: 12/04/2023 Facility Id: 10667				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 01/16/2024 has revealed that there are 4 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AUTOBODY BY CALDWELL	***22681 GRANITE WAY***	***NNE 1/8 - 1/4 (0.138 mi.)***	***C24***	***58***
949 AUTO REPAIR	***22701 GRANITE WAY ST***	***NE 1/8 - 1/4 (0.139 mi.)***	***C28***	***80***
CORNER 3 GARAGE	***22701 GRANITE WAY ST***	***NE 1/8 - 1/4 (0.139 mi.)***	***C31***	***102***
AUTOBODY BY CALDWELL	***22772 GRANITE WAY***	***ENE 1/8 - 1/4 (0.171 mi.)***	***G43***	***135***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/04/2023 has revealed that there are 71 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LARRY HOBBS EPA ID:: CAC003107534	22455 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A2	11
LARRY HOBBS EPA ID:: CAC003039708	22531 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A3	13
PMP MANAGEMENT EPA ID:: CAC003161128 EPA ID:: CAC003180231	22482 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A4	15
BETTY FARRELL EPA ID:: CAC003129712	22456 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A5	18
LAGUNA VILLAGE OWNER EPA ID:: CAC003260827	22522 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A6	20
YUNKEZHU EPA ID:: CAC003195597	22482 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A7	22
LAGUNA VILLAGE OWNER EPA ID:: CAC003222648	22511 CAMINITO ESTEB	WSW 0 - 1/8 (0.079 mi.)	A8	24
LAGUNA VILLAGE OWNER EPA ID:: CAC003229337	23202 CAMINITO ANDRE	SW 0 - 1/8 (0.100 mi.)	A10	27
ADAM PADILLA EPA ID:: CAC003256056	23201 CAMINITO ANDRE	SW 0 - 1/8 (0.100 mi.)	A11	29
JEFF ORTIZ EPA ID:: CAC003053520	23262 CAMINITO ANDRE	SW 0 - 1/8 (0.100 mi.)	A12	31
LAGUNA VILLAGE OWNER EPA ID:: CAC003221148	23202 CAMINITO ANDRE	SW 0 - 1/8 (0.100 mi.)	A13	34
HAGERTY THOMAS EPA ID:: CAC003191266	23271 CAMINITO ANDRE	SW 0 - 1/8 (0.100 mi.)	A14	36
NATHAN LITINSKI EPA ID:: CAC003020111	23291 MILL CREEK	SSW 0 - 1/8 (0.123 mi.)	B17	43
SABRINA J HOLGUIN-KE EPA ID:: CAC003080999	23225 CAMINITO MARCI	SW 1/8 - 1/4 (0.138 mi.)	E25	74
FARRHA KHAN EPA ID:: CAC003120947	23336 CAMINITO MARCI	SW 1/8 - 1/4 (0.138 mi.)	E26	76
NITIN SHAH EPA ID:: CAC003031506	23295 CAMINITO MARCI	SW 1/8 - 1/4 (0.138 mi.)	E27	78
CARDIAC SCIENCE CORP EPA ID:: CAC002984261	23382 MILL CREEK DRI	SSE 1/8 - 1/4 (0.156 mi.)	32	110
SERVICE FIRST RESTOR	23331 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E33	112

EPA ID:: CAC003045501				
LAGUNA VILLAGE OWNER EPA ID:: CAC003229193	23381 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E34	114
LAGUNA VILLAGE OWNER EPA ID:: CAC003220826	23385 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E35	117
MIKE MICHALEK EPA ID:: CAC003220105	23331 CAMNTO ANDREA	SW 1/8 - 1/4 (0.163 mi.)	E36	119
MIKE MICHALEK EPA ID:: CAC003200897	23331 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E37	121
LAGUNA VILLAGE OWNER EPA ID:: CAC003243920	23331 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E38	123
LARRY PRITCHARD EPA ID:: CAC003141614	23382 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E39	126
LAGUNA VILLAGE EPA ID:: CAC003234650	23385 CAMINITO ANDRE	SW 1/8 - 1/4 (0.163 mi.)	E40	128
BONITA EVANS EPA ID:: CAC003056719	23345 CAMINITO JUANI	SSW 1/8 - 1/4 (0.165 mi.)	F41	130
CLAIRE RUDDY EPA ID:: CAC003019537	23322 CAMINITO JUANI	SSW 1/8 - 1/4 (0.165 mi.)	F42	132
JASON BELL EPA ID:: CAC002989771	23341 CAMINITO BASIL	S 1/8 - 1/4 (0.176 mi.)	F45	146
THOMAS RENDINA EPA ID:: CAC003257691	23355 CAMINITO BASIL	S 1/8 - 1/4 (0.176 mi.)	F46	148
MENDOZA, BLAS EPA ID:: CAC002981127	23351 CAMINITO BASIL	S 1/8 - 1/4 (0.176 mi.)	F47	150
AL AKANS EPA ID:: CAC003148510	23405 CAMINITO BASIL	S 1/8 - 1/4 (0.184 mi.)	H48	153
ADAM CRAB EPA ID:: CAC003112938	23376 CAMINITO BASIL	S 1/8 - 1/4 (0.184 mi.)	H49	155
JEANETTE TROTMAN EPA ID:: CAC003052841	23421 CAMINITO PARTI	SSW 1/8 - 1/4 (0.190 mi.)	F50	157
LAGUNA VILLAGE OWNER EPA ID:: CAC003217601	23421 CAMINITO PARTI	SSW 1/8 - 1/4 (0.190 mi.)	F51	159
VINCENTE HERNANDEZ EPA ID:: CAC003176992	23415 CAMINITO TELMO	SW 1/8 - 1/4 (0.207 mi.)	I52	162
LAGUNA VILLAGE OWNER EPA ID:: CAC003220242	23355 CAMINITO MARCI	SW 1/8 - 1/4 (0.236 mi.)	I68	198
MARIO VASQUEZ EPA ID:: CAC003012725	23342 CAMINITO MARCI	SW 1/8 - 1/4 (0.236 mi.)	I69	200
LAGUNA VILLAGE OWNER EPA ID:: CAC003223248	23416 CAMINITO MARCI	SW 1/8 - 1/4 (0.236 mi.)	I70	202
LAGUNA VILLAGE OWNER EPA ID:: CAC003200191	23411 CAMINITO SALAD	S 1/8 - 1/4 (0.239 mi.)	K71	204
KANDICE LARSEN EPA ID:: CAC003106547	23461 CAMINITO SALAD	S 1/8 - 1/4 (0.239 mi.)	K72	207
DANIELLE GRUBER	23442 CAMINOTO SALAD	S 1/8 - 1/4 (0.239 mi.)	K73	209

EPA ID:: CAC003125554				
GUILLERMO MARTINEZ EPA ID:: CAC003108528	23455 CAMINITO SALAD	S 1/8 - 1/4 (0.239 mi.)	K74	211
LAGUNA VILLAGE OWNER EPA ID:: CAC003187351	23415 CAMINITO SALAD	S 1/8 - 1/4 (0.239 mi.)	K75	213
ANN LUDOLPH EPA ID:: CAC003190358	23426 CAMINITO JUANI	S 1/8 - 1/4 (0.242 mi.)	76	216
JAY BUENVIAJE EPA ID:: CAC003060960	23446 CAMINITO BASIL	S 1/8 - 1/4 (0.243 mi.)	K77	218
JOHNNIE URBAN EPA ID:: CAC003062088	23421 CAMINITO BASIL	S 1/8 - 1/4 (0.243 mi.)	K78	220

Lower Elevation	Address	Direction / Distance	Map ID	Page
WHEELCHAIR VANS INC EPA ID:: CAL000473879	22692 GRANITE WAY ST	NE 0 - 1/8 (0.103 mi.)	C15	38
TERRI BOYKIN EPA ID:: CAC003146359	22982 MILL CREEK DR.	NNE 1/8 - 1/4 (0.134 mi.)	D19	46
TERIBOY KIN EPA ID:: CAC003148081	22982 MILL CREEK DRI	NNE 1/8 - 1/4 (0.134 mi.)	D20	48
LESA WEINERT EPA ID:: CAC003048009	22421 CAMINITO GRAND	WNW 1/8 - 1/4 (0.136 mi.)	21	50
HUKILL CUSTOM PAINT/ EPA ID:: CAL000238023	22681 GRANITE WAY	NNE 1/8 - 1/4 (0.138 mi.)	C22	53
VISION MOTORSPORTS I EPA ID:: CAL000222292	22681 GRANITE WAY	NNE 1/8 - 1/4 (0.138 mi.)	C23	55
949 ENTERPRISES INC EPA ID:: CAL000466310	22701 GRANITE WAY UN	NE 1/8 - 1/4 (0.139 mi.)	C29	97
UNITED AUTOMOTIVE SE EPA ID:: CAL000391155	22701 GRANITE WAY ST	NE 1/8 - 1/4 (0.139 mi.)	C30	99
SERVICE KING PAINT & EPA ID:: CAL000403867	22772 GRANITE WAY	ENE 1/8 - 1/4 (0.171 mi.)	G44	144
JULIE KERN EPA ID:: CAC003032868	22912 AVENIDA VALVER	NNW 1/8 - 1/4 (0.208 mi.)	J53	164
SHIRLEY MACCARTNEY EPA ID:: CAC003042568	22952 CAMINITO POCO	NNW 1/8 - 1/4 (0.208 mi.)	J54	166
QUIET FOREST TRUST EPA ID:: CAC003151712	22952 CAMINITO DONOS	NNW 1/8 - 1/4 (0.208 mi.)	J55	168
JAY HAWKINS EPA ID:: CAC003230557	22891 CAMINITO SOL	NNW 1/8 - 1/4 (0.208 mi.)	J56	171
SANDRA L HAMBRIC, TR EPA ID:: CAC003242890	22881 CAMINITO ALTO	NNW 1/8 - 1/4 (0.208 mi.)	J57	173
MATTHEW RYAN EPA ID:: CAC003214247	22862 CAMINITO PLUMA	NNW 1/8 - 1/4 (0.208 mi.)	J58	175
JUDITH ANN W. WATTS EPA ID:: CAC002994992	22902 AVENIDA VALVER	NNW 1/8 - 1/4 (0.208 mi.)	J59	177
DAN WALSH	22961 CAMINITO DONOS	NNW 1/8 - 1/4 (0.208 mi.)	J60	180

EPA ID:: CAC003081646				
DENISE ZABILSKI EPA ID:: CAC003229393	22895 CAMINITO SOL	NNW 1/8 - 1/4 (0.208 mi.)	J61	182
JAY HAWKINS EPA ID:: CAC003230564	22891 CAMINITO SOL	NNW 1/8 - 1/4 (0.208 mi.)	J62	184
GREGORY RUSSELL EPA ID:: CAC003145308	22961 CAMINITO OLIVI	NNW 1/8 - 1/4 (0.208 mi.)	J63	186
ANDREW BRAUN EPA ID:: CAC003179688	22982 CAMINTO OLIVIA	NNW 1/8 - 1/4 (0.208 mi.)	J64	189
SANDRA L HAMBRIC, TR EPA ID:: CAC003246776	22881 CAMINITO ALTO	NNW 1/8 - 1/4 (0.208 mi.)	J65	191
JEANNE MUIS EPA ID:: CAC003175123	22895 CAMINITO ALTO	NNW 1/8 - 1/4 (0.208 mi.)	J66	193
WALLABY MEDICAL, INC EPA ID:: CAC003212654	22901 MILL CREEK DR.	N 1/8 - 1/4 (0.216 mi.)	67	195
SOUTH COUNTY KIDNEY EPA ID:: CAL000433445	23141 MOULTON PARKWA	E 1/8 - 1/4 (0.248 mi.)	79	222

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 12/13/2023 has revealed that there are 3 Cortese sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS CORPORA Cleanup Status: COMPLETED - CASE CLOSED	***23002 MOULTON PARKWA***	***ENE 1/4 - 1/2 (0.325 mi.)***	***L80***	***225***
ROSSMOOR PROPERTY Cleanup Status: COMPLETED - CASE CLOSED	***23552 MOULTON***	***SSE 1/4 - 1/2 (0.377 mi.)***	***M86***	***245***
BRIGGS INVESTMENT PR Cleanup Status: COMPLETED - CASE CLOSED	***23261 DEL LAGO DR***	***ESE 1/4 - 1/2 (0.460 mi.)***	***N87***	***250***

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 3 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS CORPORA Reg Id: 9UT152	***23002 MOULTON PARKWA***	***ENE 1/4 - 1/2 (0.325 mi.)***	***L80***	***225***
ROSSMOOR PROPERTY Reg Id: 083002820T	***23552 MOULTON***	***SSE 1/4 - 1/2 (0.377 mi.)***	***M86***	***245***
BRIGGS INVESTMENT PR Reg Id: 9UT2361	***23261 DEL LAGO DR***	***ESE 1/4 - 1/2 (0.460 mi.)***	***N87***	***250***

Reg Id: 083001896T

CERS: The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

A review of the CERS list, as provided by EDR, and dated 01/16/2024 has revealed that there is 1 CERS site within approximately 0.001 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AT&T CALIFORNIA - LE	23133 MILL CREEK DR	0 - 1/8 (0.000 mi.)	1	9

UST FINDER RELEASE: US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

A review of the UST FINDER RELEASE list, as provided by EDR, and dated 06/08/2023 has revealed that there are 2 UST FINDER RELEASE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN EDWARDS PAINT	23002 MOULTON	ENE 1/4 - 1/2 (0.325 mi.)	L83	242
BRIGGS INVESTMENT PR	23261 DEL LAGO	ESE 1/4 - 1/2 (0.460 mi.)	N88	259

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MOBIL OIL STATION	23431 MILL CREEK DR	SSW 0 - 1/8 (0.099 mi.)	B9	27

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 7 records.

Site Name	Database(s)
SUNNY FRESH CLEANERS VII,GREG KEAR	DRYCLEANERS
BEASLEY'S LAGUNA HILLS CLEANERS, J	DRYCLEANERS
LAGUNA HILLS CLEANERS	DRYCLEANERS
WILLOW TREE CLEANERS, YOUNG SOOK K	DRYCLEANERS
WILLOW TREE CLEANERS	DRYCLEANERS
GOLDEN RAIN FOUNDATION OF LAG HILL	LUST, EMI
ARTISTIC MAINTENANCE INC	CPS-SLIC

OVERVIEW MAP - 7637810.2S

0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 23161 Mill Creek	CLIENT: Thornburgh Consulting, Inc.
ADDRESS: 23161 Mill Creek Laguna Hills CA 92653	CONTACT: Stephen Krummlett
LAT/LONG: 33.626 / 117.735577	INQUIRY #: 7637810.2s DATE: April 29, 2024 6:28 pm

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DETAIL MAP - 7637810.2S

Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 23161 Mill Creek	CLIENT: Thornburgh Consulting, Inc.
ADDRESS: 23161 Mill Creek Laguna Hills CA 92653	CONTACT: Stephen Krummlett
LAT/LONG: 33.626 / 117.735577	INQUIRY #: 7637810.2s DATE: April 29, 2024 6:29 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	5	NR	NR	5
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	2	NR	NR	2
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	1	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	4	NR	NR	NR	4
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
Orange Co. Industrial Site	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		14	57	NR	NR	NR	71
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	3	NR	NR	3
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	3	NR	NR	3
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		1	NR	NR	NR	NR	1
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER RELEASE	0.500		0	0	2	NR	NR	2
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	17	62	15	0	0	94

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 **AT&T CALIFORNIA - LE0EV** **CERS** **S124443733**
23133 MILL CREEK DR **N/A**
< 1/8 **LAGUNA HILLS, CA 92653**
1 ft.

Relative: Lower

Actual: 297 ft.

CERS:

Name:	AT&T CALIFORNIA - LE0EV
Address:	23133 MILL CREEK DR
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	552079
CERS ID:	10814524
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-01-2023
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	On site for a routine inspection. This is an unmanned facility. Facility access was granted by Robert Fields. Verified Hazardous Material Business Plan (HMBP) components submitted in the California Environmental Reporting System (CERS). No changes in inventory were observed. Employee training records were reviewed. No hazardous materials violations were noted on this date. Emailed a copy of this report to g43573@att.com and rf0886@att.com
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-15-2020
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	On site to conduct hazardous materials chemical inventory and business emergency plan (HMBP) inspection. Robert Fields granted consent to conduct inspection. This site is an unmanned facility. Nickel Cadmium Batteries at disclosure threshold are stored inside a locked enclosure located on the sidewalk. Electricity shut off is in a separate enclosure next to battery enclosure. A copy of HMBP is available inside enclosure's door.
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS,

Affiliation:

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	75202
Affiliation Phone:	,

Affiliation Type Desc:	Identification Signer
Entity Name:	Jeremy McGrue
Entity Title:	National EPCRA Manager
Affiliation Address:	Not reported

AT&T CALIFORNIA - LE0EV (Continued) **S124443733**

Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Document Preparer
Entity Name:	Peter Burnell, Sigma Consultants, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	CUPA District
Entity Name:	Orange County Env Health
Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6406,
Affiliation Type Desc:	Legal Owner
Entity Name:	Pacific Bell Telephone Company dba AT&T California
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	75202
Affiliation Phone:	(469) 295-2319,
Affiliation Type Desc:	Parent Corporation
Entity Name:	Pacific Bell Telephone Company dba AT&T California
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Environmental Contact
Entity Name:	AT&T EH&S Hotline - Option #1
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	75202
Affiliation Phone:	,
Affiliation Type Desc:	Operator

AT&T CALIFORNIA - LE0EV (Continued) **S124443733**

Entity Name:	AT&T California
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(800) 566-9347,

A2 **LARRY HOBBS** **RCRA NonGen / NLR** **1026718925**
WSW **22455 CAMINITO ESTEBAN** **CAC003107534**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 1 of 12 in cluster A**

Relative: **Higher**
Actual: **382 ft.**

RCRA Listings:

Date Form Received by Agency:	20210226
Handler Name:	Larry Hobbs
Handler Address:	22455 CAMINITO ESTEBAN
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003107534
Contact Name:	LARRY HOBBS
Contact Address:	22455 CAMINITO ESTEBAN
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-510-4028
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22455 CAMINITO ESTEBAN
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Larry Hobbs
Owner Type:	Other
Operator Name:	Larry Hobbs
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---

LARRY HOBBS (Continued) **1026718925**

Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210226
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: LARRY HOBBS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22455 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-510-4028
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LARRY HOBBS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22455 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-510-4028
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210226
Handler Name: LARRY HOBBS	

LARRY HOBBS (Continued) **1026718925**

Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A3 **LARRY HOBBS** **RCRA NonGen / NLR** **1025859171**
WSW **22531 CAMINITO ESTEBAN** **CAC003039708**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 2 of 12 in cluster A**

Relative: **Higher**

Actual: **382 ft.**

RCRA Listings:

Date Form Received by Agency:	20191021
Handler Name:	Larry Hobbs
Handler Address:	22531 CAMINITO ESTEBAN
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003039708
Contact Name:	LARRY HOBBS
Contact Address:	22531 CAMINITO ESTEBAN
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-306-7278
Contact Fax:	Not reported
Contact Email:	ANAB@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22531 CAMINITO ESTEBAN
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Larry Hobbs
Owner Type:	Other
Operator Name:	Larry Hobbs
Operator Type:	Other

LARRY HOBBS (Continued) **1025859171**

Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20191025
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: LARRY HOBBS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22531 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-7278
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LARRY HOBBS	

LARRY HOBBS (Continued) **1025859171**

Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22531 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-7278
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20191021
Handler Name: LARRY HOBBS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A4 **PMP MANAGEMENT** **RCRA NonGen / NLR** **1027088692**
WSW **22482 CAMINITO ESTEBAN** **CAC003161128**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 3 of 12 in cluster A**

Relative: Higher

Actual: 382 ft.

RCRA Listings:

Date Form Received by Agency:	20220209
Handler Name:	Pmp Management
Handler Address:	22482 CAMINITO ESTEBAN
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003161128
Contact Name:	PMP MANAGEMENT
Contact Address:	100 PACIFICA # 350,
Contact City,State,Zip:	IRVINE, CA 92618
Contact Telephone:	949-218-9970
Contact Fax:	Not reported
Contact Email:	GMORENO@VIKINGENVIRO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported

PMP MANAGEMENT (Continued) **1027088692**

Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	100 PACIFICA # 350,
Mailing City,State,Zip:	IRVINE, CA 92618
Owner Name:	Pmp Management
Owner Type:	Other
Operator Name:	Pmp Management
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220209
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:
Owner/Operator Indicator: Operator

PMP MANAGEMENT (Continued) **1027088692**

Owner/Operator Name: PMP MANAGEMENT
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 100 PACIFICA # 350,
Owner/Operator City,State,Zip: IRVINE, CA 92618
Owner/Operator Telephone: 949-218-9970
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: PMP MANAGEMENT
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 100 PACIFICA # 350,
Owner/Operator City,State,Zip: IRVINE, CA 92618
Owner/Operator Telephone: 949-218-9970
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20220209
Handler Name: PMP MANAGEMENT
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A5 **BETTY FARRELL** **RCRA NonGen / NLR** **1026816972**
WSW **22456 CAMINITO ESTEBAN** **CAC003129712**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 4 of 12 in cluster A**

Relative:
Higher

Actual:
382 ft.

RCRA Listings:

Date Form Received by Agency:	20210716
Handler Name:	Betty Farrell
Handler Address:	22456 CAMINITO ESTEBAN
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003129712
Contact Name:	BETTY FARRELL
Contact Address:	22456 CAMINITO ESTEBAN
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-400-6875
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22456 CAMINITO ESTEBAN
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Assocation
Owner Type:	Other
Operator Name:	Betty Farrell
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

BETTY FARRELL (Continued) **1026816972**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210718
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	LAGUNA VILLAGE OWNERS ASSOCATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22456 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-400-6875
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	BETTY FARRELL
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22456 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-400-6875
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210716
Handler Name: BETTY FARRELL	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

BETTY FARRELL (Continued) **1026816972**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A6 **LAGUNA VILLAGE OWNERS' ASSOCIATION** **RCRA NonGen / NLR** **1028899127**
WSW **22522 CAMINITO ESTEBAN** **CAC003260827**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 5 of 12 in cluster A**

Relative: **Higher**
Actual: **382 ft.**

RCRA Listings:

Date Form Received by Agency:	20231113
Handler Name:	Laguna Village Owners' Association
Handler Address:	22522 CAMINITO ESTEBAN
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003260827
Contact Name:	DAVID RASHIDIAN
Contact Address:	22522 CAMINITO ESTEBAN
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-887-7996
Contact Fax:	Not reported
Contact Email:	GROSS@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23300 SANTA VITTORIA DR
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners' Association
Owner Type:	Other
Operator Name:	David Rashidian
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1028899127**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20231113
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: DAVID RASHIDIAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22522 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-887-7996
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS'	ASSOCIATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23300 SANTA VITTORIA DR
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-218-9970
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1028899127**

Historic Generators:
Receive Date: 20231113
Handler Name: LAGUNA VILLAGE OWNERS' ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A7 **YUNKEZHU** **RCRA NonGen / NLR** **1027457322**
WSW **22482 CAMINITO ESTEBAN** **CAC003195597**
< 1/8 **LAGUNA HILLS, CA 92652**
0.079 mi.
416 ft. **Site 6 of 12 in cluster A**

Relative: **Higher**
Actual: **382 ft.**

RCRA Listings:
Date Form Received by Agency: 20220920
Handler Name: Yunkezhu
Handler Address: 22482 CAMINITO ESTEBAN
Handler City,State,Zip: LAGUNA HILLS, CA 92652
EPA ID: CAC003195597
Contact Name: YUNKE ZHU
Contact Address: 22482 CAMINITO ESTEBAN
Contact City,State,Zip: LAGUNA HILLS, CA 92652
Contact Telephone: 949-257-5499
Contact Fax: Not reported
Contact Email: AGILG@VIKINGENVIRO.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 22482 CAMINITO ESTEBAN
Mailing City,State,Zip: LAGUNA HILLS, CA 92652
Owner Name: Yunke Zhu

YUNKEZHU (Continued) **1027457322**

Owner Type:	Other
Operator Name:	Yunke Zhu
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220921
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: YUNKE ZHU	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22482 CAMINITO ESTEBAN
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92652
Owner/Operator Telephone:	949-257-5499
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

YUNKEZHU (Continued) **1027457322**

Owner/Operator Indicator: Operator
Owner/Operator Name: YUNKE ZHU
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22482 CAMINITO ESTEBAN
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92652
Owner/Operator Telephone: 949-257-5499
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20220920
Handler Name: YUNKEZHU
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A8 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027680894**
WSW **22511 CAMINITO ESTEBAN** **CAC003222648**
< 1/8 **LAGUNA HILLS, CA 92653**
0.079 mi.
416 ft. **Site 7 of 12 in cluster A**

Relative:
Higher

Actual:
382 ft.

RCRA Listings:
Date Form Received by Agency: 20230315
Handler Name: Laguna Village Owners Association
Handler Address: 22511 CAMINITO ESTEBAN
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003222648
Contact Name: FIONA AU
Contact Address: 22511 CAMINITO ESTEBAN
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 714-686-0806
Contact Fax: Not reported
Contact Email: GROSS@PMPMANAGE.COM
Contact Title: Not reported

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027680894**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22511 CAMINITO ESTEBAN
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	Fiona Au
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230315
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027680894**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: FIONA AU
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22511 CAMINITO ESTEBAN
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-686-0806
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22511 CAMINITO ESTEBAN
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-686-0806
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230315
Handler Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B9
SSW
< 1/8
0.099 mi.
525 ft.

MOBIL OIL STATION
23431 MILL CREEK DR
LAGUNA HILLS, CA 92653

Site 1 of 2 in cluster B

EDR Hist Auto **1021642761**
N/A

Relative:
Higher

Actual:
363 ft.

EDR Hist Auto

Year:	Name:	Type:
2001	MOBIL OIL STATION	Gasoline Service Stations
2002	MOBIL OIL STATION	Gasoline Service Stations

A10
SW
< 1/8
0.100 mi.
529 ft.

LAGUNA VILLAGE OWNERS ASSOCIATION
23202 CAMINITO ANDRETA
LAGUNA HILLS, CA 92653

Site 8 of 12 in cluster A

RCRA NonGen / NLR **1027687123**
CAC003229337

Relative:
Higher

Actual:
378 ft.

RCRA Listings:

Date Form Received by Agency:	20230425
Handler Name:	Laguna Village Owners Association
Handler Address:	23202 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003229337
Contact Name:	DAVID MCVEY
Contact Address:	23202 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-355-0512
Contact Fax:	Not reported
Contact Email:	GROSS@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23202 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	David Mcvey
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027687123**

Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230425
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23202 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-355-0512
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	DAVID MCVEY
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23202 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-355-0512
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230425
Handler Name:	LAGUNA VILLAGE OWNERS ASSOCIATION

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027687123**

Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A11 **ADAM PADILLA** **RCRA NonGen / NLR** **1028894691**
SW **23201 CAMINITO ANDRETA** **CAC003256056**
< 1/8 **LAGUNA HILLS, CA 92653**
0.100 mi.
529 ft. **Site 9 of 12 in cluster A**

Relative: **Higher**

Actual: **378 ft.**

RCRA Listings:

Date Form Received by Agency:	20231011
Handler Name:	Adam Padilla
Handler Address:	23201 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003256056
Contact Name:	ADAM PADILLA
Contact Address:	23201 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	626-825-3893
Contact Fax:	Not reported
Contact Email:	CMCGUIRE@RMC.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23201 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Adam Padilla
Owner Type:	Other
Operator Name:	Adam Padilla
Operator Type:	Other

ADAM PADILLA (Continued) **1028894691**

Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20231011
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: ADAM PADILLA	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23201 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	626-825-3893
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: ADAM PADILLA	

ADAM PADILLA (Continued) **1028894691**

Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23201 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	626-825-3893
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20231011
Handler Name: ADAM PADILLA	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A12 **JEFF ORTIZ** **RCRA NonGen / NLR** **1026047004**
SW **23262 CAMINITO ANDRETA** **CAC003053520**
< 1/8 **LAGUNA HILLS, CA 92653**
0.100 mi.
529 ft. **Site 10 of 12 in cluster A**

Relative:
Higher

Actual:
378 ft.

RCRA Listings:

Date Form Received by Agency:	20200130
Handler Name:	Jeff Ortiz
Handler Address:	23262 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003053520
Contact Name:	JEFF ORTIZ
Contact Address:	23262 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-874-8784
Contact Fax:	Not reported
Contact Email:	NANCYRUIZ@ALLIANCE-ENVIRO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported

JEFF ORTIZ (Continued) **1026047004**

Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23262 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Jeff Ortiz
Owner Type:	Other
Operator Name:	Jeff Ortiz
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200210
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:
Owner/Operator Indicator: Operator

JEFF ORTIZ (Continued) **1026047004**

Owner/Operator Name: JEFF ORTIZ
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23262 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-874-8784
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: JEFF ORTIZ
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23262 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-874-8784
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20200130
Handler Name: JEFF ORTIZ
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A13 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027679516**
SW **23202 CAMINITO ANDRETA** **CAC003221148**
< 1/8 **LAGUNA HILLS, CA 92653**
0.100 mi.
529 ft. **Site 11 of 12 in cluster A**

Relative:
Higher

Actual:
378 ft.

RCRA Listings:

Date Form Received by Agency:	20230307
Handler Name:	Laguna Village Owners Association
Handler Address:	23202 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003221148
Contact Name:	DAVID MCVEY
Contact Address:	23202 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-355-0512
Contact Fax:	Not reported
Contact Email:	GROSS@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23202 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	David Mcvey
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027679516**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230307
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: DAVID MCVEY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23202 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-355-0512
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS ASSOCIATION	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23202 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-355-0512
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230307
Handler Name: LAGUNA VILLAGE OWNERS ASSOCIATION	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027679516**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A14 **HAGERTY THOMAS** **RCRA NonGen / NLR** **1027453233**
SW **23271 CAMINITO ANDRETA** **CAC003191266**
< 1/8 **LAGUNA HILLS, CA 92653**
0.100 mi.
529 ft. **Site 12 of 12 in cluster A**

Relative: **Higher**
Actual: **378 ft.**

RCRA Listings:

Date Form Received by Agency:	20220822
Handler Name:	Hagerty Thomas
Handler Address:	23271 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003191266
Contact Name:	HAGERTY THOMAS
Contact Address:	23271 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	714-334-4725
Contact Fax:	Not reported
Contact Email:	AOROZCO@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23271 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Hagerty Thomas
Owner Type:	Other
Operator Name:	Hagerty Thomas
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

HAGERTY THOMAS (Continued) **1027453233**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220822
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: HAGERTY THOMAS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23271 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-334-4725
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: HAGERTY THOMAS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23271 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-334-4725
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

HAGERTY THOMAS (Continued) **1027453233**

Historic Generators:
- Receive Date: 20220822
- Handler Name: HAGERTY THOMAS
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: No
- Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

C15 **WHEELCHAIR VANS INC** **RCRA NonGen / NLR** **1027469451**
NE **22692 GRANITE WAY STE A** **CAL000473879**
< 1/8 **LAGUNA HILLS, CA 92653**
0.103 mi.
542 ft. **Site 1 of 10 in cluster C**

Relative: **Lower**
Actual: **247 ft.**

RCRA Listings:
- Date Form Received by Agency: 20221014
- Handler Name: Wheelchair Vans Inc
- Handler Address: 22692 GRANITE WAY STE A
- Handler City,State,Zip: LAGUNA HILLS, CA 92653
- EPA ID: CAL000473879
- Contact Name: JOEY ZAMEER
- Contact Address: 22692 GRANITE WAY STE A
- Contact City,State,Zip: LAGUNA HILLS, CA 92653
- Contact Telephone: 949-664-1146
- Contact Fax: Not reported
- Contact Email: JOEY@949VANS.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 22692 GRANITE WAY STE A
- Mailing City,State,Zip: LAGUNA HILLS, CA 92653
- Owner Name: Wheelchair Vans Inc

WHEELCHAIR VANS INC (Continued) **1027469451**

Owner Type:	Other
Operator Name:	Joey Zameer
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20221016
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: WHEELCHAIR VANS INC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22692 GRANITE WAY STE A
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-664-0294
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

WHEELCHAIR VANS INC (Continued) **1027469451**

Owner/Operator Indicator: Operator
Owner/Operator Name: JOEY ZAMEER
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22692 GRANITE WAY STE A
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-664-1146
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20221014
Handler Name: WHEELCHAIR VANS INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 441120
NAICS Description: USED CAR DEALERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C16 **ALFA PERFORMANCE CONNECTION** **RCRA-SQG** **1000905564**
NE **22692 GRANITE WY** **FINDS** **CA0000860734**
< 1/8 **LAGUNA HILLS, CA 92653** **ECHO**
0.103 mi.
542 ft. **Site 2 of 10 in cluster C**

Relative: **Lower**
Actual: **247 ft.**

RCRA Listings:
Date Form Received by Agency: 19941003
Handler Name: Alfa Performance Connection
Handler Address: GRANITE WY
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CA0000860734
Contact Name: CAROLE SANDEMAN
Contact Address: 22692 GRANITE WY
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 714-588-0500
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported

ALFA PERFORMANCE CONNECTION (Continued) **1000905564**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	GRANITE WY
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Carole Sandeman
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

ALFA PERFORMANCE CONNECTION (Continued) **1000905564**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: CAROLE SANDEMAN
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22692
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-588-0500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19941003
Handler Name: ALFA PERFORMANCE CONNECTION
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002620441

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000905564

ALFA PERFORMANCE CONNECTION (Continued) **1000905564**

Registry ID:	110002620441
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002620441
Name:	ALFA PERFORMANCE CONNECTION
Address:	22692 GRANITE WY
City,State,Zip:	LAGUNA HILLS, CA 92653

B17 **NATHAN LITINSKI** **RCRA NonGen / NLR** **1025840506**
SSW **23291 MILL CREEK** **CAC003020111**
< 1/8 **LAGUNA HILLS, CA 92653**
0.123 mi.
650 ft. **Site 2 of 2 in cluster B**

Relative: **Higher**
Actual: **363 ft.**

RCRA Listings:

Date Form Received by Agency:	20190617
Handler Name:	Nathan Litinski
Handler Address:	23291 MILL CREEK
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003020111
Contact Name:	NATHAN LITINSKI
Contact Address:	23142 ALCALDE DR, SUITE A
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-678-9411
Contact Fax:	Not reported
Contact Email:	NATHAN@MATCOCOMPONENTS.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23291 MILL CREEK
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Nathan Litinski
Owner Type:	Other
Operator Name:	Nathan Litinski
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline

NATHAN LITINSKI (Continued) **1025840506**

2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: NATHAN LITINSKI	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23142 ALCALDE DR, SUITE A
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-678-9411
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: NATHAN LITINSKI	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23142 ALCALDE DR, SUITE A
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-678-9411
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20190617
Handler Name: NATHAN LITINSKI	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No

NATHAN LITINSKI (Continued) **1025840506**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C18 **LAGUNA HILLS BUSINESS PARK** **UST** **U003778773**
NE **22732 GRANITE WAY** **N/A**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.130 mi.
687 ft. **Site 3 of 10 in cluster C**

Relative: **Lower**
Actual: **247 ft.**

UST:
Name: LAGUNA HILLS BUSINESS PARK
Address: 22732 GRANITE WAY
City,State,Zip: LAGUNA HILLS, CA 92653
Facility ID: 10667
Permitting Agency: ORANGE COUNTY
CERSID: Not reported
Latitude: 33.6287509
Longitude: -117.731839
Owner type: Not reported
Facility type: Not reported
Num of inuse ust: Not reported
Num of closed ust: Not reported
Num of oos ust: Not reported
Epa region: Not reported
Tribal lands: Not reported
Tank owner name: Not reported
Tank owner mailing address: Not reported
Tank owner mailing city: Not reported
Tank owner mailing zip: Not reported
Tank owner mailing state: Not reported
Tank operator name: Not reported
Tank operator mailing address: Not reported
Tank operator mailing city: Not reported
Tank operator mailing zip: Not reported
Tank operator mailing state: Not reported
Tankidnumber: Not reported
Tank status: Not reported
Tank configuration: Not reported
Tank closure date: Not reported
Tank installation date: Not reported
Tank num of compartments: Not reported

LAGUNA HILLS BUSINESS PARK (Continued) **U003778773**

Tank contents:	Not reported
Tank capacity gallons:	Not reported
Tank type:	Not reported
Tank pc construction:	Not reported
Tank pwpiping construction:	Not reported
Tank piping type:	Not reported
Tank piping construction:	Not reported
Tank sacrificial anode:	Not reported
Tank cp impressed current:	Not reported
Tank cp shutoff:	Not reported
Tank alarms:	Not reported
Tank ball float:	Not reported
Tank spill bucket:	Not reported

D19 **TERRI BOYKIN** **RCRA NonGen / NLR** **1027074662**
NNE **22982 MILL CREEK DR.** **CAC003146359**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.134 mi.
707 ft. **Site 1 of 2 in cluster D**

Relative: **Lower**
Actual: **247 ft.**

RCRA Listings:

Date Form Received by Agency:	20211102
Handler Name:	Terri Boykin
Handler Address:	22982 MILL CREEK DR.
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003146359
Contact Name:	TERRI BOYKIN
Contact Address:	22982 MILL CREEK DR.
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-380-0300
Contact Fax:	Not reported
Contact Email:	MARIA.TEECOR@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22982 MILL CREEK DR.
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Terri Boykin
Owner Type:	Other
Operator Name:	Terri Boykin
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No

TERRI BOYKIN (Continued) **1027074662**

Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211102
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: TERRI BOYKIN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22982 MILL CREEK DR.
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-380-0300
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: TERRI BOYKIN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22982 MILL CREEK DR.
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-380-0300
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

TERRI BOYKIN (Continued) **1027074662**

Historic Generators:
- Receive Date: 20211102
- Handler Name: TERRI BOYKIN
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: No
- Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

D20 **TERIBOY KIN** **RCRA NonGen / NLR** **1027076298**
NNE **22982 MILL CREEK DRIVE** **CAC003148081**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.134 mi.
707 ft. **Site 2 of 2 in cluster D**

Relative: **Lower**
Actual: **247 ft.**

RCRA Listings:
- Date Form Received by Agency: 20211111
- Handler Name: Teriboy Kin
- Handler Address: 22982 MILL CREEK DRIVE
- Handler City,State,Zip: LAGUNA HILLS, CA 92653
- EPA ID: CAC003148081
- Contact Name: TERIBOY KIN
- Contact Address: 22982 MILL CREEK DRIVE
- Contact City,State,Zip: LAGUNA HILLS, CA 92653
- Contact Telephone: 949-466-9745
- Contact Fax: Not reported
- Contact Email: MARIA.TEECOR@YAHOO.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 22982 MILL CREEK DRIVE
- Mailing City,State,Zip: LAGUNA HILLS, CA 92653
- Owner Name: Teriboy Kin

TERIBOY KIN (Continued) **1027076298**

Owner Type:	Other
Operator Name:	Teriboy Kin
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211111
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: TERIBOY KIN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22982 MILL CREEK DRIVE
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-466-9745
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

TERIBOY KIN (Continued) **1027076298**

Owner/Operator Indicator: Owner
Owner/Operator Name: TERIBOY KIN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22982 MILL CREEK DRIVE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-466-9745
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20211111
Handler Name: TERIBOY KIN
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

21
WNW
1/8-1/4
0.136 mi.
719 ft.

LESA WEINERT **RCRA NonGen / NLR** **1026041845**
22421 CAMINITO GRANDE **CAC003048009**
LAGUNA HILLS, CA 92653

Relative:
Lower

Actual:
238 ft.

RCRA Listings:
Date Form Received by Agency: 20191219
Handler Name: Lesa Weinert
Handler Address: 22421 CAMINITO GRANDE
Handler City,State,Zip: LAGUNA HILLS, CA 92653-1134
EPA ID: CAC003048009
Contact Name: LESA WEINERT
Contact Address: 22421 CAMINITO GRANDE
Contact City,State,Zip: LAGUNA HILLS, CA 92653-1134
Contact Telephone: 949-322-3553
Contact Fax: Not reported
Contact Email: KRISTINE.RAMOS@PEAS1.COM
Contact Title: Not reported

LESA WEINERT (Continued) **1026041845**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22421 CAMINITO GRANDE
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653-1134
Owner Name:	Lesa Weinert
Owner Type:	Other
Operator Name:	Lesa Weinert
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200210
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LESA WEINERT (Continued) **1026041845**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: LESA WEINERT
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22421 CAMINITO GRANDE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-1134
Owner/Operator Telephone: 949-322-3553
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: LESA WEINERT
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22421 CAMINITO GRANDE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-1134
Owner/Operator Telephone: 949-322-3553
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20191219
Handler Name: LESA WEINERT
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C22 **HUKILL CUSTOM PAINT/GRAPHICS** **RCRA NonGen / NLR** **1024802107**
NNE **22681 GRANITE WAY** **CAL000238023**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.138 mi.
727 ft. **Site 4 of 10 in cluster C**

Relative:
Lower

Actual:
244 ft.

RCRA Listings:

Date Form Received by Agency:	20011126
Handler Name:	Hukill Custom Paint/Graphics
Handler Address:	22681 GRANITE WAY
Handler City,State,Zip:	LAGUNA HILLS, CA 92653-1201
EPA ID:	CAL000238023
Contact Name:	CHRIS HUKILL
Contact Address:	22681 GRANITE WAY
Contact City,State,Zip:	LAGUNA HILLS, CA 92653-1201
Contact Telephone:	949-933-3301
Contact Fax:	Not reported
Contact Email:	CEHUKILL@AOL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22681 GRANITE WAY
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653-1201
Owner Name:	Hukill Custom Paint
Owner Type:	Other
Operator Name:	Chris Hukill
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

HUKILL CUSTOM PAINT/GRAPHICS (Continued) **1024802107**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180905
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: CHRIS HUKILL	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22681 GRANITE WAY
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1201
Owner/Operator Telephone:	949-933-3301
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: HUKILL CUSTOM PAINT	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22681 GRANITE WAY
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1201
Owner/Operator Telephone:	949-380-3933
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20011126
Handler Name: HUKILL CUSTOM PAINT/GRAPHICS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

HUKILL CUSTOM PAINT/GRAPHICS (Continued) **1024802107**

List of NAICS Codes and Descriptions:
NAICS Code: 3133
NAICS Description: TEXTILE AND FABRIC FINISHING AND FABRIC COATING MILLS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C23 **VISION MOTORSPORTS INC** **RCRA NonGen / NLR** **1024800787**
NNE **22681 GRANITE WAY** **CAL000222292**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.138 mi.
727 ft. **Site 5 of 10 in cluster C**

Relative: **Lower**
Actual: **244 ft.**

RCRA Listings:

Date Form Received by Agency:	20230829
Handler Name:	Vision Motorsports Inc
Handler Address:	GRANITE WAY
Handler City,State,Zip:	LAGUNA HILLS, CA 92653-0000
EPA ID:	CAL000222292
Contact Name:	DWAIN DEMENT-OWNER
Contact Address:	22681 GRANITE WAY
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-770-2421
Contact Fax:	949-770-2726
Contact Email:	TESS@VISIONMOTORSPORTS.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Other
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	GRANITE WAY
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653-0000
Owner Name:	Vision Motorsports Inc
Owner Type:	Other
Operator Name:	Vision Motorsports Inc
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

VISION MOTORSPORTS INC (Continued) **1024800787**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230829
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: VISION MOTORSPORTS INC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22681 GRANITE WAY
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-0000
Owner/Operator Telephone:	949-770-2421
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: VISION MOTORSPORTS INC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22681 GRANITE WAY
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-0000
Owner/Operator Telephone:	949-770-2888
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator

VISION MOTORSPORTS INC (Continued) **1024800787**

Owner/Operator Name: DWAIN DEMENT-OWNER
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22681 GRANITE WAY
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-770-2421
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: VISION MOTORSPORTS INC
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22681 GRANITE WAY
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-0000
Owner/Operator Telephone: 949-770-2421
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20010627
Handler Name: VISION MOTORSPORTS INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20230829
Handler Name: VISION MOTORSPORTS INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

VISION MOTORSPORTS INC (Continued) **1024800787**

Evaluation Action Summary:
Evaluations: No Evaluations Found

C24 **AUTOBODY BY CALDWELL INC** **CERS HAZ WASTE** **S113035990**
NNE **22681 GRANITE WAY** **HWTS** **N/A**
1/8-1/4 **LAGUNA HILLS, CA 92653** **HAZNET**
0.138 mi. **CERS**
727 ft. **Site 6 of 10 in cluster C**

Relative:
Lower

Actual:
244 ft.

CERS HAZ WASTE:
Name: VISION MOTORSPORTS
Address: 22681 GRANITE WAY
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 361671
CERS ID: 10547620
CERS Description: Hazardous Waste Generator

HWTS:
Name: AUTOBODY BY CALDWELL INC
Address: 22681 GRANITE WAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAL000036391
Inactive Date: 06/30/2001
Create Date: 07/05/1990
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 22772 GRANITE WAY
Mailing Address 2: Not reported
Mailing City,State,Zip: LAGUNA HILLS, CA 926530000
Owner Name: JACK CALDWELL
Owner Address: 22681 GRANITE WAY
Owner Address 2: Not reported
Owner City,State,Zip: LAGUNA HILLS, CA 926531201
Owner Phone: Not reported
Owner Fax: Not reported
Contact Name: KEVIN CALDWELL
Contact Address: INACTIVE PER VQ01 - BMI
Contact Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 926531201
Contact Phone: Not reported
Contact Fax: Not reported
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 33.627693
Longitude: -117.733147

NAICS:
EPA ID: CAL000036391
Create Date: 2002-03-14 16:36:27.000
NAICS Code: 811121
NAICS Description: Automotive Body, Paint, and Interior Repair and Maintenance
Issued EPA ID Date: 1990-07-05 00:00:00
Inactive Date: 2001-06-30 00:00:00
Facility Name: AUTOBODY BY CALDWELL INC

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Facility Address: 22681 GRANITE WAY
Facility Address 2: Not reported
Facility City: LAGUNA HILLS
Facility County: Not reported
Facility State: CA
Facility Zip: 926530000

HAZNET:
Name: AUTOBODY BY CALDWELL INC
Address: 22681 GRANITE WAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 926530000
Contact: KEVIN CALDWELL
Telephone: --
Mailing Name: Not reported
Mailing Address: 22772 GRANITE WAY

Year: 1999
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.417

Year: 1997
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.2293

Year: 1996
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.4378

Year: 1995
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 135 - Unspecified aqueous solution
Disposal Method: R01 - Recycler
Tons: 0.294

Year: 1994
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 135 - Unspecified aqueous solution
Disposal Method: R01 - Recycler
Tons: 0.231

Year: 1993
Gepaid: CAL000036391
TSD EPA ID: CAT080013352
CA Waste Code: 135 - Unspecified aqueous solution

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Disposal Method: -
Tons: 0.189

Year: 1993
Gepaid: CAL000036391
TSD EPA ID: CAD008252405
CA Waste Code: 214 - Unspecified solvent mixture
Disposal Method: -
Tons: 0.1116

Year: 1993
Gepaid: CAL000036391
TSD EPA ID: CAD008252405
CA Waste Code: 214 - Unspecified solvent mixture
Disposal Method: R01 - Recycler
Tons: 0.4392

Year: 1992
Gepaid: CAL000036391
TSD EPA ID: CAD008252405
CA Waste Code: 214 - Unspecified solvent mixture
Disposal Method: R01 - Recycler
Tons: 0.4169

Year: 1992
Gepaid: CAL000036391
TSD EPA ID: CAD008252405
CA Waste Code: 461 - Paint sludge
Disposal Method: R01 - Recycler
Tons: 0.0667

Click this hyperlink while viewing on your computer to access
4 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 1999
Gen EPA ID: CAL000036391

Shipment Date: 19990104
Creation Date: 3/15/1999 0:00:00
Receipt Date: 19990105
Manifest ID: 98851226
Trans EPA ID: CAD028277036
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAT080013352
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 133 - Aqueous solution with 10% or more total organic residues
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 0.417
Waste Quantity: 100
Quantity Unit: G

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1997
Gen EPA ID:	CAL000036391
Shipment Date:	19970721
Creation Date:	12/4/1997 0:00:00
Receipt Date:	19970721
Manifest ID:	96819020
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	133 - Aqueous solution with 10% or more total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.2293
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1996
Gen EPA ID:	CAL000036391
Shipment Date:	19960917
Creation Date:	5/20/1997 0:00:00
Receipt Date:	19960917
Manifest ID:	96002651
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	133 - Aqueous solution with 10% or more total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.2293
Waste Quantity:	55
Quantity Unit:	G

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19960215
Creation Date:	10/10/1996 0:00:00
Receipt Date:	19960216
Manifest ID:	95811886
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	133 - Aqueous solution with 10% or more total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.2085
Waste Quantity:	50
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1995
Gen EPA ID:	CAL000036391
Shipment Date:	19950405
Creation Date:	3/29/1996 0:00:00
Receipt Date:	19950406
Manifest ID:	93720714
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.294
Waste Quantity:	70
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Additional Info:

Year:	1994
Gen EPA ID:	CAL000036391
Shipment Date:	19940428
Creation Date:	3/25/1996 0:00:00
Receipt Date:	19940429
Manifest ID:	93327474
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.231
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1993
Gen EPA ID:	CAL000036391
Shipment Date:	19931026
Creation Date:	9/12/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	93232892
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.189
Waste Quantity:	45
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Shipment Date:	19930621
Creation Date:	9/11/1995 0:00:00
Receipt Date:	19930621
Manifest ID:	92598727
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008252405
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.0576
Waste Quantity:	16
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19930621
Creation Date:	9/11/1995 0:00:00
Receipt Date:	19930621
Manifest ID:	92598727
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008252405
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.108
Waste Quantity:	30
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19930514
Creation Date:	9/7/1995 0:00:00
Receipt Date:	19930514
Manifest ID:	92515974
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008252405
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.0576
Waste Quantity:	16
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19930409
Creation Date:	9/6/1995 0:00:00
Receipt Date:	19930414
Manifest ID:	92039338
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.0576
Waste Quantity:	16
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19930305
Creation Date:	9/1/1995 0:00:00
Receipt Date:	19930305
Manifest ID:	92037362
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.216
Waste Quantity:	60
Quantity Unit:	G

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19930305
Creation Date:	9/1/1995 0:00:00
Receipt Date:	19930305
Manifest ID:	92037362
Trans EPA ID:	CAD008252405
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.054
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	VISION MOTORSPORTS
Address:	22681 GRANITE WAY
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	361671
CERS ID:	10547620
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	361671
Site Name:	VISION MOTORSPORTS
Violation Date:	04-19-2023
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Facility has not conducted their annual hazardous material business plan training (e.g. emergency response procedures, spill/release notification, spill procedures etc.).
Violation Division:	Orange County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	361671
Site Name:	VISION MOTORSPORTS

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Violation Date: 01-13-2017
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 01/13/2017. Accumulation dates on the waste oil and radiator coolant were faded, discussed and labeled this date the required labeling requirements. Violation abated at this time.
Violation Division: Orange County Environmental Health
Violation Program: HW
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 07-25-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: 2018 HMBEP Annual Certification Approval. The following documents were received and ACCEPTED on CERS: Business Activities, Business Ownership Information, Chemical Inventory, Facility Site Map, Emergency Plan. Cal EPA recently replaced the previous five federal hazard categories with twenty-four new federal hazard categories, these categories for all of your disclosed hazardous materials are required to by updated to the new classification. Your hazardous materials inventory forms are conditionally accepted but must be updated with new categories in your next submission. For Argon/CO2 disclosure, uncheck the obsolete federal hazard categories and check the gas under pressure and simple asphyxiant under the new hazard categories. For motor oil/waste oil disclosure, uncheck the obsolete federal hazard categories and check the specific target organ toxicity , skin irritation and carcinogen under the new hazard categories. For ethylene glycol radiator coolant / [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-21-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed and declined disclosure in e submit. The only item that needs more attention is section III of the emergency plan. Include in the verbiage that annual training is provided employees regarding the topics mentioned in section III. re submit disclosure after modifications have been performed.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-31-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: File review and clarifications regarding submittal.

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-19-2023
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for a routine Hazardous Waste inspection. Consent to enter and inspect was granted by Steve Burrell. inspected the hazardous waste storage area. Containers were closed and properly labeled. Inspected the municipal trash for hazardous waste. No hazardous waste was observed in the dumpster. Manifests were reviewed. No hazardous waste violations were noted on this date. Emailed a copy of this report to steve@visionmotorsports.com
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 05-21-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed and accepted submittal in e submit.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-23-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed and accepted re submittal in e submit
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-05-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: partial review of re submittal
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-13-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection this date, consent to enter, inspect and take photographs was given by - Tess Dement The HMBEP has been submitted through E-submit, and it has been transferred to CERS. The submittal was modified for accuracy and resubmitted for 2017 confermation. Employee Business Emergency Plan Training was reviewed this date. Safety/cleanup equipment is available. Hazardous

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

materials storage area were reviewed at this time. The facility has the following hazardous materials that exceed the required disclosure quantities: **Please note, you are required to review the submittal yearly and resubmit prior to March 1st each year. You will get communication (probably email) indicating you should go in and review and resubmit around January of each year as a reminder. Emailed copy of inspection this date.

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-19-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Dwain Dement granted consent to conduct inspection. I walked through facility and inspected hazardous material storage areas throughout facility. There has been no changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period. Argon, nitrogen and carbon dioxide gases stored on site are below disclosure threshold. New motor oil, 55 gallons, is exempt from reporting. Facility stores the following hazardous materials at disclosure threshold: - 55 gallons of waste antifreeze - 100 gallons of waste oil Hazardous materials management training is provided annually. A new Emergency Response Notification & Contingency Plan card was provided to be filled out and posted.

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-08-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for inspection. Toured facility with the latest disclosed site map. Locations for the disclosed items appeared to be accurate. Observed the following hazardous materials stored at or above disclosure threshold: 55 gallons of new oil 55 gallons of waste oil 55 gallons of waste coolant 280 cubic feet of argon/CO2 Reviewed latest rejected disclosure in e submit. Demonstrated how to navigate the portal. Explained to Tess (business submitter) what the existing requirements were. Updated the chemical inventory and business emergency plan on site. Informed her that emergency shut offs (electrical, water and natural gas), sewer/storm drains and emergency response equipment (absorbent/fire suppression) are missing and need to be added to the site map.

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-13-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted this date in regards to hazardous waste,

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

consent to enter, inspect and take photographs was given by Dwain Dement/Tess Dement Hazardous waste containers on-site this date consisted of: waste oil, waste antifreeze, waste soap based cleaners with oil, waste oil filters The containers are in compliance with all applicable labeling requirements this date, the drums were labeled during the inspection see abated violation. Per Tess, employees receive Hazardous Waste Management Training on the job. Consolidated waste receipts/ manifests were reviewed this date. Hazardous Waste Emergency Response information and was posted. Inspected municipal trash dumpster and area, no apparent hazardous waste in this area. Perimeter of facility inspected, no water runoff or staining noted at this time. Discussed Hazardous Waste Program, Hazardous Materials Program, and Management of Universal Waste. E-mailed copy of report this [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-28-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspected perimeter of facility including the dumpster area. Permission to inspect and take necessary photos granted by Dwain Dement. Hazardous waste properly stored and identified. Documentation for hazardous waste pickup reviewed on site. Hazardous waste emergency response sticker completed and posted on site. No violations noted at this time.

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 01-28-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: On site for initial hazardous materials and business emergency plan inspection. Observed the facility and inspected hazardous materials storage. The following hazardous materials were observed in amounts that exceed the required disclosure quantities: - One 55 gallon drum of used radiator coolant - One 120 gallon AST of waste oil - Various compressed gas cylinders - One 55 gallon container containers of new oil This report serves as notice that the facility must submit the following documents electronically within 30 days of this report: - Business Emergency Plan - Hazardous Materials Chemical Inventory - Site Map The facility is responsible for identifying all hazardous materials, to include hazardous wastes, which are above the disclosure thresholds. If there is a change in the type or amount of chemicals that are maintained on site, please submit revised documents (electronically) within 30 days of the change. The E-Submit portal for [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 01-19-2017

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: accepted submittal for 2017
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-19-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct routine hazardous waste inspection. Dwain Dement granted consent to conduct inspection. I walked through facility, perimeter and inspected waste storage area. I did not observe any hazardous waste in trash cans throughout facility. Waste oil is stored in an aboveground tank that is closed and labeled. Waste antifreeze (1) and used oil filter (1) drums are stored closed and labeled. Manifests were reviewed. A new Emergency Response Notification & Contingency Plan card was provided to be filled out and posted.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-19-2023
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: On site for a routine inspection. Consent to enter and inspect was granted by Steve Burrell. Verified Hazardous Material Business Plan (HMBP) components submitted in the California Environmental Reporting System (CERS). Emailed a copy of this report to steve@visionmotorsports.com
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-11-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed HMBEP submission package on eSubmit Portal, DENIED. Request for re-submittal this date. Reviewed submittal. The following needs to be added or modified to the disclosure: Box II A needs to be checked on the business activities form. The disclosure has just one chemical listed (oil/coolant mixture). During an on site audit performed on 1-28-14 it was noted that there is a 55 gallon drum of used radiator coolant, a 120 gallon AST of waste oil, a 55 gallon container of new oil and various compressed gas cylinders. Liquids 55 gallons or more and most compressed gas cylinders 200 cubic feet or more need to be disclosed. * Add all of these to the disclosure. Box II C of the business emergency plan needs to include verbiage stating the process of stopping, cleaning and disposing any release. Add locations of storm drains/sewers, electrical panel and natural gas & water shut-offs Re submit disclosure with modifications.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-07-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed and declined re submittal. Also spoke with Tess (person that submitted disclosure). The following needs to be added or modified to the disclosure: The disclosure has just one chemical listed (oil/coolant mixture). I appears that the following needs to be disclosed Waste oil Waste coolant New oil Double check the storage on site. If new coolant on site is (or will ever be) 55 gallons or greater, it will need to be disclosed. Any compressed gases 200 cubic feet or greater will also need to be disclosed. Box II f of the business emergency plan is blank. Answer the question(s) above the box. Add locations of storm drains/sewers, electrical panel, natural gas & water shut-offs, and any emergency response equipment (absorbent/spill kit) to the site map. Re submit disclosure after modifications are completed
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Coordinates:
Site ID: 361671
Facility Name: VISION MOTORSPORTS
Env Int Type Code: HWG
Program ID: 10547620
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.628170
Longitude: -117.734030

Affiliation:
Affiliation Type Desc: Legal Owner
Entity Name: VISION MOTORSPORTS INC
Entity Title: Not reported
Affiliation Address: 3491 75th Street West
Affiliation City: Rosamond
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 93560
Affiliation Phone: (949) 770-2888,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 22681 GRANITE WAY
Affiliation City: LAGUNA HILLS
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92653
Affiliation Phone: ,

Affiliation Type Desc: CUPA District
Entity Name: Orange County Env Health

AUTOBODY BY CALDWELL INC (Continued) **S113035990**

Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6406,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Dwain Dement
Entity Title:	Not reported
Affiliation Address:	22681 Granite Way
Affiliation City:	Laguna Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	Dwain Dement
Entity Title:	Owner
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	Vision Motorsports, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 770-2888,
Affiliation Type Desc:	Parent Corporation
Entity Name:	VISION MOTORSPORTS
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Document Preparer
Entity Name:	Dwain Dement
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

E25
SW
1/8-1/4
0.138 mi.
728 ft.

SABRINA J HOLGUIN-KERBY AND ALEXANDRA N HOLGUIN-KE
23225 CAMINITO MARCIAL #105
LAGUNA HILLS, CA 92653

Site 1 of 11 in cluster E

RCRA NonGen / NLR

1026475259
CAC003080999

Relative:
Higher

Actual:
380 ft.

RCRA Listings:

Date Form Received by Agency:	20200826
Handler Name:	Sabrina J Holguin-Kerby And Alexandra N Holguin-Kerby
Handler Address:	23225 CAMINITO MARCIAL #105
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003080999
Contact Name:	SABRINA HOLGUIN-KERBY
Contact Address:	23225 CAMINITO MARCIAL #105
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	714-315-3685
Contact Fax:	Not reported
Contact Email:	FAVILA@BURNS-ENVIRO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23225 CAMINITO MARCIAL #105
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Sabrina J Holguin-Kerby And Alexand
Owner Type:	Other
Operator Name:	Sabrina Holguin-Kerby
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

SABRINA J HOLGUIN-KERBY AND ALEXANDRA N HOLGUIN-KERBY (Continued) **1026475259**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200904
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SABRINA J HOLGUIN-KERBY AND ALEXAND
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23225 CAMINITO MARCIAL #105
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-315-3685
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	SABRINA HOLGUIN-KERBY
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23225 CAMINITO MARCIAL #105
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-315-3685
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20200826
Handler Name:	SABRINA J HOLGUIN-KERBY AND ALEXANDRA N HOLGUIN-KERBY
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

SABRINA J HOLGUIN-KERBY AND ALEXANDRA N HOLGUIN-KERBY (Continued) **1026475259**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E26 **FARRHA KHAN** **RCRA NonGen / NLR** **1026808621**
SW **23336 CAMINITO MARCIAL** **CAC003120947**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.138 mi.
728 ft. **Site 2 of 11 in cluster E**

Relative: **Higher**
Actual: **380 ft.**

RCRA Listings:

Date Form Received by Agency:	20210521
Handler Name:	Farrha Khan
Handler Address:	23336 CAMINITO MARCIAL
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003120947
Contact Name:	FARRHA KHAN
Contact Address:	23336 CAMINITO MARCIAL
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-632-2499
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23336 CAMINITO MARCIAL
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Farrha Khan
Owner Type:	Other
Operator Name:	Farrha Khan
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

FARRHA KHAN (Continued) **1026808621**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210521
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: FARRHA KHAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23336 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-632-2499
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: FARRHA KHAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23336 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-632-2499
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

FARRHA KHAN (Continued) **1026808621**

Historic Generators:
- Receive Date: 20210521
- Handler Name: FARRHA KHAN
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: No
- Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

E27
SW
1/8-1/4
0.138 mi.
728 ft.

NITIN SHAH **RCRA NonGen / NLR** **1025851392**
23295 CAMINITO MARCIAL **CAC003031506**
LAGUNA HILLS, CA 92653

Site 3 of 11 in cluster E

Relative:
Higher

Actual:
380 ft.

RCRA Listings:
- Date Form Received by Agency: 20190828
- Handler Name: Nitin Shah
- Handler Address: 23295 CAMINITO MARCIAL
- Handler City,State,Zip: LAGUNA HILLS, CA 92653-1621
- EPA ID: CAC003031506
- Contact Name: NITIN SHAH
- Contact Address: 23295 CAMINITO MARCIAL
- Contact City,State,Zip: LAGUNA HILLS, CA 92653-1621
- Contact Telephone: 949-310-3883
- Contact Fax: Not reported
- Contact Email: NANCYRUIZ@ALLIANCE-ENVIRO.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 23295 CAMINITO MARCIAL
- Mailing City,State,Zip: LAGUNA HILLS, CA 92653-1621
- Owner Name: Nitin Shah

NITIN SHAH (Continued) **1025851392**

Owner Type:	Other
Operator Name:	Nitin Shah
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190910
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: NITIN SHAH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23295 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1621
Owner/Operator Telephone:	949-310-3883
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

NITIN SHAH (Continued) **1025851392**

Owner/Operator Indicator: Owner
Owner/Operator Name: NITIN SHAH
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23295 CAMINITO MARCIAL
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-1621
Owner/Operator Telephone: 949-310-3883
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20190828
Handler Name: NITIN SHAH
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C28 **949 AUTO REPAIR** **HAULERS** **S123616230**
NE **22701 GRANITE WAY STE A** **CERS HAZ WASTE** **N/A**
1/8-1/4 **LAGUNA HILLS, CA 92653** **HWTS**
0.139 mi. **HAZNET**
736 ft. **Site 7 of 10 in cluster C** **CERS**

Relative: **Lower**
Actual: **241 ft.**

HAULERS:
Name: 949 AUTO REPAIR
Address: 22701 GRANITE WAY - UNIT A
City,State,Zip: LAGUNA HILLS, CA 92653
Facility ID: 1950834
Facility Phone: (949) 951-6267
Business Email Address: 949autorepair@gmail.com
Contact Person: Gary Mckinnon
Mailing Address: 22701 Granite Way - Unit A
Mailing City: Laguna Hills
Mailing State: CA
Mailing Zip: 92653
Mailing County: Not reported

949 AUTO REPAIR (Continued) **S123616230**

Mailing Phone:	(949) 951-6267
Current Status:	Active
Current Hauler Status:	Not reported
Accepting Tires From Public:	Not reported
Regulatory Status Last Changed:	2021-11-19 15:10:12
Business Types:	Not reported

CERS HAZ WASTE:

Name:	949 AUTO REPAIR
Address:	22701 GRANITE WAY STE A
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	415449
CERS ID:	10583584
CERS Description:	Hazardous Waste Generator

HWTS:

Name:	MECHANICAL MANN
Address:	22701 GRANITE WAY
Address 2:	Not reported
City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAL000030172
Inactive Date:	08/25/2006
Create Date:	05/09/1990
Last Act Date:	Not reported
Mailing Name:	Not reported
Mailing Address:	22701 GRANITE WAY UNIT A
Mailing Address 2:	Not reported
Mailing City,State,Zip:	LAGUNA HILLS, CA 926531218
Owner Name:	MECHANICAL MANN
Owner Address:	22701 GRANITE WAY UNIT A
Owner Address 2:	Not reported
Owner City,State,Zip:	LAGUNA HILLS, CA 926531218
Owner Phone:	Not reported
Owner Fax:	Not reported
Contact Name:	DUANE DELP PRESIDENT
Contact Address:	2121 N SANTA FE ST
Contact Address 2:	Not reported
City,State,Zip:	SANTA ANA, CA 927050000
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Inactive
Facility Type:	PERMANENT
Category:	STATE
Latitude:	33.627769
Longitude:	-117.73379

NAICS:

EPA ID:	CAL000030172
Create Date:	2004-02-05 07:43:56.000
NAICS Code:	811111
NAICS Description:	General Automotive Repair
Issued EPA ID Date:	1990-05-09 00:00:00
Inactive Date:	2006-08-25 00:00:00
Facility Name:	MECHANICAL MANN
Facility Address:	22701 GRANITE WAY
Facility Address 2:	Not reported
Facility City:	LAGUNA HILLS

949 AUTO REPAIR (Continued) **S123616230**

Facility County: Not reported
Facility State: CA
Facility Zip: 926530000

HAZNET:
Name: MECHANICAL MANN
Address: 22701 GRANITE WAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 926530000
Contact: DUANE DELP PRESIDENT
Telephone: 7145432929
Mailing Name: Not reported
Mailing Address: 22701 GRANITE WAY UNIT A

Year: 2006
Gepaid: CAL000030172
TSD EPA ID: CAD028409019
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H01 - Transfer Station
Tons: 0.17

Year: 2005
Gepaid: CAL000030172
TSD EPA ID: CAD028409019
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H01 - Transfer Station
Tons: 0.17

Year: 2000
Gepaid: CAL000030172
TSD EPA ID: CAD099452708
CA Waste Code: 135 - Unspecified aqueous solution
Disposal Method: R01 - Recycler
Tons: 0.231

Year: 1998
Gepaid: CAL000030172
TSD EPA ID: CAD099452708
CA Waste Code: 135 - Unspecified aqueous solution
Disposal Method: R01 - Recycler
Tons: 0.294

Year: 1997
Gepaid: CAL000030172
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.6255

Year: 1995
Gepaid: CAL000030172
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.688

949 AUTO REPAIR (Continued) **S123616230**

Year:	1995
Gepaid:	CAL000030172
TSD EPA ID:	CAT080013352
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	R01 - Recycler
Tons:	1.554

Year:	1995
Gepaid:	CAL000030172
TSD EPA ID:	CAD093459485
CA Waste Code:	214 - Unspecified solvent mixture
Disposal Method:	H01 - Transfer Station
Tons:	0.0432

Year:	1994
Gepaid:	CAL000030172
TSD EPA ID:	CAT080013352
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	R01 - Recycler
Tons:	1.323

Year:	1990
Gepaid:	CAL000030172
TSD EPA ID:	CAT080013352
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	R01 - Recycler
Tons:	0.2293

Click this hyperlink while viewing on your computer to access additional CA HAZNET: detail in the EDR Site Report.

Additional Info:

Year:	2006
Gen EPA ID:	CAL000030172
Shipment Date:	20060717
Creation Date:	9/17/2006 18:31:02
Receipt Date:	20060724
Manifest ID:	25269034
Trans EPA ID:	CAD982413262
Trans Name:	EVERGREEN ENVIRONMENTAL SOUTH
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY OVERTON
TSDF Alt EPA ID:	CAD028409019
TSDF Alt Name:	Not reported
Waste Code Description:	343 - Unspecified organic liquid mixture
RCRA Code:	Not reported
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.17
Waste Quantity:	50
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

949 AUTO REPAIR (Continued) **S123616230**

Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2005
Gen EPA ID: CAL000030172

Shipment Date: 20050831
Creation Date: 8/23/2006 18:32:59
Receipt Date: 20050902
Manifest ID: 24337150
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
TSDF Alt Name: Not reported
Waste Code Description: 343 - Unspecified organic liquid mixture
RCRA Code: Not reported
Meth Code: H01 - Transfer Station
Quantity Tons: 0.17
Waste Quantity: 50
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2000
Gen EPA ID: CAL000030172

Shipment Date: 20001005
Creation Date: 12/8/2000 0:00:00
Receipt Date: 20001005
Manifest ID: 20266624
Trans EPA ID: CAD080075096
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD099452708
Trans Name: Not reported
TSDF Alt EPA ID: CAD099452708
TSDF Alt Name: Not reported
Waste Code Description: 135 - Unspecified aqueous solution
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 0.231
Waste Quantity: 55
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported

949 AUTO REPAIR (Continued) **S123616230**

Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1998
Gen EPA ID:	CAL000030172
Shipment Date:	19980113
Creation Date:	3/31/1998 0:00:00
Receipt Date:	19980113
Manifest ID:	97303690
Trans EPA ID:	CAD080075096
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD099452708
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD099452708
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.294
Waste Quantity:	70
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1997
Gen EPA ID:	CAL000030172
Shipment Date:	19970116
Creation Date:	5/30/1997 0:00:00
Receipt Date:	19970119
Manifest ID:	96788182
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	133 - Aqueous solution with 10% or more total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.6255
Waste Quantity:	150
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

949 AUTO REPAIR (Continued) **S123616230**

Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1995
Gen EPA ID:	CAL000030172
Shipment Date:	19951117
Creation Date:	7/26/1996 0:00:00
Receipt Date:	19951119
Manifest ID:	95399906
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	133 - Aqueous solution with 10% or more total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.688
Waste Quantity:	165
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19950927
Creation Date:	7/26/1996 0:00:00
Receipt Date:	19951002
Manifest ID:	95624925
Trans EPA ID:	ILD984908202
Trans Name:	Not reported
Trans 2 EPA ID:	ILD984908202
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD093459485
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D039
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.0144
Waste Quantity:	4
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19950802
Creation Date:	4/2/1996 0:00:00

949 AUTO REPAIR (Continued) **S123616230**

Receipt Date:	19950810
Manifest ID:	95516105
Trans EPA ID:	ILD984908202
Trans Name:	Not reported
Trans 2 EPA ID:	ILD984908202
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD093459485
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD093459485
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D039
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.0144
Waste Quantity:	4
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19950707
Creation Date:	11/15/1995 0:00:00
Receipt Date:	19950709
Manifest ID:	95496710
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.714
Waste Quantity:	170
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19950609
Creation Date:	10/24/1995 0:00:00
Receipt Date:	19950614
Manifest ID:	95514221
Trans EPA ID:	ILD984908202
Trans Name:	Not reported
Trans 2 EPA ID:	ILD984908202
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD093459485
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD093459485

949 AUTO REPAIR (Continued) **S123616230**

TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D039
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.0144
Waste Quantity:	4
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19950208
Creation Date:	3/28/1996 0:00:00
Receipt Date:	19950208
Manifest ID:	95249640
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.84
Waste Quantity:	200
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1994
Gen EPA ID:	CAL000030172
Shipment Date:	19940908
Creation Date:	3/26/1996 0:00:00
Receipt Date:	19940908
Manifest ID:	93321213
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.63

949 AUTO REPAIR (Continued) **S123616230**

Waste Quantity:	150
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19940420
Creation Date:	10/5/1995 0:00:00
Receipt Date:	19940420
Manifest ID:	93317527
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.315
Waste Quantity:	75
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19940418
Creation Date:	10/5/1995 0:00:00
Receipt Date:	19940418
Manifest ID:	93321773
Trans EPA ID:	CAD028277036
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.378
Waste Quantity:	90
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

949 AUTO REPAIR (Continued) **S123616230**

CERS:
Name: 949 AUTO REPAIR
Address: 22701 GRANITE WAY STE A
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 415449
CERS ID: 10583584
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 415449
Site Name: 949 AUTO REPAIR
Violation Date: 11-04-2016
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 11/04/2016. OBSERVATION:Some of the labels were illegible and the accumulation dates do not appear to be kept up on. Gave several long form hazardous waste stickers this date.. All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: The drums were completely labeled this date. Discussed maintenance of labels in a legible manner.
Violation Division: Orange County Environmental Health
Violation Program: HW
Violation Source: CERS,

Site ID: 415449
Site Name: 949 AUTO REPAIR
Violation Date: 11-19-2021
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 02/07/2023. OBSERVATION: The business failed to establish and implement a business plan when handling hazardous materials at or above the reportable threshold quantities. CORRECTIVE ACTION: CERS account credentials invitation was emailed to 949autorepair@gmail.com. Please complete and electronically submit business plan for your facility and notify the Health Care Agency within 30 days.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 01-28-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: United Automotive Service 22701 Granite Way "A" Laguna Hills, CA 92653

949 AUTO REPAIR (Continued) **S123616230**

On site for initial hazardous materials and business emergency plan inspection. Observed the facility and inspected hazardous materials storage. The following hazardous materials were observed in amounts that exceed the required disclosure quantities: - One 55 gallon drum of used radiator coolant - Four 55 gallon drums of waste oils - Two 55 gallon drums of new radiator coolant - Various containers of new oils This report serves as notice that the facility must submit the following documents electronically within 30 days of this report: - Business Emergency Plan - Hazardous Materials Chemical Inventory - Site Map The facility is responsible for identifying all hazardous materials, to include hazardous wastes, which are above the disclosure thresholds. If there is a change in the type or amount of chemicals that are maintained on site, please submit revised documents [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-13-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Review in CERS declined The submittal was declined at this time, please make the following changes and resubmit within 30 days. 1. The hazardous materials transfer from e-submit to CERS did not complete all of the sections required. Please go into each material disclosure and verify the info and add the information for trade secret (no), fire code hazard class (from the drop down), chemical location confidential (no). 2. on each chemical disclosure, make days onsite 365 3. on the wastes, add the waste code (221 for used oil, and 331 for antifreeze waste) 4. on the wastes add the annual waste amount 5.on the chemical location for the materials, do not use the address, instead use some sort of description such as west wall or whatever specific location that material is stored. 6. Due to problems with the transfer of info from e-submit to CERS, the map section of the submittal does not open, please remove the current map and upload a pdf copy of the map again. The [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-21-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Rick Stolte granted consent to conduct inspection. I walked through the facility, perimeter and inspected hazardous waste storage areas. I did not observe any hazardous waste in trash cans throughout facility. Waste oil (3), waste antifreeze (1), used oil filter/Metal (1) and used oil filters/ Paper (1) are stored closed and labeled. Manifests were reviewed. Emergency card is posted on bulletin board in office area.

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

949 AUTO REPAIR (Continued) **S123616230**

Eval General Type: Other/Unknown
Eval Date: 04-29-2022
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: The purpose of this offsite inspection is to follow up on a violation noted on a previous inspection report. Received updated Hazardous Materials Business Plan (HMBP) on CERS. Violation I208 corrected. No violations remain outstanding.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-12-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Initial disclosure review.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-16-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: File review regarding volumes on audit
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-04-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted this date in regards to hazardous waste, consent to enter, inspect and take photographs was given by Steve Burrell, employee Hazardous waste containers on-site this date consisted of: waste oil, waste oil filters, waste antifreeze, parts washers The containers are in compliance with all applicable labeling requirements this date. The drums were labeled during the inspection, see abated violation above. Per Brent Loughran, employees receive Hazardous Waste Management Training on the job. Consolidated waste receipts/ manifests were reviewed this date. Hazardous Waste Emergency Response information and was posted. Inspected municipal trash dumpster and area, no apparent hazardous waste in this area. Perimeter of facility inspected, no water runoff or staining noted at this time. Discussed Hazardous Waste Program, Hazardous Materials Program, and Management of Universal Waste. E-mailed copy of report this [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-05-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency

949 AUTO REPAIR (Continued) **S123616230**

Eval Notes: Reviewed and accepted disclosure in e submit.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-19-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous waste inspection following change in ownership. Accompanied by Lance Malis of Orange County Health Care Agency (OCHCA). Permission to inspect granted by Gary McKinnon, Owner. Inspected the facility, perimeter and hazardous waste storage located in the shop. Inspected the dumpster area. No hazardous waste was observed in the dumpster. The facility generates the following hazardous waste: -Used oil -Used coolant -Used filters -Aqueous based parts cleaner Hazardous waste properly stored and identified. The facility maintains active EPA ID Number CAL000466310. No hazardous waste pick up as of the date of this inspection. A copy of this report will be sent to 949autorepair@gmail.com.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-19-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous materials inspection following change in ownership. Accompanied by Lance Malis of Orange County Health Care Agency (OCHCA). Permission to inspect granted by Gary McKinnon, Owner. The following hazardous materials were observed in amounts that exceed the required disclosure quantities: -New oil 380 gallons -Coolant 110 gallons -Automatic transmission fluid (ATF) 100 gallons -Used oil 360 gallons -Used coolant 55 gallons A copy of this report will be sent to 949autorepair@gmail.com.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-03-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Processed A21.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-31-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Review of CERS accepted for 2017
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

949 AUTO REPAIR (Continued) **S123616230**

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-28-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: United Automotive Service 22701 Granite Way "A" Laguna Hills, CA 92653 Inspected perimeter of facility including the dumpster area. Permission to inspect and take necessary photos granted by Rick Stolte. Hazardous waste properly stored and identified. Documentation for hazardous waste pickup reviewed on site. Hazardous waste emergency response sticker completed and posted on site. No violations noted at this time.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-03-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Processed A21.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-16-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed HMBEP submission package on eSubmit Portal, DENIED. Request for re-submittal this date. Please make the following modifications to the disclosure: New oil and new coolant should be listed as pure (not mixture). Make sure the CAS number is listed for new motor oil. Waste oil and waste coolant only need the common name listed. Then list at least one chemical in the hazardous components box including the CAS number and percent weight. The maximum daily amount means the maximum amount that could be stored on site. Therefore this amount has to be at least as much as the maximum container. Check the four disclosures and make sure this is the case. * Remember that all CAS numbers need to include the two dashes within them (eg. 55555-55-5). The symbol for emergency response equipment that in shown in the key for the map could not located on the site map itself. Make sure this symbol is on the map where the equipment is located. > Resubmit after [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-04-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection this date, consent to enter, inspect and take photographs was given by - Steve Burrell, employee. The HMBEP has been submitted through e-submit. The submittal will be transferred to California Environmental Reporting System (CERS) within the next month or so. Your CERS ID number is 10583584, you may go in and obtain

949 AUTO REPAIR (Continued) **S123616230**

a user name and password, and wait for the data to be moved over. Make the following changes when it is transferred (or add the info into CERS if you would prefer, because there are a few problems with your submittal as listed below, the info may not transfer). 1. make the good oil max daily 515 gallons, add the days onsite 365, make average daily about 150 gallons. 2. On the waste oil, make the max daily 220, the average daily 110, and days onsite 365 3. on the antifreeze material, add days onsite 365 4. on the waste antifreeze, add days onsite [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-21-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Rick Stolte granted consent to conduct inspection. I walked through the facility and inspected hazardous material storage areas. There has been changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period with increase in waste oil volume and ATF stored at disclosure threshold. Facility stores the following hazardous materials at disclosure threshold: - 55 gallons of new antifreeze - 55 gallons of waste antifreeze - 110 gallons of ATF - 165 gallons of waste oil - 220 gallons of new motor oil Hazardous materials management training is provided annually. Emergency card is posted on bulletin board in office area. I assisted manager with creating an account in CERS, updating inventory and site map to submit to CERS during inspection.

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Affiliation:

Affiliation Type Desc: Document Preparer
Entity Name: Gary McKinnon
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: GARY MCKINNON
Entity Title: PRESIDENT
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Operator

949 AUTO REPAIR (Continued) **S123616230**

Entity Name:	949 Auto Repair
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 951-6267,
Affiliation Type Desc:	Parent Corporation
Entity Name:	949 Auto Repair
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Gary McKinnon
Entity Title:	Not reported
Affiliation Address:	22701 Granite Way, Unit A
Affiliation City:	Laguna Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	22701 Granite Way, Unit A
Affiliation City:	Laguna Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,
Affiliation Type Desc:	CUPA District
Entity Name:	Orange County Env Health
Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6406,
Affiliation Type Desc:	Legal Owner
Entity Name:	949 ENTERPRISES, INC
Entity Title:	Not reported
Affiliation Address:	22701 GRANITE WAY STE A
Affiliation City:	LAGUNA HILLS
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92653

949 AUTO REPAIR (Continued) **S123616230**

Affiliation Phone: (949) 951-6267,

C29 **949 ENTERPRISES INC DBA 949 AUTO REPAIR** **RCRA NonGen / NLR** **1027092767**
NE **22701 GRANITE WAY UNIT A** **CAL000466310**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.139 mi.
736 ft. **Site 8 of 10 in cluster C**

Relative: **Lower**
Actual: **241 ft.**

RCRA Listings:

Date Form Received by Agency:	20211020
Handler Name:	949 Enterprises Inc Dba 949 Auto Repair
Handler Address:	22701 GRANITE WAY UNIT A
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAL000466310
Contact Name:	GARY MCKINNON
Contact Address:	22701 GRANITE WAY UNIT A
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-364-5833
Contact Fax:	949-364-1741
Contact Email:	949AUTOREPAIR@GMAIL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22701 GRANITE WAY UNIT A
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	848 Enterprises Inc
Owner Type:	Other
Operator Name:	Gary Mckinnon
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No

949 ENTERPRISES INC DBA 949 AUTO REPAIR (Continued) **1027092767**

Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211022
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: GARY MCKINNON	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22701 GRANITE WAY UNIT A
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-364-5833
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: 848 ENTERPRISES INC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22701 GRANITE WAY UNIT A
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-364-5833
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20211020
Handler Name:	949 ENTERPRISES INC DBA 949 AUTO REPAIR
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No

949 ENTERPRISES INC DBA 949 AUTO REPAIR (Continued) **1027092767**

Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C30 **UNITED AUTOMOTIVE SERVICE** **RCRA NonGen / NLR** **1025868937**
NE **22701 GRANITE WAY STE A** **CAL000391155**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.139 mi.
736 ft. **Site 9 of 10 in cluster C**

Relative: **Lower**

Actual: **241 ft.**

RCRA Listings:

Date Form Received by Agency:	20211022
Handler Name:	United Automotive Service
Handler Address:	GRANITE WAY STE A
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAL000391155
Contact Name:	BRENT LOUGHRAN
Contact Address:	N MAIN ST
Contact City,State,Zip:	ORANGE, CA 92868
Contact Telephone:	714-412-9613
Contact Fax:	714-633-9163
Contact Email:	BRENT@UNITEDAUTOMOTIVESERVICE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	N MAIN ST
Mailing City,State,Zip:	ORANGE, CA 92868
Owner Name:	Brent Loughran
Owner Type:	Other
Operator Name:	Brent Loughran
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No

UNITED AUTOMOTIVE SERVICE (Continued) **1025868937**

Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211026
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: BRENT LOUGHRAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	6251 E FOX GLEN DR
Owner/Operator City,State,Zip:	ANAHEIM, CA 92807
Owner/Operator Telephone:	714-412-9613
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: BRENT LOUGHRAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	19350 EASY ST
Owner/Operator City,State,Zip:	YORBA LINDA, CA 92886
Owner/Operator Telephone:	714-412-9613
Owner/Operator Telephone Ext:	Not reported

UNITED AUTOMOTIVE SERVICE (Continued) **1025868937**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: BRENT LOUGHRAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 777 N MAIN ST
Owner/Operator City,State,Zip: ORANGE, CA 92868
Owner/Operator Telephone: 714-633-9026
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: BRENT LOUGHRAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 19350 EASY ST
Owner/Operator City,State,Zip: YORBA LINDA, CA 92886
Owner/Operator Telephone: 714-412-9613
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20211022
Handler Name: UNITED AUTOMOTIVE SERVICE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20131107
Handler Name: UNITED AUTOMOTIVE SERVICE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: Not reported
Recognized Trader Exporter: Not reported
Spent Lead Acid Battery Importer: Not reported
Spent Lead Acid Battery Exporter: Not reported
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 811111

UNITED AUTOMOTIVE SERVICE (Continued) **1025868937**

NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C31 **CORNER 3 GARAGE** **CERS HAZ WASTE** **S113033076**
NE **22701 GRANITE WAY STE B** **CHMIRS** **N/A**
1/8-1/4 **LAGUNA HILLS, CA 92653** **CERS**
0.139 mi.
736 ft. **Site 10 of 10 in cluster C**

Relative:
Lower

Actual:
241 ft.

CERS HAZ WASTE:
Name: CORNER 3 GARAGE
Address: 22701 GRANITE WAY STE B
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 425041
CERS ID: 10581478
CERS Description: Hazardous Waste Generator

CHMIRS:
Name: Not reported
Address: 22701 GRANITE WAY
City,State,Zip: LAGUNA HILLS, CA 92653
OES Incident Number: 16-4789
OES notification: 08/06/2016
OES Date: Not reported
OES Time: Not reported
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA DOT PUC/ICC Number: Not reported
Company Name: Not reported
Reporting Officer Name/ID: Not reported
Report Date: Not reported
Facility Telephone: Not reported

CORNER 3 GARAGE (Continued) **S113033076**

Waterway Involved:	Yes
Waterway:	Creek Bed
Spill Site:	Road
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	SEWAGE
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1126
Year:	2016
Agency:	El Toro Water District
Incident Date:	08/06/2016
Admin Agency:	Orange County Emergency Management Division
Amount:	Not reported
Contained:	Yes
Site Type:	Creek Bed
E Date:	Not reported
Substance:	Sewage
Quantity Released:	12,111
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	No
Fatals:	No
Comments:	Not reported
Description:	A sewer main line blockage occurred due to a grease build-up in the line. The result was a release of sewage from a manhole cover and into Canada Creek. It is not known how much of the release entered the dry creek bed. An unknown amount of sewage has bee

CERS:

Name:	CORNER 3 GARAGE
Address:	22701 GRANITE WAY STE B
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	425041
CERS ID:	10581478
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	425041
Site Name:	CORNER 3 GARAGE

CORNER 3 GARAGE (Continued) **S113033076**

Violation Date: 07-31-2017
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 07/31/2017. The accumulation date for the waste oil tank and the partial full antifreeze waste was missing. New labels were added to all waste containers. The violation was abated this date. Make sure to keep using the accumulation date as discussed.
Violation Division: Orange County Environmental Health
Violation Program: HW
Violation Source: CERS,

Site ID: 425041
Site Name: CORNER 3 GARAGE
Violation Date: 06-12-2023
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes: This facility has not submitted in the California Environmental Reporting System (CERS) since 5/25/2022.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 06-12-2023
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: According to the CERS database, your business remains out of compliance with the annual certification requirement and a violation is being cited. Businesses are required to annually review and certify that their information in the California Electronic Reporting System (CERS) is complete, accurate and in compliance by March 1st. Your business was notified via email on 4/28/23 that your facility was out of compliance with this requirement. Please visit https://cers.calepa.ca.gov/ to access CERS and submit your completed HMBP forms. Failure to submit HMBEP forms is a violation of the California Health & Safety Code and California Code of Regulations. Progressive enforcement will be taken by this Agency if a submittal/certification has not been completed within 30 days of this report.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-31-2017
Violations Found: No
Eval Type: Routine done by local agency

CORNER 3 GARAGE (Continued) **S113033076**

Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection this date, consent to enter, inspect and take photographs was given by - Nima Harandi, owner The HMBEP has been submitted through CERS and will be reviewed at a later date. Employee Business Emergency Plan Training was reviewed this date. The training plan is done and submitted, make sure that you train all staff on the contents of this plan and response to spills and ensure that a written log or documentation of hazardous materials training is done for all staff. Safety/cleanup equipment is available. Hazardous materials storage area were reviewed at this time. The facility has the following hazardous materials that exceed the required disclosure quantities: waste oil, waste antifreeze, good oil and oxygen gas **Please note, you are required to review the submittal yearly and resubmit prior to March 1st each year. You will get communication (probably email) [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-08-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Review of CERS submittal, accepted all
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-25-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous waste inspection. Consent to enter and inspect given by Nima Harandi, Owner. Facility is an auto repair shop ad generates waste: - Waste Oil - Waste Antifreeze - Used Oil Filters Hazardous waste manifests were available for review. Business emergency plan available for review. Observed facility, hazardous waste storage area, and dumpster area. Hazardous waste containers were stored closed and properly labeled. No indication of hazardous waste spillage, runoff, or illegal disposal was observed.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-25-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous waste inspection. Consent to enter and inspect given by Nima Harandi, Owner. Observed the facility and hazardous materials storage area. The following materials were observed in amounts that meet or exceed the minimum volume required for disclosure: - Motor Oil - Waste Oil - Waste Antifreeze Training records were available for review. Business emergency plan available for review.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP

CORNER 3 GARAGE (Continued) **S113033076**

Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-16-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct routine hazardous waste inspection. Nima Harandi granted consent to conduct inspection. I walked through the facility, perimeter and inspected waste storage areas. I did not observe any hazardous waste in the trash cans throughout facility. Used oil is stored in an aboveground storage tank that is kept closed and labeled. Waste antifreeze (1) and used oil filter (1) drums are stored closed and labeled. Manifests were reviewed. Emergency card is posted on the wall in waiting area.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-21-2023
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: This was an off site reinspection. A 2023 CERS (California Environmental Reporting System) submittal has been reviewed and conditionally accepted by this agency. Violation: 1010008 Annual Review / Certification has been corrected. Please continue to submit in CERS annually between January 1st and March 1st. Emailed a copy of this report to nima@corner3garage.com
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-16-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Nima Harandi granted consent to conduct inspection. I walked through the facility, perimeter and inspected waste storage areas. There has been changes in types of the hazardous material stored on site since last inspection or previous reporting period. Facility does not store oxygen gas at disclosure threshold as previously reported. Argon gas and Argon/Carbon Dioxide gas mixture stored on site are below disclosure threshold. Hazardous materials management training is provided annually. Emergency card is posted on the wall in waiting area. I assisted business owner with updating inventory, correcting inventory form, and updating emergency plan.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-12-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Corner 3 Garage 22701 Granite Way "B" Laguna Hills, CA 92653 On site for initial hazardous materials and business emergency plan audit.

CORNER 3 GARAGE (Continued) **S113033076**

Observed the facility and inspected hazardous materials storage. The following hazardous materials were observed in amounts that exceed the required disclosure quantities: - Two 55 gallon drums of used radiator coolant - One 240 gallon AST of waste oil - Two 75 gallon ASTs of new oil - One compressed gas cylinder of argon/CO2 This report serves as notice that the facility must submit the following documents electronically within 30 days of this report: - Business Emergency Plan - Hazardous Materials Chemical Inventory - Site Map The facility is responsible for identifying all hazardous materials, to include hazardous wastes, which are above the disclosure thresholds. If there is a change in the type or amount of chemicals that are maintained on site, please submit revised documents (electronically) within 30 days [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-28-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: review of CERS The submittal was declined, 1. on the emergency response plan, just add our phone number on the first page under UPA (right above the hospital) of 714-433-6000 and then it is fine. 2. The map looks great, but it is uploaded to the hazardous materials section where it says site map. Add it there also

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-24-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Corner 3 Garage 22701 Granite Way B Laguna Hills, CA 92653 On site for a change of address inspection. Inspected perimeter of facility including the dumpster area. Permission to inspect and take necessary photos was grated by Nima Harandi New EPA ID number has been obtained. Hazardous waste properly stored and identified. Documentation for hazardous waste pickup reviewed on site. Hazardous waste emergency response sticker completed and posted on site. No violations noted at this time.

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-31-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted this date in regards to hazardous waste, consent to enter, inspect and take photographs was given by Nima Harandi, owner Hazardous waste containers on-site this date consisted of: waste oil, waste antifreeze The containers were not in compliance with all applicable labeling requirements this date, but were labeled during the inspection and the violation abated. Per Nima, employees receive Hazardous Waste Management Training on the job. Consolidated

CORNER 3 GARAGE (Continued) **S113033076**

waste receipts/ manifests were reviewed this date. Hazardous Waste Emergency Response information and was posted. Inspected municipal trash dumpster and area, no apparent hazardous waste in this area. Perimeter of facility inspected, no water runoff or staining noted at this time. Discussed Hazardous Waste Program, Hazardous Materials Program, and Management of Universal Waste. E-mailed copy of report this date. >>>>Please consult http://occupainfo.com/ for [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-12-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspected perimeter of facility including the dumpster area. Permission to inspect and take necessary photos granted by Nima Harandi. Hazardous waste emergency response sticker completed and posted on site. Documentation for hazardous waste pickup reviewed on site. Hazardous waste properly stored and identified. No violations noted at this time.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-14-2013
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Processed A21.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-08-2020
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Went to site and assisted business with resetting password and submitting annual certification documents.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 22701 granite way unit b
Affiliation City: Laguna hills
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92653
Affiliation Phone: ,

Affiliation Type Desc: Document Preparer
Entity Name: Nima Harandi

CORNER 3 GARAGE (Continued) **S113033076**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	Nima Harandi
Entity Title:	President
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	Nima Harandi
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 380-0801,
Affiliation Type Desc:	Parent Corporation
Entity Name:	CORNER 3 GARAGE
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Legal Owner
Entity Name:	Corner 3 Corporation
Entity Title:	Not reported
Affiliation Address:	22701 granite way unit b
Affiliation City:	Laguna hills
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92653
Affiliation Phone:	(949) 380-0801,
Affiliation Type Desc:	CUPA District
Entity Name:	Orange County Env Health
Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6406,

CORNER 3 GARAGE (Continued) **S113033076**

Affiliation Type Desc:	Environmental Contact
Entity Name:	Nima Harandi
Entity Title:	Not reported
Affiliation Address:	22701 granite way unit b
Affiliation City:	Laguna hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,

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32 **CARDIAC SCIENCE CORPORATION** **RCRA NonGen / NLR** **1024764393**
SSE **23382 MILL CREEK DRIVE** **CAC002984261**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.156 mi.
825 ft.

Relative: **Higher**
Actual: **358 ft.**

RCRA Listings:

Date Form Received by Agency:	20181010
Handler Name:	Cardiac Science Corporation
Handler Address:	23382 MILL CREEK DRIVE
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC002984261
Contact Name:	CARDIAC SCIENCE CORPORATION
Contact Address:	500 BURDICK PARKWAY
Contact City,State,Zip:	DEERFIELD, WI 53531
Contact Telephone:	608-764-7069
Contact Fax:	Not reported
Contact Email:	GCOLE@CARDIACSCIENCE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	500 BURDICK PARKWAY
Mailing City,State,Zip:	DEERFIELD, WI 53531
Owner Name:	Cardiac Science Corporation
Owner Type:	Other
Operator Name:	Cardiac Science Corporation
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No

CARDIAC SCIENCE CORPORATION (Continued) **1024764393**

Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20181120
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	CARDIAC SCIENCE CORPORATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 BURDICK PARKWAY
Owner/Operator City,State,Zip:	DEERFIELD, WI 53531
Owner/Operator Telephone:	608-764-7069
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	CARDIAC SCIENCE CORPORATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 BURDICK PARKWAY
Owner/Operator City,State,Zip:	DEERFIELD, WI 53531
Owner/Operator Telephone:	608-764-7069
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20181010

CARDIAC SCIENCE CORPORATION (Continued) **1024764393**

Handler Name: CARDIAC SCIENCE CORPORATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 425110
NAICS Description: BUSINESS TO BUSINESS ELECTRONIC MARKETS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E33 **SERVICE FIRST RESTORATION** **RCRA NonGen / NLR** **1025864674**
SW **23331 CAMINITO ANDRETA** **CAC003045501**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 4 of 11 in cluster E**

Relative: **Higher**
Actual: **359 ft.**

RCRA Listings:
Date Form Received by Agency: 20191203
Handler Name: Service First Restoration
Handler Address: 23331 CAMINITO ANDRETA
Handler City,State,Zip: LAGUNA HILLS, CA 92653-1602
EPA ID: CAC003045501
Contact Name: SERVICE FIRST RESTORATION
Contact Address: 23331 CAMINITO ANDRETA
Contact City,State,Zip: LAGUNA HILLS, CA 92653-1602
Contact Telephone: 855-883-4778
Contact Fax: Not reported
Contact Email: DENNIS@FORTEENVIRONMENTAL.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23331 CAMINITO ANDRETA
Mailing City,State,Zip: LAGUNA HILLS, CA 92653-1602
Owner Name: Service First Restoration
Owner Type: Other
Operator Name: Service First Restoration

SERVICE FIRST RESTORATION (Continued) **1025864674**

Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20191206
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: SERVICE FIRST RESTORATION	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23331 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1602
Owner/Operator Telephone:	855-883-4778
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator

SERVICE FIRST RESTORATION (Continued) **1025864674**

Owner/Operator Name: SERVICE FIRST RESTORATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23331 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-1602
Owner/Operator Telephone: 855-883-4778
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20191203
Handler Name: SERVICE FIRST RESTORATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E34 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027686986**
SW **23381 CAMINITO ANDRETA** **CAC003229193**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 5 of 11 in cluster E**

Relative: **Higher**
Actual: **359 ft.**

RCRA Listings:
Date Form Received by Agency: 20230424
Handler Name: Laguna Village Owners Association
Handler Address: 23381 CAMINITO ANDRETA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003229193
Contact Name: ANGEL SUAREZ
Contact Address: 23381 CAMINITO ANDRETA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-616-4165
Contact Fax: Not reported
Contact Email: GROSS@PMPMANAGE.COM
Contact Title: Not reported
EPA Region: 09

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027686986**

Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23381 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	Angel Suarez
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230424
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027686986**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23381 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-616-4165
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ANGEL SUAREZ
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23381 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-616-4165
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230424
Handler Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E35
SW
1/8-1/4
0.163 mi.
861 ft.

LAGUNA VILLAGE OWNERS ASSOCIATION
23385 CAMINITO ANDRETA
LAGUNA HILLS, CA 92653

Site 6 of 11 in cluster E

RCRA NonGen / NLR

1027528127
CAC003220826

Relative:
Higher

Actual:
359 ft.

RCRA Listings:

Date Form Received by Agency:	20230303
Handler Name:	Laguna Village Owners Association
Handler Address:	23385 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003220826
Contact Name:	LAURA DIXIT
Contact Address:	23385 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-306-8782
Contact Fax:	Not reported
Contact Email:	GROSS@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23385 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	Laura Dixit
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027528127**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230303
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23385 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-8782
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	LAURA DIXIT
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23385 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-8782
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230303
Handler Name:	LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027528127**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E36 **MIKE MICHALEK** **RCRA NonGen / NLR** **1027527440**
SW **23331 CAMNTO ANDREA** **CAC003220105**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 7 of 11 in cluster E**

Relative: **Higher**
Actual: **359 ft.**

RCRA Listings:

Date Form Received by Agency:	20230228
Handler Name:	Mike Michalek
Handler Address:	23331 CAMNTO ANDREA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003220105
Contact Name:	MIKE MICHALEK
Contact Address:	23331 CAMNTO ANDREA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	760-595-5001
Contact Fax:	Not reported
Contact Email:	VANESSA@SUPERIORENV.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23331 CAMNTO ANDREA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Mike Michalek
Owner Type:	Other
Operator Name:	Mike Michalek
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

MIKE MICHALEK (Continued) **1027527440**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230228
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: MIKE MICHALEK	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23331 CAMNTO ANDREA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	760-595-5001
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: MIKE MICHALEK	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23331 CAMNTO ANDREA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	760-595-5001
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

MIKE MICHALEK (Continued) **1027527440**

Historic Generators:
Receive Date: 20230228
Handler Name: MIKE MICHALEK
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E37 **MIKE MICHALEK** **RCRA NonGen / NLR** **1027462341**
SW **23331 CAMINITO ANDRETA** **CAC003200897**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 8 of 11 in cluster E**

Relative: **Higher**
Actual: **359 ft.**

RCRA Listings:
Date Form Received by Agency: 20221024
Handler Name: Mike Michalek
Handler Address: 23331 CAMINITO ANDRETA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003200897
Contact Name: MIKE MICHALEK
Contact Address: 23331 CAMINITO ANDRETA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 760-595-5001
Contact Fax: Not reported
Contact Email: KARLA@SUPERIORENV.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23331 CAMINITO ANDRETA
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Mike Michalek

MIKE MICHALEK (Continued) **1027462341**

Owner Type:	Other
Operator Name:	Mike Michalek
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20221024
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: MIKE MICHALEK	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23331 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	760-595-5001
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

MIKE MICHALEK (Continued) **1027462341**

Owner/Operator Indicator: Operator
Owner/Operator Name: MIKE MICHALEK
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23331 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 760-595-5001
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20221024
Handler Name: MIKE MICHALEK
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E38 **LAGUNA VILLAGE OWNERS' ASSOCIATION** **RCRA NonGen / NLR** **1028883374**
SW **23331 CAMINITO ANDRETA** **CAC003243920**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 9 of 11 in cluster E**

Relative:
Higher

Actual:
359 ft.

RCRA Listings:
Date Form Received by Agency: 20230726
Handler Name: Laguna Village Owners' Association
Handler Address: 23331 CAMINITO ANDRETA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003243920
Contact Name: MICHAEL MICHALEK
Contact Address: 23331 CAMINITO ANDRETA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 760-595-5001
Contact Fax: Not reported
Contact Email: GROSS@PMPMANAGE.COM
Contact Title: Not reported

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1028883374**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23300 SANTA VITTORIA DRIVE
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners' Association
Owner Type:	Other
Operator Name:	Michael Michalek
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230728
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1028883374**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: MICHAEL MICHALEK
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23331 CAMINITO ANDRETA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 760-595-5001
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS' ASSOCIATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23300 SANTA VITTORIA DRIVE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-218-9970
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230726
Handler Name: LAGUNA VILLAGE OWNERS' ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E39
SW
1/8-1/4
0.163 mi.
861 ft.

LARRY PRITCHARD
23382 CAMINITO ANDRETA
LAGUNA HILLS, CA 92653

Site 10 of 11 in cluster E

RCRA NonGen / NLR | **1027070174** | **CAC003141614**

Relative:
Higher

Actual:
359 ft.

RCRA Listings:

Date Form Received by Agency:	20211001
Handler Name:	Larry Pritchard
Handler Address:	23382 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003141614
Contact Name:	LARRY PRITCHARD
Contact Address:	23382 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	714-394-1067
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23382 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Larry Pritchard
Owner Type:	Other
Operator Name:	Larry Pritchard
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

LARRY PRITCHARD (Continued) **1027070174**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211004
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: LARRY PRITCHARD	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23382 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-394-1067
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: LARRY PRITCHARD	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23382 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-394-1067
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20211001
Handler Name: LARRY PRITCHARD	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

LARRY PRITCHARD (Continued) **1027070174**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E40 **LAGUNA VILLAGE** **RCRA NonGen / NLR** **1027692067**
SW **23385 CAMINITO ANDRETA** **CAC003234650**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.163 mi.
861 ft. **Site 11 of 11 in cluster E**

Relative: **Higher**
Actual: **359 ft.**

RCRA Listings:

Date Form Received by Agency:	20230530
Handler Name:	Laguna Village
Handler Address:	23385 CAMINITO ANDRETA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003234650
Contact Name:	LAURA DIXIT
Contact Address:	23385 CAMINITO ANDRETA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-306-8782
Contact Fax:	Not reported
Contact Email:	GROSS@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23385 CAMINITO ANDRETA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village
Owner Type:	Other
Operator Name:	Laura Dixit
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

LAGUNA VILLAGE (Continued) **1027692067**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230601
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: LAURA DIXIT	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23385 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-8782
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LAGUNA VILLAGE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23385 CAMINITO ANDRETA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-218-9970
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

LAGUNA VILLAGE (Continued) **1027692067**

Historic Generators:
Receive Date: 20230530
Handler Name: LAGUNA VILLAGE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F41 **BONITA EVANS** **RCRA NonGen / NLR** **1026049915**
SSW **23345 CAMINITO JUANICO** **CAC003056719**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.165 mi.
869 ft. **Site 1 of 7 in cluster F**

Relative: **Higher**
Actual: **363 ft.**

RCRA Listings:
Date Form Received by Agency: 20200220
Handler Name: Bonita Evans
Handler Address: 23345 CAMINITO JUANICO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003056719
Contact Name: BONITA EVANS
Contact Address: 23345 CAMINITO JUANICO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 435-272-2219
Contact Fax: Not reported
Contact Email: NANCYRUIZ@ALLIANCE-ENVIRO.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23345 CAMINITO JUANICO
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Bonita Evans

BONITA EVANS (Continued) **1026049915**

Owner Type:	Other
Operator Name:	Bonita Evans
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200306
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: BONITA EVANS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23345 CAMINITO JUANICO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	435-272-2219
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

BONITA EVANS (Continued) **1026049915**

Owner/Operator Indicator: Owner
Owner/Operator Name: BONITA EVANS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23345 CAMINITO JUANICO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 435-272-2219
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20200220
Handler Name: BONITA EVANS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F42 **CLAIRE RUDDY** **RCRA NonGen / NLR** **1025839937**
SSW **23322 CAMINITO JUANICO** **CAC003019537**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.165 mi.
869 ft. **Site 2 of 7 in cluster F**

Relative:
Higher

Actual:
363 ft.

RCRA Listings:
Date Form Received by Agency: 20190613
Handler Name: Claire Ruddy
Handler Address: 23322 CAMINITO JUANICO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003019537
Contact Name: CLAIRE RUDDY
Contact Address: 23322 CAMINITO JUANICO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-306-2296
Contact Fax: Not reported
Contact Email: MICAELAB@JCENVIRONMENTALINC.COM
Contact Title: Not reported

CLAIRE RUDDY (Continued) **1025839937**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23322 CAMINITO JUANICO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Claire Ruddy
Owner Type:	Other
Operator Name:	Claire Ruddy
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

CLAIRE RUDDY (Continued) **1025839937**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: CLAIRE RUDDY
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23322 CAMINITO JUANICO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-306-2296
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CLAIRE RUDDY
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23322 CAMINITO JUANICO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-306-2296
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20190613
Handler Name: CLAIRE RUDDY
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

G43 **AUTOBODY BY CALDWELL INC** **CERS HAZ WASTE** **S113100116**
ENE **22772 GRANITE WAY** **HWTS** **N/A**
1/8-1/4 **LAGUNA HILLS, CA 92653** **HAZNET**
0.171 mi.
903 ft. **Site 1 of 2 in cluster G**

Relative:
Lower

Actual:
250 ft.

CERS HAZ WASTE:
Name: SERVICE KING COLLISION INC DBA CRASH CHAMPIONS LLC
Address: 22772 GRANITE WAY
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 356697
CERS ID: 10563274
CERS Description: Hazardous Waste Generator

Violations:
Site ID: 356697
Site Name: Service King Collision Inc DBA Crash Champions LLC
Violation Date: 10-08-2014
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 11/07/2014.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 356697
Site Name: Service King Collision Inc DBA Crash Champions LLC
Violation Date: 10-08-2014
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 11/07/2014.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-02-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspected perimeter of facility including the dumpster area. Permission to inspect and take necessary photos granted by Anton Harris. Hazardous waste properly stored and identified. Documentation for hazardous waste pickup reviewed on site. Hazardous waste emergency response sticker completed and posted on site. No violations noted at this time.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-03-2014
Violations Found: No

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-08-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Review of updated billing address, submitted RUR and inactivation of HMBEP due to no regulated levels of HM. Declined in CERS, HM should not be checked on business activity page The submittal was reassessed at this time due to changes in disclosable quantity of argon/CO2 disclosure from 200 cubic feet to 1000 cubic feet. The hazardous materials inspection previously done also indicates you have below disclosable amounts of all other chemicals. Please go to the activities page of the facility submittal and uncheck that you have hazardous materials in regulated quantities and leave in that you do have hazardous waste, and resubmit.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 12-18-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: CERS ID: 10563274 The following documents were received and ACCEPTED on the Esubmit Portal/CERS: Business Activities Form Business Owner/Operator Form Facility Site Map
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-23-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: esubmit and CERS review
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-24-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed revised hazmat disclosure submittal in CERS. Not accepted. Revise the Business Activities page to include your new EPA ID number CAL000403867. Revise the Emergency/Contingency Plan to include the telephone number for the Orange County CUPA 714-433-6000.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Eval Date: 06-14-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Please be advised that this agency has reviewed laboratory results for spray booth filter sample analyzed on 3/8/19. Based on the submitted laboratory results, spray booth filters are not considered hazardous and do not have to be managed as hazardous waste.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-27-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: emailed report to Marie Rymer The facility is in the process of doing a waste determination on the exhaust filters on the spray booth. Submit a copy of the results to this Agency for assessment prior to disposing of the waste in the trash.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-01-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for inspection. DBA and ownership change. Service King Collision Repair Center # 239 Inspected perimeter of facility including the dumpster area. Permission to inspect granted by Anton Harris. Hazardous waste properly stored and identified.. One hazardous waste pickup since the change of DBA/ownership. Manifest kept on site and available for review. Hazardous waste emergency response sticker completed and posted on site. * Business is using a different paint manufacturer (Spies Hecker). A hazardous waste determination for the waste paint filters will need to be performed if there is any intention of disposing the spent filters to the municipal landfill (dumpster). A hazardous waste determination consists of the following: 1.) Obtain a letter from your paint manufacturer(s) (signed by company president or chemist) stating that no California regulated heavy metals (Title 22, CCR) are contained in the paints used by your facility. a of [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-08-2014
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Orange County Environmental Health as the Certified Unified Program Agency (OC CUPA) is the administrating agency for the Hazardous Materials Disclosure and Business Emergency Plan programs (HMD/BEP) previously administered by the Orange County Fire Authority. During the months of August and December of 2013, the OC CUPA sent out letters to regulated businesses requesting them to electronically submit their HMD/BEP forms. Electronic submission of these forms is a

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

legal requirement. Failure to submit HMD/BEP forms is in violation of the California Health & Safety Code Chapter 6.95. According to our records there is no electronic submission for this facility. Please go to www.esubmit.ocgov.com to request a user name and password and submit your HMD/BEP forms within the next 30 days. Businesses may also submit forms via the California Environmental Reporting System. Please verify that all owner information that is pre populated on the E-Submit Portal is still [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-13-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Review of CERS accepted for 2017

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-02-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Autobody by Caldwell 22772 Granite Way Laguns Hills, CA 92653 FA0050877 On site for initial hazardous materials and business emergency plan audit. Observed the facility and inspected hazardous materials storage. The following hazardous materials were observed in amounts that exceed the required disclosure quantities: - One 55 gallon drum of used radiator coolant - One 55 gallon drum of waste oil - One 55 gallon drum of paint/solvent waste - One 55 gallon drum of new solvent - Five argon/co2 compressed gas cylinders - One acetylene compressed gas cylinder - One oxygen compressed gas cylinder This report serves as notice that the facility must submit the following documents electronically within 30 days of this report: - Business Emergency Plan - Hazardous Materials Chemical Inventory - Site Map The facility is responsible for identifying all hazardous materials, to include hazardous wastes, which are above the disclosure thresholds. If there [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-25-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous waste inspection. Consent to enter and inspect given by Matt Blodgett, Manager. Facility is an auto collision repair shop and generates waste: - Waste oil - Waste antifreeze - Paint waste/waste solvent - Waste absorbent - Empty cups Hazardous waste manifests were available for review. Business emergency plan available for review. Observed facility, hazardous waste storage area, and dumpster area. Hazardous waste containers were stored closed and properly labeled. No indication of hazardous waste spillage, runoff, or illegal disposal was observed.

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-13-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site to conduct routine hazardous waste inspection. Marie Rymer granted consent to conduct inspection. I walked through the facility and inspected waste storage areas inside throughout building. I did not observe any hazardous waste in municipal trash or trash cans throughout the facility. Waste paint, spent waterborne cleaning solution, waste aerosols, empty cups/cans, rages with paint and/or oil, waste oil, used oil filters, waste antifreeze, bondo waste and paint solids drums are stored closed and labeled. Manifests were reviewed. Emergency contact information is posted on a bulletin board in shop.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-24-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 07-13-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: The CERS submittal was reassessed at this time due to changes in disclosable quantity of argon/CO2 disclosure from 200 cubic feet to 1000 cubic feet. The hazardous materials inspection previously done also indicates you have below disclosable amounts of all other chemicals. Please go to the activities page of the facility submittal and uncheck that you have hazardous materials in regulated quantities and leave in that you do have hazardous waste, and resubmit. HM inactivated this date.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-01-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for inspection. DBA and ownership change. Service King Collision Repair Center # 239 Walked facility with the latest chemical inventory and site map submitted in CERS. Reviewed and declined submittal. Please address the following: Except for the the argon/CO2, all listed chemicals observed on site are below disclosure threshold. Delete these from submittal in CERS. Make following

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

changes to the "argon" disclosure: Not a cryogen for fire code hazard class (leave it blank). Maximum daily amount should be 750 cubic feet, not 125. Change percent weight (in the mixture components box) from 100% to 75 %. Add second line in this box (for CO2). Include CAS number and use 25% for the percent weight. Add the site orientation (north arrow) and the location of the spill response equipment/absorbent (at wall by spray booth) to the site map. > Resubmit after modifications have been performed.

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-24-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed previous reports
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Enforcement Action:
Site ID: 356697
Site Name: Service King Collision Inc DBA Crash Champions LLC
Site Address: 22772 GRANITE WAY
Site City: LAGUNA HILLS
Site Zip: 92653
Enf Action Date: 06-24-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: HMD/BEP NOV ISSUED 6-24-15.
Enf Action Division: Orange County Environmental Health
Enf Action Program: UNSPEC
Enf Action Source: CERS,

Coordinates:
Site ID: 356697
Facility Name: Service King Collision Inc DBA Crash Champions LLC
Env Int Type Code: HWG
Program ID: 10563274
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.627320
Longitude: -117.732410

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title: Not reported
Affiliation Address: 1241 East Dyer RoadSuite 120
Affiliation City: Santa Ana
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92705-5611
Affiliation Phone: (714) 433-6406,

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Affiliation Type Desc:	Document Preparer
Entity Name:	rudy sanchez
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	Identification Signer
Entity Name:	Rudy Sanchez
Entity Title:	Safety Compliance Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	Parent Corporation
Entity Name:	Service King Paint & Body, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	Environmental Contact
Entity Name:	Rudy M Sanchez
Entity Title:	Not reported
Affiliation Address:	12808 DOLOMITE LN
Affiliation City:	MORENO VALLEY
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92555-4512
Affiliation Phone:	,

Affiliation Type Desc:	Operator
Entity Name:	Service King Collision, Inc, DBA Crash Champions, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(972) 960-7595,

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	808 S. Central Expy
Affiliation City:	Richardson
Affiliation State:	TX
Affiliation Country:	Not reported

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Affiliation Zip: 75080
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: SK Holdco, LLC
Entity Title: Not reported
Affiliation Address: 808 S. Central Expy
Affiliation City: Richardson
Affiliation State: TX
Affiliation Country: United States
Affiliation Zip: 75080
Affiliation Phone: (972) 960-7595,

HWTS:
Name: AUTOBODY BY CALDWELL INC
Address: 22772 GRANITE WAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAL000190857
Inactive Date: 03/23/2006
Create Date: 01/07/2000
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 22772 GRANITE WAY
Mailing Address 2: Not reported
Mailing City,State,Zip: LAGUNA HILLS, CA 926530000
Owner Name: AUTOBODY BY CALDWELL INC
Owner Address: 22772 GRANITE WAY
Owner Address 2: Not reported
Owner City,State,Zip: LAGUNA HILLS, CA 926530000
Owner Phone: Not reported
Owner Fax: Not reported
Contact Name: KEVIN CALDWELL
Contact Address: Not reported
Contact Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 926530000
Contact Phone: Not reported
Contact Fax: Not reported
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 33.627655
Longitude: -117.732862

NAICS:
EPA ID: CAL000190857
Create Date: 2002-03-14 16:36:28.000
NAICS Code: 811121
NAICS Description: Automotive Body, Paint, and Interior Repair and Maintenance
Issued EPA ID Date: 2000-01-07 00:00:00
Inactive Date: 2006-03-23 00:00:00
Facility Name: AUTOBODY BY CALDWELL INC
Facility Address: 22772 GRANITE WAY
Facility Address 2: Not reported
Facility City: LAGUNA HILLS
Facility County: Not reported

AUTOBODY BY CALDWELL INC (Continued) **S113100116**

Facility State: CA
Facility Zip: 926530000

HAZNET:
Name: AUTOBODY BY CALDWELL INC
Address: 22772 GRANITE WAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 926530000
Contact: KEVIN CALDWELL
Telephone: 9499516917
Mailing Name: Not reported
Mailing Address: 22772 GRANITE WAY

Year: 2000
Gepaid: CAL000190857
TSD EPA ID: CAT080013352
CA Waste Code: 133 - Aqueous solution with total organic residues 10 percent or more
Disposal Method: R01 - Recycler
Tons: 0.417

Additional Info:
Year: 2000
Gen EPA ID: CAL000190857

Shipment Date: 20000615
Creation Date: 9/11/2000 0:00:00
Receipt Date: 20000707
Manifest ID: 20227957
Trans EPA ID: CAD028277036
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAT080013352
Trans Name: Not reported
TSDF Alt EPA ID: CAT080013352
TSDF Alt Name: Not reported
Waste Code Description: 133 - Aqueous solution with 10% or more total organic residues
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 0.417
Waste Quantity: 100
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

G44 **SERVICE KING PAINT & BODY LLC** **RCRA NonGen / NLR** **1024848346**
ENE **22772 GRANITE WAY** **CAL000403867**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.171 mi.
903 ft. **Site 2 of 2 in cluster G**

Relative: **Lower**

Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20150121
Handler Name:	Service King Paint & Body Llc
Handler Address:	22772 GRANITE WAY
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAL000403867
Contact Name:	JUAN GUERRERO
Contact Address:	2375 N. GLEENVILLE DR.
Contact City,State,Zip:	RICHARDSON, TX 75082
Contact Telephone:	214-573-3901
Contact Fax:	469-330-1749
Contact Email:	JUAN.GUERRERO@SERVICEKING.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2375 N. GLENVILLE DR.
Mailing City,State,Zip:	RICHARDSON, TX 75082-0000
Owner Name:	Service King Paint And Body Llc
Owner Type:	Other
Operator Name:	Juan Guerrero
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

SERVICE KING PAINT & BODY LLC (Continued) **1024848346**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180906
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: JUAN GUERRERO	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	2375 N. GLEENVILLE DR.
Owner/Operator City,State,Zip:	RICHARDSON, TX 75082
Owner/Operator Telephone:	214-573-3901
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: SERVICE KING PAINT AND BODY LLC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	2375 N. GLENVILLE DR.
Owner/Operator City,State,Zip:	RICHARDSON, TX 75082-0000
Owner/Operator Telephone:	972-960-7595
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20150121
Handler Name: SERVICE KING PAINT & BODY LLC	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

SERVICE KING PAINT & BODY LLC (Continued) **1024848346**

List of NAICS Codes and Descriptions:
NAICS Code: 811121
NAICS Description: AUTOMOTIVE BODY, PAINT, AND INTERIOR REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F45 **JASON BELL** **RCRA NonGen / NLR** **1024769872**
South **23341 CAMINITO BASILIO UNIT 342** **CAC002989771**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.176 mi.
929 ft. **Site 3 of 7 in cluster F**

Relative: **Higher**
Actual: **358 ft.**

RCRA Listings:

Date Form Received by Agency:	20181119
Handler Name:	Jason Bell
Handler Address:	23341 CAMINITO BASILIO UNIT 342
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC002989771
Contact Name:	JASON BELL
Contact Address:	23341 CAMINITO BASILIO UNIT 342
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	858-332-2220
Contact Fax:	Not reported
Contact Email:	AMARTINO@VIKINGENVIRO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23341 CAMINITO BASILIO UNIT 342
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Jason Bell
Owner Type:	Other
Operator Name:	Jason Bell
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

JASON BELL (Continued) **1024769872**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20181120
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JASON BELL	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23341 CAMINITO BASILIO UNIT 342
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	858-332-2220
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: JASON BELL	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23341 CAMINITO BASILIO UNIT 342
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	858-332-2220
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JASON BELL (Continued) **1024769872**

Historic Generators:
Receive Date: 20181119
Handler Name: JASON BELL
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F46 **THOMAS RENDINA** **RCRA NonGen / NLR** **1028896204**
South **23355 CAMINITO BASILIO** **CAC003257691**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.176 mi.
929 ft. **Site 4 of 7 in cluster F**

Relative: **Higher**

Actual: **358 ft.**

RCRA Listings:
Date Form Received by Agency: 20231023
Handler Name: Thomas Rendina
Handler Address: 23355 CAMINITO BASILIO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003257691
Contact Name: THOMAS RENDINA
Contact Address: 23355 CAMINITO BASILIO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-584-4668
Contact Fax: Not reported
Contact Email: ELIZABETHS@PWSEI.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23355 CAMINITO BASILIO
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Thomas Rendina

THOMAS RENDINA (Continued) **1028896204**

Owner Type:	Other
Operator Name:	Thomas Rendina
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20231023
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: THOMAS RENDINA	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23355 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-584-4668
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

THOMAS RENDINA (Continued) **1028896204**

Owner/Operator Indicator: Owner
Owner/Operator Name: THOMAS RENDINA
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23355 CAMINITO BASILIO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-584-4668
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20231023
Handler Name: THOMAS RENDINA
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F47 **MENDOZA, BLAS** **RCRA NonGen / NLR** **1024761267**
South **23351 CAMINITO BASILIO** **CAC002981127**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.176 mi.
929 ft. **Site 5 of 7 in cluster F**

Relative:
Higher

Actual:
358 ft.

RCRA Listings:
Date Form Received by Agency: 20180919
Handler Name: Mendoza, Blas
Handler Address: 23351 CAMINITO BASILIO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC002981127
Contact Name: MENDOZA, BLAS
Contact Address: 23351 CAMINITO BASILIO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-280-7185
Contact Fax: Not reported
Contact Email: ANDREWC@PWSEI.COM
Contact Title: Not reported

MENDOZA, BLAS (Continued) **1024761267**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23351 CAMINITO BASILIO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Mendoza, Blas
Owner Type:	Other
Operator Name:	Mendoza, Blas
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20181001
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

MENDOZA, BLAS (Continued) **1024761267**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: MENDOZA, BLAS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23351 CAMINITO BASILIO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-280-7185
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MENDOZA, BLAS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23351 CAMINITO BASILIO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-280-7185
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20180919
Handler Name: MENDOZA, BLAS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

H48 **AL AKANS** **RCRA NonGen / NLR** **1027076710**
South **23405 CAMINITO BASILIO** **CAC003148510**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.184 mi.
973 ft. **Site 1 of 2 in cluster H**

Relative: **Higher**
Actual: **347 ft.**

RCRA Listings:

Date Form Received by Agency:	20211115
Handler Name:	Al Akans
Handler Address:	23405 CAMINITO BASILIO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003148510
Contact Name:	AL AKANS
Contact Address:	23405 CAMINITO BASILIO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-532-8094
Contact Fax:	Not reported
Contact Email:	ALAKANS02@SBCGLOBAL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23405 CAMINITO BASILIO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Al Akans
Owner Type:	Other
Operator Name:	Al Akans
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

AL AKANS (Continued) **1027076710**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211115
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: AL AKANS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23405 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-532-8094
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: AL AKANS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23405 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-532-8094
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20211115
Handler Name: AL AKANS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

AL AKANS (Continued) **1027076710**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

H49 **ADAM CRAB** **RCRA NonGen / NLR** **1026801016**
South **23376 CAMINITO BASILIO** **CAC003112938**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.184 mi.
973 ft. **Site 2 of 2 in cluster H**

Relative: **Higher**
Actual: **347 ft.**

RCRA Listings:

Date Form Received by Agency:	20210401
Handler Name:	Adam Crab
Handler Address:	23376 CAMINITO BASILIO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003112938
Contact Name:	ADAM CRAB
Contact Address:	23376 CAMINITO BASILIO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-413-8530
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23376 CAMINITO BASILIO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Adam Crab
Owner Type:	Other
Operator Name:	Adam Crab
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

ADAM CRAB (Continued) **1026801016**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210415
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ADAM CRAB	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23376 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-413-8530
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: ADAM CRAB	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23376 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-413-8530
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

ADAM CRAB (Continued) **1026801016**

Historic Generators:
Receive Date: 20210401
Handler Name: ADAM CRAB
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F50 **JEANETTE TROTMAN** **RCRA NonGen / NLR** **1026046376**
SSW **23421 CAMINITO PARTIDA** **CAC003052841**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.190 mi.
1002 ft. **Site 6 of 7 in cluster F**

Relative: **Higher**
Actual: **389 ft.**

RCRA Listings:
Date Form Received by Agency: 20200127
Handler Name: Jeanette Trotman
Handler Address: 23421 CAMINITO PARTIDA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003052841
Contact Name: JEANETTE TROTMAN
Contact Address: 23421 CAMINITO PARTIDA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 855-883-4778
Contact Fax: Not reported
Contact Email: KYLE@FORTEENVIRONMENTAL.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23421 CAMINITO PARTIDA
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Jeanette Trotman

JEANETTE TROTMAN (Continued) **1026046376**

Owner Type:	Other
Operator Name:	Jeanette Trotman
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200210
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JEANETTE TROTMAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23421 CAMINITO PARTIDA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	855-883-4778
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JEANETTE TROTMAN (Continued) **1026046376**

Owner/Operator Indicator: Operator
Owner/Operator Name: JEANETTE TROTMAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23421 CAMINITO PARTIDA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 855-883-4778
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20200127
Handler Name: JEANETTE TROTMAN
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

F51 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027525051**
SSW **23421 CAMINITO PARTIDA** **CAC003217601**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.190 mi.
1002 ft. **Site 7 of 7 in cluster F**

Relative:
Higher

Actual:
389 ft.

RCRA Listings:
Date Form Received by Agency: 20230214
Handler Name: Laguna Village Owners Association
Handler Address: 23421 CAMINITO PARTIDA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003217601
Contact Name: DAN ABRAMOVICH
Contact Address: 23421 CAMINITO PARTIDA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-400-3010
Contact Fax: Not reported
Contact Email: GROSS@PMPMANAGE.COM
Contact Title: Not reported

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027525051**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23421 CAMINITO PARTIDA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	Dan Abramovich
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230214
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027525051**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: DAN ABRAMOVICH
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23421 CAMINITO PARTIDA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-400-3010
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23421 CAMINITO PARTIDA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-400-3010
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230214
Handler Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

I52 **VINCENTE HERNANDEZ** **RCRA NonGen / NLR** **1027212496**
SW **23415 CAMINITO TELMO** **CAC003176992**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.207 mi.
1093 ft. **Site 1 of 4 in cluster I**

Relative: **Higher**

Actual: **391 ft.**

RCRA Listings:

Date Form Received by Agency:	20220519
Handler Name:	Vincente Hernandez
Handler Address:	23415 CAMINITO TELMO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003176992
Contact Name:	VINCENTE HERNANDEZ
Contact Address:	23415 CAMINITO TELMO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	714-785-6766
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23415 CAMINITO TELMO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Vincente Hernandez
Owner Type:	Other
Operator Name:	Vincente Hernandez
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

VINCENTE HERNANDEZ (Continued) **1027212496**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220523
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: VINCENTE HERNANDEZ	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23415 CAMINITO TELMO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-785-6766
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: VINCENTE HERNANDEZ	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23415 CAMINITO TELMO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-785-6766
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20220519
Handler Name: VINCENTE HERNANDEZ	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

VINCENTE HERNANDEZ (Continued) **1027212496**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J53 **JULIE KERN** **RCRA NonGen / NLR** **1025852695**
NNW **22912 AVENIDA VALVERDE** **CAC003032868**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 1 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20190909
Handler Name:	Julie Kern
Handler Address:	22912 AVENIDA VALVERDE
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003032868
Contact Name:	JULIE KERN
Contact Address:	22912 AVENIDA VALVERDE
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-494-0033
Contact Fax:	Not reported
Contact Email:	ANAB@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22912 AVENIDA VALVERDE
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Julie Kern
Owner Type:	Other
Operator Name:	Julie Kern
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

JULIE KERN (Continued) **1025852695**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190910
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: JULIE KERN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22912 AVENIDA VALVERDE
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-494-0033
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: JULIE KERN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22912 AVENIDA VALVERDE
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-494-0033
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JULIE KERN (Continued) **1025852695**

Historic Generators:
Receive Date: 20190909
Handler Name: JULIE KERN
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J54 **SHIRLEY MACCARTNEY** **RCRA NonGen / NLR** **1025861873**
NNW **22952 CAMINITO POCO** **CAC003042568**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 2 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:
Date Form Received by Agency: 20191111
Handler Name: Shirley Maccartney
Handler Address: 22952 CAMINITO POCO
Handler City,State,Zip: LAGUNA HILLS, CA 92653-1122
EPA ID: CAC003042568
Contact Name: SHIRLEY MACCARTNEY
Contact Address: 5061 NORRIS ST
Contact City,State,Zip: IRVINE, CA 92604-2938
Contact Telephone: 949-551-3096
Contact Fax: Not reported
Contact Email: NANCYRUIZ@ALLIANCE-ENVIRO.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 5061 NORRIS ST
Mailing City,State,Zip: IRVINE, CA 92604-2938
Owner Name: Shirley Maccartney

SHIRLEY MACCARTNEY (Continued) **1025861873**

Owner Type:	Other
Operator Name:	Shirley Maccartney
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20191122
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: SHIRLEY MACCARTNEY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	5061 NORRIS ST
Owner/Operator City,State,Zip:	IRVINE, CA 92604-2938
Owner/Operator Telephone:	949-551-3096
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

SHIRLEY MACCARTNEY (Continued) **1025861873**

Owner/Operator Indicator: Owner
Owner/Operator Name: SHIRLEY MACCARTNEY
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 5061 NORRIS ST
Owner/Operator City,State,Zip: IRVINE, CA 92604-2938
Owner/Operator Telephone: 949-551-3096
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20191111
Handler Name: SHIRLEY MACCARTNEY
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J55 **QUIET FOREST TRUST** **RCRA NonGen / NLR** **1027079751**
NNW **22952 CAMINITO DONOSO, #49** **CAC003151712**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 3 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:
Date Form Received by Agency: 20211207
Handler Name: Quiet Forest Trust
Handler Address: 22952 CAMINITO DONOSO, #49
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003151712
Contact Name: JAMES JIM AND ALISON HASTY
Contact Address: 12904 NE 242ND COURT
Contact City,State,Zip: BRUSH PRAIRIE, WA 98606
Contact Telephone: 949-735-1984
Contact Fax: Not reported
Contact Email: JHASTY@MEYERPROP.COM
Contact Title: Not reported

QUIET FOREST TRUST (Continued) **1027079751**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	12904 NE 242ND COURT
Mailing City,State,Zip:	BRUSH PRAIRIE, WA 98606
Owner Name:	Quiet Forest Trust
Owner Type:	Other
Operator Name:	James Jim And Alison Hasty
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211207
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

QUIET FOREST TRUST (Continued) **1027079751**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: QUIET FOREST TRUST
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 12904 NE 242ND COURT
Owner/Operator City,State,Zip: BRUSH PRAIRIE, WA 98606
Owner/Operator Telephone: 949-735-1984
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: JAMES JIM AND ALISON HASTY
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 12904 NE 242ND COURT
Owner/Operator City,State,Zip: BRUSH PRAIRIE, WA 98606
Owner/Operator Telephone: 949-735-1984
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20211207
Handler Name: QUIET FOREST TRUST
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J56 **JAY HAWKINS** **RCRA NonGen / NLR** **1027688276**
NNW **22891 CAMINITO SOL** **CAC003230557**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 4 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20230502
Handler Name:	Jay Hawkins
Handler Address:	22891 CAMINITO SOL
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003230557
Contact Name:	JAY HAWKINS
Contact Address:	22891 CAMINITO SOL
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-306-9832
Contact Fax:	Not reported
Contact Email:	KAITLY.TEECOR@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22891 CAMINITO SOL
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Jay Hawkins
Owner Type:	Other
Operator Name:	Jay Hawkins
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

JAY HAWKINS (Continued) **1027688276**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230502
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: JAY HAWKINS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22891 CAMINITO SOL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-9832
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: JAY HAWKINS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22891 CAMINITO SOL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-9832
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230502
Handler Name: JAY HAWKINS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

JAY HAWKINS (Continued) **1027688276**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J57 **SANDRA L HAMBRIC, TRUSTEE** **RCRA NonGen / NLR** **1028882433**
NNW **22881 CAMINITO ALTO** **CAC003242890**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 5 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20230720
Handler Name:	Sandra L Hambric, Trustee
Handler Address:	22881 CAMINITO ALTO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003242890
Contact Name:	A-Z PROPERTY SERVICES
Contact Address:	PO BOX 1574
Contact City,State,Zip:	ANAHEIM, CA 92815
Contact Telephone:	714-866-2979
Contact Fax:	Not reported
Contact Email:	KAITLY.TEECOR@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	PO BOX 1574
Mailing City,State,Zip:	ANAHEIM, CA 92815
Owner Name:	Sandra L Hambric, Trustee
Owner Type:	Other
Operator Name:	A-Z Property Services
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

SANDRA L HAMBRIC, TRUSTEE (Continued) **1028882433**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230727
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: SANDRA L HAMBRIC, TRUSTEE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22881 CAMINITO ALTO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-866-2979
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: A-Z PROPERTY SERVICES	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	PO BOX 1574
Owner/Operator City,State,Zip:	ANAHEIM, CA 92815
Owner/Operator Telephone:	714-866-2979
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

SANDRA L HAMBRIC, TRUSTEE (Continued) **1028882433**

Historic Generators:
Receive Date: 20230720
Handler Name: SANDRA L HAMBRIC, TRUSTEE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J58 **MATTHEW RYAN** **RCRA NonGen / NLR** **1027521932**
NNW **22862 CAMINITO PLUMAS** **CAC003214247**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 6 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:
Date Form Received by Agency: 20230125
Handler Name: Matthew Ryan
Handler Address: 22862 CAMINITO PLUMAS
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003214247
Contact Name: MATTHEW RYAN
Contact Address: 22862 CAMINITO PLUMAS
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 714-293-9482
Contact Fax: Not reported
Contact Email: KAITLY.TEECOR@YAHOO.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 22862 CAMINITO PLUMAS
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Matthew Ryan

MATTHEW RYAN (Continued) **1027521932**

Owner Type:	Other
Operator Name:	Matthew Ryan
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230203
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: MATTHEW RYAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22862 CAMINITO PLUMAS
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-293-9482
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

MATTHEW RYAN (Continued) **1027521932**

Owner/Operator Indicator: Owner
Owner/Operator Name: MATTHEW RYAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22862 CAMINITO PLUMAS
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-293-9482
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230125
Handler Name: MATTHEW RYAN
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J59 **JUDITH ANN W. WATTS** **RCRA NonGen / NLR** **1024775065**
NNW **22902 AVENIDA VALVERDE** **CAC002994992**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 7 of 14 in cluster J**

Relative:
Lower

Actual:
250 ft.

RCRA Listings:
Date Form Received by Agency: 20190103
Handler Name: Judith Ann W. Watts
Handler Address: 22902 AVENIDA VALVERDE
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC002994992
Contact Name: JUDITH ANN W. WATTS
Contact Address: 22902 AVENIDA VALVERDE
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-716-4148
Contact Fax: Not reported
Contact Email: ENKAY@ENKAYENGINEERING.COM
Contact Title: Not reported

JUDITH ANN W. WATTS (Continued) **1024775065**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22902 AVENIDA VALVERDE
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Judith An W. Watts
Owner Type:	Other
Operator Name:	Judith Ann W. Watts
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190222
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

JUDITH ANN W. WATTS (Continued) **1024775065**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: JUDITH AN W. WATTS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22902 AVENIDA VALVERDE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-716-4148
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: JUDITH ANN W. WATTS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22902 AVENIDA VALVERDE
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-716-4148
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20190103
Handler Name: JUDITH ANN W. WATTS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J60 **DAN WALSH** **RCRA NonGen / NLR** **1026475871**
NNW **22961 CAMINITO DONOSO** **CAC003081646**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 8 of 14 in cluster J**

Relative: **Lower**

Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20200831
Handler Name:	Dan Walsh
Handler Address:	22961 CAMINITO DONOSO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003081646
Contact Name:	DAN WALSH
Contact Address:	22961 CAMINITO DONOSO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-805-0483
Contact Fax:	Not reported
Contact Email:	KARLA@SUPERIORENV.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22961 CAMINITO DONOSO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Dan Walsh
Owner Type:	Other
Operator Name:	Dan Walsh
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

DAN WALSH (Continued) **1026475871**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200904
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: DAN WALSH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22961 CAMINITO DONOSO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-805-0483
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: DAN WALSH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22961 CAMINITO DONOSO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-805-0483
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20200831
Handler Name: DAN WALSH	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

DAN WALSH (Continued) **1026475871**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J61 **DENISE ZABILSKI** **RCRA NonGen / NLR** **1027687178**
NNW **22895 CAMINITO SOL** **CAC003229393**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 9 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20230425
Handler Name:	Denise Zabilski
Handler Address:	22895 CAMINITO SOL
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003229393
Contact Name:	DENISE ZABILSKI
Contact Address:	22895 CAMINITO SOL
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	602-647-1609
Contact Fax:	Not reported
Contact Email:	KAITLY.TEECOR@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22895 CAMINITO SOL
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Denise Zabilski
Owner Type:	Other
Operator Name:	Denise Zabilski
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

DENISE ZABILSKI (Continued) **1027687178**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230425
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: DENISE ZABILSKI	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22895 CAMINITO SOL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	602-647-1609
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: DENISE ZABILSKI	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22895 CAMINITO SOL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	602-647-1609
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

DENISE ZABILSKI (Continued) **1027687178**

Historic Generators:
- Receive Date: 20230425
- Handler Name: DENISE ZABILSKI
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: No
- Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

J62 **JAY HAWKINS** **RCRA NonGen / NLR** **1027688283**
NNW **22891 CAMINITO SOL** **CAC003230564**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 10 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:
- Date Form Received by Agency: 20230502
- Handler Name: Jay Hawkins
- Handler Address: 22891 CAMINITO SOL
- Handler City,State,Zip: LAGUNA HILLS, CA 92653
- EPA ID: CAC003230564
- Contact Name: JAY HAWKINS
- Contact Address: 22891 CAMINITO SOL
- Contact City,State,Zip: LAGUNA HILLS, CA 92653
- Contact Telephone: 949-306-9832
- Contact Fax: Not reported
- Contact Email: KAITLY.TEECOR@YAHOO.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 22891 CAMINITO SOL
- Mailing City,State,Zip: LAGUNA HILLS, CA 92653
- Owner Name: Jay Hawkins

JAY HAWKINS (Continued) **1027688283**

Owner Type:	Other
Operator Name:	Jay Hawkins
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230502
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: JAY HAWKINS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22891 CAMINITO SOL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-306-9832
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JAY HAWKINS (Continued) **1027688283**

Owner/Operator Indicator: Owner
Owner/Operator Name: JAY HAWKINS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22891 CAMINITO SOL
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-306-9832
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230502
Handler Name: JAY HAWKINS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J63 **GREGORY RUSSELL** **RCRA NonGen / NLR** **1027073670**
NNW **22961 CAMINITO OLIVIA** **CAC003145308**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 11 of 14 in cluster J**

Relative:
Lower

Actual:
250 ft.

RCRA Listings:
Date Form Received by Agency: 20211026
Handler Name: Gregory Russell
Handler Address: 22961 CAMINITO OLIVIA
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003145308
Contact Name: GREGORY RUSSELL
Contact Address: 22961 CAMINITO OLIVIA
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 714-319-0689
Contact Fax: Not reported
Contact Email: MARIA.TEECOR@YAHOO.COM
Contact Title: Not reported

GREGORY RUSSELL (Continued) **1027073670**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22961 CAMINITO OLIVIA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Gregory Russell
Owner Type:	Other
Operator Name:	Gregory Russell
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211026
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

GREGORY RUSSELL (Continued) **1027073670**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: GREGORY RUSSELL
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22961 CAMINITO OLIVIA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-319-0689
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: GREGORY RUSSELL
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 22961 CAMINITO OLIVIA
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 714-319-0689
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20211026
Handler Name: GREGORY RUSSELL
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J64 **ANDREW BRAUN** **RCRA NonGen / NLR** **1027215015**
NNW **22982 CAMINTO OLIVIA** **CAC003179688**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 12 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20220607
Handler Name:	Andrew Braun
Handler Address:	22982 CAMINTO OLIVIA
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003179688
Contact Name:	ANDREW BRAUN
Contact Address:	22982 CAMINTO OLIVIA
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	309-531-7369
Contact Fax:	Not reported
Contact Email:	KARLA@SUPERIORENV.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22982 CAMINTO OLIVIA
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Andrew Braun
Owner Type:	Other
Operator Name:	Andrew Braun
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

ANDREW BRAUN (Continued) **1027215015**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220607
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ANDREW BRAUN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22982 CAMINTO OLIVIA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	309-531-7369
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: ANDREW BRAUN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22982 CAMINTO OLIVIA
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	309-531-7369
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20220607
Handler Name: ANDREW BRAUN	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

ANDREW BRAUN (Continued) **1027215015**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J65 **SANDRA L HAMBRIC, TRUSTEE** **RCRA NonGen / NLR** **1028886029**
NNW **22881 CAMINITO ALTO** **CAC003246776**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 13 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:

Date Form Received by Agency:	20230814
Handler Name:	Sandra L Hambric, Trustee
Handler Address:	22881 CAMINITO ALTO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003246776
Contact Name:	SANDRA L HAMBRIC, TRUSTEE
Contact Address:	22881 CAMINITO ALTO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	714-866-2979
Contact Fax:	Not reported
Contact Email:	KAITLY.TEECOR@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	P.O. BOX 1574
Mailing City,State,Zip:	ANAHEIM, CA 92815
Owner Name:	Sandra L Hambric, Trustee
Owner Type:	Other
Operator Name:	Sandra L Hambric, Trustee
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

SANDRA L HAMBRIC, TRUSTEE (Continued) **1028886029**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230814
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: SANDRA L HAMBRIC, TRUSTEE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22881 CAMINITO ALTO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-866-2979
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: SANDRA L HAMBRIC, TRUSTEE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22881 CAMINITO ALTO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-866-2979
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

SANDRA L HAMBRIC, TRUSTEE (Continued) **1028886029**

Historic Generators:
Receive Date: 20230814
Handler Name: SANDRA L HAMBRIC, TRUSTEE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J66 **JEANNE MUIS** **RCRA NonGen / NLR** **1027210751**
NNW **22895 CAMINITO ALTO** **CAC003175123**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.208 mi.
1097 ft. **Site 14 of 14 in cluster J**

Relative: **Lower**
Actual: **250 ft.**

RCRA Listings:
Date Form Received by Agency: 20220509
Handler Name: Jeanne Muis
Handler Address: 22895 CAMINITO ALTO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003175123
Contact Name: JEANNE MUIS
Contact Address: 20941 PASEO NOGAL
Contact City,State,Zip: LAKE FOREST, CA 92630
Contact Telephone: 562-234-5234
Contact Fax: Not reported
Contact Email: GOGOAGIGI@GMAIL.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 20941 PASEO NOGAL
Mailing City,State,Zip: LAKE FOREST, CA 92630
Owner Name: Jeanne Muis

JEANNE MUIS (Continued) **1027210751**

Owner Type:	Other
Operator Name:	Jeanne Muis
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220511
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JEANNE MUIS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20941 PASEO NOGAL
Owner/Operator City,State,Zip:	LAKE FOREST, CA 92630
Owner/Operator Telephone:	562-234-5234
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JEANNE MUIS (Continued) **1027210751**

Owner/Operator Indicator: Operator
Owner/Operator Name: JEANNE MUIS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 20941 PASEO NOGAL
Owner/Operator City,State,Zip: LAKE FOREST, CA 92630
Owner/Operator Telephone: 562-234-5234
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20220509
Handler Name: JEANNE MUIS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

67
North
1/8-1/4
0.216 mi.
1140 ft.

WALLABY MEDICAL, INC. **RCRA NonGen / NLR** **1027520442**
22901 MILL CREEK DR. **CAC003212654**
LAGUNA HILLS, CA 92653

Relative:
Lower

Actual:
272 ft.

RCRA Listings:
Date Form Received by Agency: 20230116
Handler Name: Wallaby Medical, Inc.
Handler Address: 22901 MILL CREEK DR.
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003212654
Contact Name: TAN DINH
Contact Address: 22901 MILL CREEK DR.
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 714-487-7917
Contact Fax: Not reported
Contact Email: TAN.DINH@WALLABYMEDICAL.COM
Contact Title: Not reported

WALLABY MEDICAL, INC. (Continued) **1027520442**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	22901 MILL CREEK DR.
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Wallaby Medical, Inc.
Owner Type:	Other
Operator Name:	Tan Dinh
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230118
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

WALLABY MEDICAL, INC. (Continued) **1027520442**

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: WALLABY MEDICAL, INC.	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22901 MILL CREEK DR.
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-487-7917
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: TAN DINH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	22901 MILL CREEK DR.
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	714-487-7917
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230116
Handler Name: WALLABY MEDICAL, INC.	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

I68 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027527564**
SW **23355 CAMINITO MARCIAL** **CAC003220242**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.236 mi.
1248 ft. **Site 2 of 4 in cluster I**

Relative:
Higher

Actual:
371 ft.

RCRA Listings:

Date Form Received by Agency:	20230301
Handler Name:	Laguna Village Owners Association
Handler Address:	23355 CAMINITO MARCIAL
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003220242
Contact Name:	DEREK SIKES
Contact Address:	23355 CAMINITO MARCIAL
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	760-680-9931
Contact Fax:	Not reported
Contact Email:	DKSIKES@YMAIL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23355 CAMINITO MARCIAL
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners Association
Owner Type:	Other
Operator Name:	Derek Sikes
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027527564**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230301
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23355 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	760-680-9931
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	DEREK SIKES
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23355 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	760-680-9931
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20230301
Handler Name:	LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027527564**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

I69 **MARIO VASQUEZ** **RCRA NonGen / NLR** **1025833151**
SW **23342 CAMINITO MARCIAL** **CAC003012725**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.236 mi.
1248 ft. **Site 3 of 4 in cluster I**

Relative: **Higher**
Actual: **371 ft.**

RCRA Listings:

Date Form Received by Agency:	20190430
Handler Name:	Mario Vasquez
Handler Address:	23342 CAMINITO MARCIAL
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003012725
Contact Name:	MARIO VASQUEZ
Contact Address:	23342 CAMINITO MARCIAL
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-769-1204
Contact Fax:	Not reported
Contact Email:	ANDREWC@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23342 CAMINITO MARCIAL
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Mario Vasquez
Owner Type:	Other
Operator Name:	Mario Vasquez
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

MARIO VASQUEZ (Continued) **1025833151**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: MARIO VASQUEZ	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23342 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-769-1204
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: MARIO VASQUEZ	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23342 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-769-1204
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

MARIO VASQUEZ (Continued) **1025833151**

Historic Generators:
Receive Date: 20190430
Handler Name: MARIO VASQUEZ
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

I70 **LAGUNA VILLAGE OWNERS ASSOCIATION** **RCRA NonGen / NLR** **1027681461**
SW **23416 CAMINITO MARCIAL** **CAC003223248**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.236 mi.
1248 ft. **Site 4 of 4 in cluster I**

Relative:
Higher

Actual:
371 ft.

RCRA Listings:
Date Form Received by Agency: 20230320
Handler Name: Laguna Village Owners Association
Handler Address: 23416 CAMINITO MARCIAL
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003223248
Contact Name: STEVEN MORSE
Contact Address: 23416 CAMINITO MARCIAL
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-322-4614
Contact Fax: Not reported
Contact Email: GROSS@PMPMANAGE.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23416 CAMINITO MARCIAL
Mailing City,State,Zip: LAGUNA HILLS, CA 92653
Owner Name: Laguna Village Owners Association

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027681461**

Owner Type:	Other
Operator Name:	Steven Morse
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230321
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: STEVEN MORSE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23416 CAMINITO MARCIAL
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-322-4614
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

LAGUNA VILLAGE OWNERS ASSOCIATION (Continued) **1027681461**

Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23416 CAMINITO MARCIAL
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-322-4614
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230320
Handler Name: LAGUNA VILLAGE OWNERS ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K71 **LAGUNA VILLAGE OWNERS-(DANIELLE DRAKE)** **RCRA NonGen / NLR** **1027461667**
South **23411 CAMINITO SALADO** **CAC003200191**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.239 mi.
1262 ft. **Site 1 of 7 in cluster K**

Relative:
Higher

Actual:
349 ft.

RCRA Listings:
Date Form Received by Agency: 20221019
Handler Name: Laguna Village Owners-(Danielle Drake)
Handler Address: 23411 CAMINITO SALADO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003200191
Contact Name: DANIELLE DRAKE
Contact Address: 23411 CAMINITO SALADO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 626-297-9092
Contact Fax: Not reported
Contact Email: AOROZCO@PMPMANAGE.COM
Contact Title: Not reported

LAGUNA VILLAGE OWNERS-(DANIELLE DRAKE) (Continued) **1027461667**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23411 CAMINITO SALADO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Laguna Village Owners
Owner Type:	Other
Operator Name:	Danielle Drake
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20221020
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS-(DANIELLE DRAKE) (Continued) **1027461667**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: DANIELLE DRAKE
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23411 CAMINITO SALADO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 626-297-9092
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LAGUNA VILLAGE OWNERS
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23411 CAMINITO SALADO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 626-297-9092
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20221019
Handler Name: LAGUNA VILLAGE OWNERS-(DANIELLE DRAKE)
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K72 **KANDICE LARSEN** **RCRA NonGen / NLR** **1026717993**
South **23461 CAMINITO SALADO** **CAC003106547**
1/8-1/4 **LAGUNA HILLS, CA 92000**
0.239 mi.
1262 ft. **Site 2 of 7 in cluster K**

Relative: **Higher**

Actual: **349 ft.**

RCRA Listings:

Date Form Received by Agency:	20210219
Handler Name:	Kandice Larsen
Handler Address:	23461 CAMINITO SALADO
Handler City,State,Zip:	LAGUNA HILLS, CA 92000
EPA ID:	CAC003106547
Contact Name:	KANDICE LARSEN
Contact Address:	23461 CAMINITO SALADO
Contact City,State,Zip:	LAGUNA HILLS, CA 92000
Contact Telephone:	949-350-5293
Contact Fax:	Not reported
Contact Email:	SCHEDULING@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23461 CAMINITO SALADO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92000
Owner Name:	Kandice Larsen
Owner Type:	Other
Operator Name:	Kandice Larsen
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

KANDICE LARSEN (Continued) **1026717993**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210226
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: KANDICE LARSEN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23461 CAMINITO SALADO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92000
Owner/Operator Telephone:	949-350-5293
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KANDICE LARSEN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23461 CAMINITO SALADO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92000
Owner/Operator Telephone:	949-350-5293
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210219
Handler Name: KANDICE LARSEN	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

KANDICE LARSEN (Continued) **1026717993**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K73 **DANIELLE GRUBER** **RCRA NonGen / NLR** **1026813005**
South **23442 CAMINOTO SALADO** **CAC003125554**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.239 mi.
1262 ft. **Site 3 of 7 in cluster K**

Relative:
Higher

Actual:
349 ft.

RCRA Listings:

Date Form Received by Agency:	20210621
Handler Name:	Danielle Gruber
Handler Address:	23442 CAMINOTO SALADO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003125554
Contact Name:	DANIELLE GRUBER
Contact Address:	23442 CAMINOTO SALADO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-278-7236
Contact Fax:	Not reported
Contact Email:	AD.AQHIINC@GMAIL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23442 CAMINOTO SALADO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Danielle Gruber
Owner Type:	Other
Operator Name:	Danielle Gruber
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

DANIELLE GRUBER (Continued) **1026813005**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210630
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: DANIELLE GRUBER	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23442 CAMINOTO SALADO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-278-7236
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: DANIELLE GRUBER	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23442 CAMINOTO SALADO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-278-7236
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

DANIELLE GRUBER (Continued) **1026813005**

Historic Generators:
Receive Date: 20210621
Handler Name: DANIELLE GRUBER
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K74 **GUILLERMO MARTINEZ** **RCRA NonGen / NLR** **1026719866**
South **23455 CAMINITO SALADO** **CAC003108528**
1/8-1/4 **LAGUNA HILLS, CA 92806**
0.239 mi.
1262 ft. **Site 4 of 7 in cluster K**

Relative: **Higher**
Actual: **349 ft.**

RCRA Listings:
Date Form Received by Agency: 20210304
Handler Name: Guillermo Martinez
Handler Address: 23455 CAMINITO SALADO
Handler City,State,Zip: LAGUNA HILLS, CA 92806
EPA ID: CAC003108528
Contact Name: GUILLERMO MARTINEZ
Contact Address: 23455 CAMINITO SALADO
Contact City,State,Zip: LAGUNA HILLS, CA 92806
Contact Telephone: 949-351-5443
Contact Fax: Not reported
Contact Email: SCHEDULING@PWSEI.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Not reported
State District: Not reported
Mailing Address: 23455 CAMINITO SALADO
Mailing City,State,Zip: LAGUNA HILLS, CA 92806
Owner Name: Guillermo Martinez

GUILLERMO MARTINEZ (Continued) **1026719866**

Owner Type:	Other
Operator Name:	Guillermo Martinez
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210312
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: GUILLERMO MARTINEZ	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23455 CAMINITO SALADO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92806
Owner/Operator Telephone:	949-351-5443
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

GUILLERMO MARTINEZ (Continued) **1026719866**

Owner/Operator Indicator: Owner
Owner/Operator Name: GUILLERMO MARTINEZ
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23455 CAMINITO SALADO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92806
Owner/Operator Telephone: 949-351-5443
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20210304
Handler Name: GUILLERMO MARTINEZ
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K75 **LAGUNA VILLAGE OWNERS' ASSOCIATION** **RCRA NonGen / NLR** **1027449549**
South **23415 CAMINITO SALADO** **CAC003187351**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.239 mi.
1262 ft. **Site 5 of 7 in cluster K**

Relative:
Higher

Actual:
349 ft.

RCRA Listings:
Date Form Received by Agency: 20220727
Handler Name: Laguna Village Owners' Association
Handler Address: 23415 CAMINITO SALADO
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAC003187351
Contact Name: ADAM OROZCO
Contact Address: 23415 CAMINITO SALADO
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-218-9970
Contact Fax: Not reported
Contact Email: AOROZCO@PMPMANAGE.COM
Contact Title: Not reported

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1027449549**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23415 CAMINITO SALADO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Adam Orozco
Owner Type:	Other
Operator Name:	Adam Orozco
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220728
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

LAGUNA VILLAGE OWNERS' ASSOCIATION (Continued) **1027449549**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: ADAM OROZCO
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23415 CAMINITO SALADO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-218-9970
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: ADAM OROZCO
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23415 CAMINITO SALADO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653
Owner/Operator Telephone: 949-218-9970
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20220727
Handler Name: LAGUNA VILLAGE OWNERS' ASSOCIATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

76
South
1/8-1/4
0.242 mi.
1278 ft.

ANN LUDOLPH
23426 CAMINITO JUANICO
LAGUNA HILLS, CA 92653

RCRA NonGen / NLR

1027452377
CAC003190358

Relative:
Higher

Actual:
379 ft.

RCRA Listings:

Date Form Received by Agency:	20220816
Handler Name:	Ann Ludolph
Handler Address:	23426 CAMINITO JUANICO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAC003190358
Contact Name:	ANN LUDOLPH
Contact Address:	23426 CAMINITO JUANICO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653
Contact Telephone:	949-554-5379
Contact Fax:	Not reported
Contact Email:	AOROZCO@PMPMANAGE.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23426 CAMINITO JUANICO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Ann Ludolph
Owner Type:	Other
Operator Name:	Ann Ludolph
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

ANN LUDOLPH (Continued) **1027452377**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220816
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ANN LUDOLPH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23426 CAMINITO JUANICO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-554-5379
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: ANN LUDOLPH	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23426 CAMINITO JUANICO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-554-5379
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20220816
Handler Name: ANN LUDOLPH	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

ANN LUDOLPH (Continued) **1027452377**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

K77 **JAY BUENVIAJE** **RCRA NonGen / NLR** **1026160980**
South **23446 CAMINITO BASILIO** **CAC003060960**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.243 mi.
1281 ft. **Site 6 of 7 in cluster K**

Relative: **Higher**
Actual: **360 ft.**

RCRA Listings:

Date Form Received by Agency:	20200322
Handler Name:	Jay Buenviaje
Handler Address:	23446 CAMINITO BASILIO
Handler City,State,Zip:	LAGUNA HILLS, CA 92653-1605
EPA ID:	CAC003060960
Contact Name:	JAY BUENVIAJE
Contact Address:	23446 CAMINITO BASILIO
Contact City,State,Zip:	LAGUNA HILLS, CA 92653-1605
Contact Telephone:	949-998-1243
Contact Fax:	Not reported
Contact Email:	KARLA@SUPERIORENV.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23446 CAMINITO BASILIO
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653-1605
Owner Name:	Jay Buenviaje
Owner Type:	Other
Operator Name:	Jay Buenviaje
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

JAY BUENVIAJE (Continued) **1026160980**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200408
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JAY BUENVIAJE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23446 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1605
Owner/Operator Telephone:	949-998-1243
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: JAY BUENVIAJE	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23446 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1605
Owner/Operator Telephone:	949-998-1243
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JAY BUENVIAJE (Continued) **1026160980**

Historic Generators:
- Receive Date: 20200322
- Handler Name: JAY BUENVIAJE
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: Not reported
- Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

K78 **JOHNNIE URBAN** **RCRA NonGen / NLR** **1026162103**
South **23421 CAMINITO BASILIO** **CAC003062088**
1/8-1/4 **LAGUNA HILLS, CA 92653**
0.243 mi.
1281 ft. **Site 7 of 7 in cluster K**

Relative: **Higher**
Actual: **360 ft.**

RCRA Listings:
- Date Form Received by Agency: 20200401
- Handler Name: Johnnie Urban
- Handler Address: 23421 CAMINITO BASILIO
- Handler City,State,Zip: LAGUNA HILLS, CA 92653-1604
- EPA ID: CAC003062088
- Contact Name: JOHNNIE URBAN
- Contact Address: 23421 CAMINITO BASILIO
- Contact City,State,Zip: LAGUNA HILLS, CA 92653-1604
- Contact Telephone: 714-403-9256
- Contact Fax: Not reported
- Contact Email: NANCYRUIZ@ALLIANCE-ENVIRO.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 23421 CAMINITO BASILIO
- Mailing City,State,Zip: LAGUNA HILLS, CA 92653-1604
- Owner Name: Johnnie Urban

JOHNNIE URBAN (Continued) **1026162103**

Owner Type:	Other
Operator Name:	Johnnie Urban
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200408
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JOHNNIE URBAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23421 CAMINITO BASILIO
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653-1604
Owner/Operator Telephone:	714-403-9256
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

JOHNNIE URBAN (Continued) **1026162103**

Owner/Operator Indicator: Operator
Owner/Operator Name: JOHNNIE URBAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 23421 CAMINITO BASILIO
Owner/Operator City,State,Zip: LAGUNA HILLS, CA 92653-1604
Owner/Operator Telephone: 714-403-9256
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20200401
Handler Name: JOHNNIE URBAN
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

79
East
1/8-1/4
0.248 mi.
1307 ft.

SOUTH COUNTY KIDNEY AND ENDOCRINE CENTER **RCRA NonGen / NLR** **1024864879**
23141 MOULTON PARKWAY STE 102 **CAL000433445**
LAGUNA HILLS, CA 92653

Relative:
Lower

Actual:
260 ft.

RCRA Listings:
Date Form Received by Agency: 20180202
Handler Name: South County Kidney And Endocrine Center
Handler Address: 23141 MOULTON PARKWAY STE 102
Handler City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAL000433445
Contact Name: DIEM CHANG
Contact Address: 23141 MOULTON PARKWAY STE 102
Contact City,State,Zip: LAGUNA HILLS, CA 92653
Contact Telephone: 949-916-9100
Contact Fax: 949-916-0091
Contact Email: IMPREPP@HOTMAIL.COM
Contact Title: Not reported

SOUTH COUNTY KIDNEY AND ENDOCRINE CENTER (Continued) **1024864879**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23141 MOULTON PARKWAY STE 102
Mailing City,State,Zip:	LAGUNA HILLS, CA 92653
Owner Name:	Scke Inc
Owner Type:	Other
Operator Name:	Diem Chang
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180907
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

SOUTH COUNTY KIDNEY AND ENDOCRINE CENTER (Continued) **1024864879**

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: SCKE INC	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23141 MOULTON PARKWAY STE 102
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-916-9100
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: DIEM CHANG	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23141 MOULTON PARKWAY STE 102
Owner/Operator City,State,Zip:	LAGUNA HILLS, CA 92653
Owner/Operator Telephone:	949-916-9100
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20180202
Handler Name:	SOUTH COUNTY KIDNEY AND ENDOCRINE CENTER
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	621493
NAICS Description:	FREESTANDING AMBULATORY SURGICAL AND EMERGENCY CENTERS

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

L80 **DUNN-EDWARDS CORPORATION** **RCRA-SQG** **1000306649**
ENE **23002 MOULTON PARKWAY** **LUST** **CAD981399769**
1/4-1/2 **LAGUNA HILLS, CA 92653** **FINDS**
0.325 mi. **ECHO**
1714 ft. **Site 1 of 5 in cluster L** **Cortese**
HIST CORTESE
Relative: **HWTS**
Lower **HAZNET**
Actual: **CERS**
259 ft.

RCRA Listings:

Date Form Received by Agency:	19960901
Handler Name:	Dunn-Edwards Corporation
Handler Address:	23002 MOULTON PARKWAY
Handler City,State,Zip:	LAGUNA HILLS, CA 92653
EPA ID:	CAD981399769
Contact Name:	Not reported
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ca
State District:	4
Mailing Address:	4885 EAST FIFTY SECOND PLACE
Mailing City,State,Zip:	LOS ANGELES, CA 90040
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not Required
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: NOT REQUIRED	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: RUSSELL T JACOBS	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19960901
Handler Name: DUNN-EDWARDS CORPORATION	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ca
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19860425
Handler Name: DUNN-EDWARDS CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 42295
NAICS Description: PAINT, VARNISH, AND SUPPLIES WHOLESALERS

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19940608
Evaluation Responsible Agency:	State Contractor/Grantee
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

LUST:

Name:	DUNN EDWARDS PAINT
Address:	23002 MOULTON
City,State,Zip:	LAGUNA HILLS, CA 92653
Lead Agency:	ORANGE COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605902391
Global Id:	T0605902391
Latitude:	33.628198
Longitude:	-117.729613
Status:	Completed - Case Closed
Status Date:	02/19/1987
Case Worker:	GH
RB Case Number:	9UT152
Local Agency:	ORANGE COUNTY LOP
File Location:	Local Agency
Local Case Number:	86UT159
Potential Media Affect:	Under Investigation
Potential Contaminants of Concern:	Stoddard solvent / Mineral Spriits / Distillates
EPA Region:	9
Coordinate Source:	Google Geocode
Cuf Case:	NO
Quantity Released Gallons:	0
Begin Date:	02/19/1987
Leak Reported Date:	01/01/1965
How Discovered:	Tank Closure
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Close and Remove Tank
Stop Description:	Not reported
No Further Action Date:	02/19/1987
CA Water Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Dwr Groundwater Subbasin Name:	Coastal Plain Of Orange County (8-001)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	56-60%
CA Enviroscreen 4 Score:	35-40%

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Military DOD Site: No
Facility Project Subtype: Not reported
RWQCB Region: SANTA ANA RWQCB (REGION 8)
Site History: Not reported

LUST:
Global Id: T0605902391
Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: GENIECE HIGGINS
Organization Name: ORANGE COUNTY LOP
Address: 1241 EAST DYER ROAD SUITE 120
City: SANTA ANA
Email: ghiggins@ochca.com
Phone Number: 7144336260

LUST:
Global Id: T0605902391
Action Type: ENFORCEMENT
Date: 11/02/2022
Action: Historic Files

LUST:
Global Id: T0605902391
Status: Completed - Case Closed
Status Date: 02/19/1987

Global Id: T0605902391
Status: Open - Case Begin Date
Status Date: 02/19/1987

FINDS:
Registry ID: 110002694068

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS),EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), andToxic Release Inventory (TRI).
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000306649
Registry ID: 110002694068

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002694068
Name: DUNN-EDWARDS CORPORATION
Address: 23002 MOULTON PARKWAY
City,State,Zip: LAGUNA HILLS, CA 92653

CORTESE:
Name: DUNN EDWARDS PAINT
Address: 23002 MOULTON
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0605902391
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

HIST CORTESE:
edr_fname: DUNN EDWARDS PAINTS
edr_fadd1: 23002 MOULTON
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Facility County Code: 30
Reg By: LTNKA
Reg Id: 9UT152

HWTS:
Name: DUNN-EDWARDS CORPORATION
Address: 23002 MOULTON PARKWAY
Address 2: Not reported
City,State,Zip: LAGUNA HILLS, CA 92653
EPA ID: CAD981399769
Inactive Date: 06/30/2002
Create Date: 04/10/1987
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 4885 E 52ND PL
Mailing Address 2: Not reported
Mailing City,State,Zip: LOS ANGELES, CA 900402828
Owner Name: DUNN-EDWARDS CORPORATION
Owner Address: 4885 E 52ND PL
Owner Address 2: Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Owner City,State,Zip:	LOS ANGELES, CA 900402828
Owner Phone:	Not reported
Owner Fax:	Not reported
Contact Name:	TOM JONES
Contact Address:	INACTIVE PER VQ98 - BMI
Contact Address 2:	Not reported
City,State,Zip:	LOS ANGELES, CA 900402828
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Inactive
Facility Type:	PERMANENT
Category:	FEDERAL
Latitude:	33.629276
Longitude:	-117.729577

HAZNET:

Name:	DUNN-EDWARDS CORPORATION
Address:	23002 MOULTON PARKWAY
Address 2:	Not reported
City,State,Zip:	LAGUNA HILLS, CA 926530000
Contact:	TOM JONES
Telephone:	8005374098
Mailing Name:	Not reported
Mailing Address:	4885 E 52ND PL
Year:	2005
Gepaid:	CAD981399769
TSD EPA ID:	CAD980884183
CA Waste Code:	461 - Paint sludge
Disposal Method:	H01 - Transfer Station
Tons:	0.22935
Year:	2004
Gepaid:	CAD981399769
TSD EPA ID:	IND000646943
CA Waste Code:	461 - Paint sludge
Disposal Method:	R01 - Recycler
Tons:	0.22935
Year:	2001
Gepaid:	CAD981399769
TSD EPA ID:	AZD980892731
CA Waste Code:	291 - Latex waste
Disposal Method:	-
Tons:	0.2085
Year:	1998
Gepaid:	CAD981399769
TSD EPA ID:	OHD000816620
CA Waste Code:	212 - Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method:	-
Tons:	0.1815
Year:	1997
Gepaid:	CAD981399769
TSD EPA ID:	CAD089446710
CA Waste Code:	135 - Unspecified aqueous solution

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Disposal Method:	H01 - Transfer Station
Tons:	0.693
Year:	1997
Gepaid:	CAD981399769
TSD EPA ID:	CAD089446710
CA Waste Code:	331 - Off-specification, aged or surplus organics
Disposal Method:	H01 - Transfer Station
Tons:	0.1815
Year:	1996
Gepaid:	CAD981399769
TSD EPA ID:	CAD089446710
CA Waste Code:	331 - Off-specification, aged or surplus organics
Disposal Method:	H01 - Transfer Station
Tons:	0.5115
Year:	1996
Gepaid:	CAD981399769
TSD EPA ID:	CAT080022148
CA Waste Code:	331 - Off-specification, aged or surplus organics
Disposal Method:	H01 - Transfer Station
Tons:	0.1815
Year:	1996
Gepaid:	CAD981399769
TSD EPA ID:	CAD089446710
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	H01 - Transfer Station
Tons:	0.441
Year:	1994
Gepaid:	CAD981399769
TSD EPA ID:	OKD089761290
CA Waste Code:	291 - Latex waste
Disposal Method:	-
Tons:	0.688

Click this hyperlink while viewing on your computer to access
17 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

Year:	2005
Gen EPA ID:	CAD981399769
Shipment Date:	20050916
Creation Date:	1/11/2006 18:31:12
Receipt Date:	20050928
Manifest ID:	24504694
Trans EPA ID:	CAR000075424
Trans Name:	ENVIRO-GUARD
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	GENERAL ENVIRONMENTAL MANAGEMENT
TSDF EPA ID:	CAD980884183
Trans Name:	GEM - RANCHO CORDOVA LLC
TSDF Alt EPA ID:	Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

TSDF Alt Name:	Not reported
Waste Code Description:	461 - Paint sludge
RCRA Code:	D001
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.22935
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2004
Gen EPA ID:	CAD981399769
Shipment Date:	20041214
Creation Date:	3/18/2005 12:40:13
Receipt Date:	20050103
Manifest ID:	24081796
Trans EPA ID:	CAR000075424
Trans Name:	ENVIRO-GUARD
Trans 2 EPA ID:	UTD981552425
Trans 2 Name:	SLT EXPRESS WAY INC
TSDF EPA ID:	IND000646943
Trans Name:	POLLUTION CONTROL INDUSTRIES
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	461 - Paint sludge
RCRA Code:	D001
Meth Code:	R01 - Recycler
Quantity Tons:	0.22935
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2001
Gen EPA ID:	CAD981399769
Shipment Date:	20010411
Creation Date:	6/20/2001 0:00:00
Receipt Date:	Not reported
Manifest ID:	20823730
Trans EPA ID:	CAR000085639
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	AZD980892731
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

TSDF Alt Name:	Not reported
Waste Code Description:	291 - Latex waste
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.2085
Waste Quantity:	50
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1998
Gen EPA ID:	CAD981399769
Shipment Date:	19980204
Creation Date:	5/8/1998 0:00:00
Receipt Date:	19980305
Manifest ID:	96618357
Trans EPA ID:	CAD076486635
Trans Name:	Not reported
Trans 2 EPA ID:	OHD009865825
Trans 2 Name:	Not reported
TSDF EPA ID:	OHD000816629
Trans Name:	Not reported
TSDF Alt EPA ID:	OHD000816620
TSDF Alt Name:	Not reported
Waste Code Description:	212 - Oxygenated solvents (acetone, butanol, ethyl acetate, etc.
RCRA Code:	D001
Meth Code:	- Not reported
Quantity Tons:	0.1815
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1997
Gen EPA ID:	CAD981399769
Shipment Date:	19971118
Creation Date:	7/23/1998 0:00:00
Receipt Date:	19971125
Manifest ID:	96618214
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD089446710

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.1815
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19971118
Creation Date:	7/23/1998 0:00:00
Receipt Date:	19971125
Manifest ID:	96618214
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD089446710
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.462
Waste Quantity:	110
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19970512
Creation Date:	9/12/1997 0:00:00
Receipt Date:	19970514
Manifest ID:	96281184
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD089446710
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.231
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1996
Gen EPA ID:	CAD981399769
Shipment Date:	19961204
Creation Date:	5/20/1997 0:00:00
Receipt Date:	19961217
Manifest ID:	96281005
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.231
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19961204
Creation Date:	5/20/1997 0:00:00
Receipt Date:	19961217
Manifest ID:	96281005
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.1815
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19960829

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Creation Date:	5/20/1997 0:00:00
Receipt Date:	19960905
Manifest ID:	96280931
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.33
Waste Quantity:	100
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19960829
Creation Date:	5/20/1997 0:00:00
Receipt Date:	19960905
Manifest ID:	96280931
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD089446710
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.21
Waste Quantity:	50
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19960301
Creation Date:	10/16/1996 0:00:00
Receipt Date:	19960304
Manifest ID:	95742972
Trans EPA ID:	CAD076548635
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080022148
Trans Name:	Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

TSDF Alt EPA ID:	CAT080022148
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.1815
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1994
Gen EPA ID:	CAD981399769
Shipment Date:	19940120
Creation Date:	9/14/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	92682157
Trans EPA ID:	CAD982323552
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	OKD089761290
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	291 - Latex waste
RCRA Code:	D005
Meth Code:	- Not reported
Quantity Tons:	0.4587
Waste Quantity:	110
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19940120
Creation Date:	9/14/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	92682157
Trans EPA ID:	CAD982323552
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	OKD089761290
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	291 - Latex waste
RCRA Code:	F003
Meth Code:	- Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Quantity Tons:	0.2293
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1993
Gen EPA ID:	CAD981399769
Shipment Date:	19930427
Creation Date:	9/14/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	90367678
Trans EPA ID:	CAD008302903
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008302903
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008302903
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.231
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19930427
Creation Date:	9/14/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	90367678
Trans EPA ID:	CAD008302903
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008302903
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008302903
TSDF Alt Name:	Not reported
Waste Code Description:	212 - Oxygenated solvents (acetone, butanol, ethyl acetate, etc.
RCRA Code:	D001
Meth Code:	- Not reported
Quantity Tons:	0.363
Waste Quantity:	110
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported

DUNN-EDWARDS CORPORATION (Continued) **1000306649**

Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	19930427
Creation Date:	9/14/1995 0:00:00
Receipt Date:	Not reported
Manifest ID:	90367678
Trans EPA ID:	CAD008302903
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008302903
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD008302903
TSDF Alt Name:	Not reported
Waste Code Description:	213 - Hydrocarbon solvents (benzene, hexane, Stoddard, etc.
RCRA Code:	D001
Meth Code:	- Not reported
Quantity Tons:	0.2293
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	DUNN EDWARDS PAINT
Address:	23002 MOULTON
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	726745
CERS ID:	T0605902391
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	GENIECE HIGGINS - ORANGE COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	1241 EAST DYER ROAD SUITE 120
Affiliation City:	SANTA ANA
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	7144336260,

L81 **DUNN EDWARDS PAINTS** **LUST** **S102428994**
ENE **23002 MOULTON PKY** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653**
0.325 mi.
1714 ft. **Site 2 of 5 in cluster L**

Relative: **Lower**

Actual: **259 ft.**

LUST REG 9:

Region:	9
Status:	Case Closed
Case Number:	9UT152
Local Case:	86UT159
Substance:	Paint Thinner
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	Orange
How Found:	Other Means
How Stopped:	Not reported
Source:	Not reported
Cause:	Not reported
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	07/22/1986
Date Stopped:	/ /
Confirm Date:	/ /
Submit Workplan:	9/25/86
Prelim Assess:	/ /
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	09/18/1986
Enforce Date:	9/18/86
Closed Date:	2/25/87
Enforce Type:	SEL
Pilot Program:	LOP
Basin Number:	901.12
GW Depth:	Not reported
Beneficial Use:	Not reported
NPDES Number:	Not reported
Priority:	Not reported
File Dispn:	File discarded, case closed
Interim Remedial Actions:	No
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

L82 **DUNN EDWARDS PAINT** **LUST** **S113473463**
ENE **23002 MOULTON PKWY** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653**
0.325 mi.
1714 ft. **Site 3 of 5 in cluster L**

Relative: **Lower**

Actual: **259 ft.**

ORANGE CO. LUST:

Name:	DUNN EDWARDS PAINT
Address:	23002 MOULTON PKWY
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	ORANGE
Facility Id:	86UT159
Current Status:	CLOSED
Type of Closure:	Closure certification issued
Released Substance:	Not reported

DUNN EDWARDS PAINT (Continued) **S113473463**

Date Closed: 02/19/1987
File Location: Local Agency

L83 **DUNN EDWARDS PAINT** **UST FINDER RELEASE** **1028950792**
ENE **23002 MOULTON** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653**
0.325 mi.
1714 ft. **Site 4 of 5 in cluster L**

Relative: **Lower**

Actual: **259 ft.**

UST FINDER RELEASE:

Object ID:	69038
Facility ID:	Not reported
Lust ID:	CAT0605902391
Name:	DUNN EDWARDS PAINT
Address:	23002 MOULTON
City,State,Zip:	LAGUNA HILLS, CA 92653
Address Match Type:	PointAddress
Reported Date:	Not reported
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	2
Domestic Wells within 1500ft:	0
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	No
WHPA PWS Facility ID:	Not reported
WHPA Water Type:	Not reported
WHPA Facility Type:	Not reported
WHPA HUC12:	Not reported
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	9
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	Geocode
X Coord:	-117.7301
Y Coord:	33.6282400000001
Latitude:	33.6282399999999
Longitude:	-117.730099999999

L84 **MIRAGE CLEANERS** **CPS-SLIC** **S128568461**
ENE **22972 MOULTON LKWY** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653**
0.341 mi.
1800 ft. **Site 5 of 5 in cluster L**

Relative: **Lower**

Actual: **262 ft.**

CPS-SLIC:

Name:	MIRAGE CLEANERS
Address:	22972 MOULTON LKWY
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	06/10/1996
Global Id:	T10000018307
Lead Agency:	ORANGE COUNTY LOP
Lead Agency Case Number:	96IC010
Latitude:	33.6290433
Longitude:	-117.7295944
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	ORANGE COUNTY LOP
RB Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Warehouse
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Not reported
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	06/10/1996
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	06/10/1996
CA Water Watershed Name:	Not reported
Dwr Groundwater Subbasin Name:	Not reported
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	Not reported
CA Enviroscreen 4 Score:	Not reported
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	Not reported
Site History:	Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Click here to access the California GeoTracker records for this facility:

M85 **ARTISTIC MAINTENANCE INC** **CPS-SLIC** **S106174515**
SE **UNK SE MOULTON & RIDGE ROUTE** **Orange Co. Industrial Site** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653** **CERS**
0.370 mi.
1952 ft. **Site 1 of 2 in cluster M**

Relative:
Lower

Actual:
293 ft.

CPS-SLIC:

Name:	ARTISTIC MAINTENANCE INC
Address:	UNK SE MOULTON & RIDGE ROUTE
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	11/28/1995
Global Id:	T10000020592
Lead Agency:	ORANGE COUNTY LOP
Lead Agency Case Number:	95IC029
Latitude:	33.6211212
Longitude:	-117.7312813
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	ORANGE COUNTY LOP
RB Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Warehouse
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Not reported
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	11/28/1995
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	11/28/1995
CA Water Watershed Name:	Not reported
Dwr Groundwater Subbasin Name:	Not reported
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	Not reported
CA Enviroscreen 4 Score:	Not reported
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	Not reported
Site History:	Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Click here to access the California GeoTracker records for this facility:

Orange Co. Industrial Site:

Name:	ARTISTIC MAINTENANCE INC
Address:	UNK SE MOULTON & RIDGE ROUTE
City,State,Zip:	LAGUNA HILLS, CA 92653
Case ID:	95IC029
Record ID:	RO0000508

ARTISTIC MAINTENANCE INC (Continued) **S106174515**

Current Status: CLOSED
Closure Type: Closure certification issued
Released Chemical: WASTE (OR SLOP) OIL; FUEL WASTE
Closed Date: 11/28/1995
File Location: Not reported

CERS:
Name: ARTISTIC MAINTENANCE INC
Address: UNK SE MOULTON & RIDGE ROUTE
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 712029
CERS ID: T10000020592
CERS Description: Cleanup Program Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: IC SUPERVISOR - ORANGE COUNTY LOP
Entity Title: Not reported
Affiliation Address: 1241 E. DYER RD., SUITE 120
Affiliation City: SANTA ANA
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

M86 **ROSSMOOR PROPERTY** **LUST** **S103644648**
SSE **23552 MOULTON** **CHMIRS** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653** **Cortese**
0.377 mi. **HIST CORTESE**
1988 ft. **Site 2 of 2 in cluster M** **CERS**

Relative:
Lower

Actual:
292 ft.

LUST:
Name: ROSSMOOR PROPERTY
Address: 23552 MOULTON
City,State,Zip: LAGUNA HILLS, CA 92653
Lead Agency: ORANGE COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605901942
Global Id: T0605901942
Latitude: 33.6208686
Longitude: -117.731511
Status: Completed - Case Closed
Status Date: 04/01/1997
Case Worker: GH
RB Case Number: 083002820T
Local Agency: ORANGE COUNTY LOP
File Location: Local Agency
Local Case Number: 96UT013
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
EPA Region: 9
Coordinate Source: Google Map Move
Cuf Case: NO
Quantity Released Gallons: 0
Begin Date: 03/18/1996
Leak Reported Date: 03/18/1996
How Discovered: Tank Closure

ROSSMOOR PROPERTY (Continued) **S103644648**

How Discovered Description: Not reported
Discharge Source: Not reported
Discharge Cause: Not reported
Stop Method: Close and Remove Tank
Stop Description: Not reported
No Further Action Date: 04/01/1997
CA Water Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Dwr Groundwater Subbasin Name: Not reported
Disadvantaged Community: Not reported
CA Enviroscreen 3 Score: 36-40%
CA Enviroscreen 4 Score: 25-30%
Military DOD Site: No
Facility Project Subtype: Not reported
RWQCB Region: SANTA ANA RWQCB (REGION 8)
Site History: Not reported

LUST:
Global Id: T0605901942
Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: GENIECE HIGGINS
Organization Name: ORANGE COUNTY LOP
Address: 1241 EAST DYER ROAD SUITE 120
City: SANTA ANA
Email: ghiggins@ochca.com
Phone Number: 7144336260

LUST:
Global Id: T0605901942
Action Type: Other
Date: 03/18/1996
Action: Leak Discovery

Global Id: T0605901942
Action Type: Other
Date: 03/18/1996
Action: Leak Reported

Global Id: T0605901942
Action Type: ENFORCEMENT
Date: 07/01/2022
Action: Historic Files

LUST:
Global Id: T0605901942
Status: Open - Case Begin Date
Status Date: 03/18/1996

Global Id: T0605901942
Status: Completed - Case Closed
Status Date: 04/01/1997

LUST REG 8:
Name: ROSSMOOR PROPERTY
Address: 23552 MOULTON
City: LAGUNA HILLS

ROSSMOOR PROPERTY (Continued) **S103644648**

Region:	8
County:	Orange
Regional Board:	Santa Ana Region
Facility Status:	Case Closed
Case Number:	083002820T
Local Case Num:	96UT013
Case Type:	Other ground water affected
Substance:	Gasoline
Qty Leaked:	0
Abate Method:	Not reported
Cross Street:	Not reported
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Close Tank
Leak Cause:	Unknown
Leak Source:	Unknown
Global ID:	T0605901942
How Stopped Date:	9/9/9999
Enter Date:	Not reported
Date Confirmation of Leak Began:	Not reported
Date Preliminary Assessment Began:	Not reported
Discover Date:	3/18/1996
Enforcement Date:	Not reported
Close Date:	4/1/1997
Date Prelim Assessment Workplan Submitted:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring:	Not reported
Enter Date:	Not reported
GW Qualifies:	Not reported
Soil Qualifies:	Not reported
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	LUST
Latitude:	33.6192438
Longitude:	-117.7312982
MTBE Date:	Not reported
Max MTBE GW:	Not reported
MTBE Concentration:	0
Max MTBE Soil:	Not reported
MTBE Fuel:	1
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
MTBE Class:	*
Staff:	NOM
Staff Initials:	JS
Lead Agency:	Local Agency
Local Agency:	30000L
Hydr Basin #:	Not reported
Beneficial:	MUN
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	Not reported

Summary: Not reported

ROSSMOOR PROPERTY (Continued) **S103644648**

ORANGE CO. LUST:

Name:	ROSSMOOR PROPERTY
Address:	23552 MOULTON PKWY
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	ORANGE
Facility Id:	96UT013
Current Status:	CLOSED
Type of Closure:	Closure certification issued
Released Substance:	Not reported
Date Closed:	04/01/1997
File Location:	Local Agency

CHMIRS:

Name:	Not reported
Address:	23552 MOULTON PKWY
City,State,Zip:	LAGUNA WOODS, CA 92653
OES Incident Number:	10-0897
OES notification:	02/03/2010
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Veeh Lake
Spill Site:	Waterways
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	2008
Year:	2010

ROSSMOOR PROPERTY (Continued) **S103644648**

Agency:	El Toro Water Dist.
Incident Date:	2/1/2010
Admin Agency:	Orange County Emergency Management Division
Amount:	Not reported
Contained:	Yes
Site Type:	Veeh Lake
E Date:	Not reported
Substance:	Treated and Disinfected Reclaimed Water
Quantity Released:	28000
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	A contractor for county hit an irrigation line and water spilled into Veeh Lake (catch basin).

CORTESE:

Name:	ROSSMOOR PROPERTY
Address:	23552 MOULTON
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0605901942
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

HIST CORTESE:

edr_fname:	ROSSMOOR PROPERTY

ROSSMOOR PROPERTY (Continued) **S103644648**

edr_fadd1: 23552 MOULTON
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Facility County Code: 30
Reg By: LTNKA
Reg Id: 083002820T

CERS:
Name: ROSSMOOR PROPERTY
Address: 23552 MOULTON
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 757427
CERS ID: T0605901942
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: GENIECE HIGGINS - ORANGE COUNTY LOP
Entity Title: Not reported
Affiliation Address: 1241 EAST DYER ROAD SUITE 120
Affiliation City: SANTA ANA
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 7144336260,

N87 **BRIGGS INVESTMENT PROPERTIES** **LUST** **S101299821**
ESE **23261 DEL LAGO DR** **CERS HAZ WASTE** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653** **Cortese**
0.460 mi. **HIST CORTESE**
2429 ft. **Site 1 of 2 in cluster N** **CERS**

Relative:
Lower

Actual:
291 ft.

LUST:
Name: BRIGGS INVESTMENT PROPERTIES
Address: 23261 DEL LAGO
City,State,Zip: LAGUNA HILLS, CA 92653
Lead Agency: ORANGE COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605901415
Global Id: T0605901415
Latitude: 33.6248666
Longitude: -117.727015
Status: Completed - Case Closed
Status Date: 07/09/1992
Case Worker: GH
RB Case Number: Not reported
Local Agency: ORANGE COUNTY LOP
File Location: Local Agency
Local Case Number: 91UT075
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
EPA Region: 9
Coordinate Source: * Historical Geocode - Exact Address Match
Cuf Case: YES
Quantity Released Gallons: 0
Begin Date: 06/19/1991
Leak Reported Date: 06/19/1991

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

How Discovered: Tank Closure
How Discovered Description: Not reported
Discharge Source: Not reported
Discharge Cause: Not reported
Stop Method: Close and Remove Tank
Stop Description: Not reported
No Further Action Date: 07/09/1992
CA Water Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Dwr Groundwater Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community: Not reported
CA Enviroscreen 3 Score: 56-60%
CA Enviroscreen 4 Score: 35-40%
Military DOD Site: No
Facility Project Subtype: Not reported
RWQCB Region: SANTA ANA RWQCB (REGION 8)
Site History: Not reported

LUST:
Global Id: T0605901415
Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: GENIECE HIGGINS
Organization Name: ORANGE COUNTY LOP
Address: 1241 EAST DYER ROAD SUITE 120
City: SANTA ANA
Email: ghiggins@ochca.com
Phone Number: 7144336260

LUST:
Global Id: T0605901415
Action Type: ENFORCEMENT
Date: 07/03/1992
Action: Closure/No Further Action Letter

Global Id: T0605901415
Action Type: Other
Date: 06/19/1991
Action: Leak Discovery

Global Id: T0605901415
Action Type: Other
Date: 06/19/1991
Action: Leak Reported

LUST:
Global Id: T0605901415
Status: Open - Case Begin Date
Status Date: 06/19/1991

Global Id: T0605901415
Status: Completed - Case Closed
Status Date: 07/09/1992

LUST REG 8:
Name: BRIGGS INVESTMENT PROPERTIES
Address: 23261 DEL LAGO

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

City:	LAGUNA HILLS
Region:	8
County:	Orange
Regional Board:	Santa Ana Region
Facility Status:	Case Closed
Case Number:	Not reported
Local Case Num:	91UT075
Case Type:	Soil only
Substance:	Gasoline
Qty Leaked:	0
Abate Method:	Not reported
Cross Street:	Not reported
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Close Tank
Leak Cause:	Unknown
Leak Source:	Unknown
Global ID:	T0605901415
How Stopped Date:	9/9/9999
Enter Date:	Not reported
Date Confirmation of Leak Began:	Not reported
Date Preliminary Assessment Began:	Not reported
Discover Date:	6/19/1991
Enforcement Date:	Not reported
Close Date:	7/9/1992
Date Prelim Assessment Workplan Submitted:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring:	Not reported
Enter Date:	Not reported
GW Qualifies:	Not reported
Soil Qualifies:	Not reported
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	LUST
Latitude:	33.6248666
Longitude:	-117.727015
MTBE Date:	Not reported
Max MTBE GW:	Not reported
MTBE Concentration:	0
Max MTBE Soil:	Not reported
MTBE Fuel:	1
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
MTBE Class:	*
Staff:	NOM
Staff Initials:	JS
Lead Agency:	Local Agency
Local Agency:	30000L
Hydr Basin #:	Not reported
Beneficial:	MUN
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	Not reported

Summary: Not reported

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

LUST REG 9:

Region:	9
Status:	Case Closed
Case Number:	9UT2361
Local Case:	91UT75
Substance:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	Orange
How Found:	Not reported
How Stopped:	Not reported
Source:	Not reported
Cause:	Not reported
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	/ /
Date Stopped:	/ /
Confirm Date:	/ /
Submit Workplan:	Not reported
Prelim Assess:	/ /
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	01/01/1991
Enforce Date:	Not reported
Closed Date:	7/3/92
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	901.11
GW Depth:	Not reported
Beneficial Use:	Not reported
NPDES Number:	Not reported
Priority:	Not reported
File Dispn:	File discarded, case closed
Interim Remedial Actions:	No
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

ORANGE CO. LUST:

Name:	BRIGGS INVESTMENT PROPERTIES
Address:	23261 DEL LAGO DR
City,State,Zip:	LAGUNA HILLS, CA 92653
Region:	ORANGE
Facility Id:	91UT075
Current Status:	CLOSED
Type of Closure:	Closure certification issued
Released Substance:	Not reported
Date Closed:	07/09/1992
File Location:	Local Agency

CERS HAZ WASTE:

Name:	BAKE SMOG CENTER INC
Address:	23261 DEL LAGO DR UNIT 9&10
City,State,Zip:	LAGUNA HILLS, CA 92653
Site ID:	518641

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

CERS ID: 10784680
CERS Description: Hazardous Waste Generator

CORTESE:
Name: BRIGGS INVESTMENT PROPERTIES
Address: 23261 DEL LAGO
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0605901415
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

HIST CORTESE:
edr_fname: BRIGGS INVESTMENT PROPERT
edr_fadd1: 23261 DEL LAGO
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Facility County Code: 30
Reg By: LTNKA
Reg Id: 9UT2361

edr_fname: BRIGGS INVESTMENT PROPERT
edr_fadd1: 23261
City,State,Zip: LAGUNA HILLS, CA 92653
Region: CORTESE
Facility County Code: 30
Reg By: LTNKA
Reg Id: 083001896T

CERS:
Name: BAKE SMOG CENTER INC
Address: 23261 DEL LAGO DR UNIT 9&10
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 518641
CERS ID: 10784680
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 518641

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

Site Name: BAKE SMOG CENTER INC
Violation Date: 06-14-2023
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes: This facility has not submitted in the California Environmental Reporting System (CERS) since 2/25/2022.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-25-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous materials inspection. Consent to enter and inspect given by Oscar Salas, President. Observed the facility and hazardous materials storage area. The following materials were observed in amounts that meet or exceed the minimum volume required for disclosure: - Motor Oil - Waste Oil - Waste Antifreeze Training records available for review. Business emergency plan available for review.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-25-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Went to site to find out if business had moved out since I did not receive copies of manifests documenting that hazardous waste was removed from facility. Business has closed. A new business, Bake Smog Center, moved into facility in February. Business may be conducting auto repair in the future. Owner was not on site. Inspection will be conducted at a later date to add new business to program if generating hazardous waste.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-25-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for routine hazardous waste inspection. Consent to enter and inspect given by Oscar Salas, President Facility generates waste: - Waste Oil - Waste Antifreeze - Used Oil Filters Hazardous waste manifests available for review. Business emergency plan available for review. Observed facility, hazardous waste storage area, and dumpster area. Hazardous waste containers were stored closed and properly labeled. No indication of hazardous waste spillage, runoff, or illegal disposal was observed.
Eval Division: Orange County Environmental Health

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-14-2023
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: According to the CERS database, your business remains out of compliance with the annual certification requirement and a violation is being cited. Businesses are required to annually review and certify that their information in the California Electronic Reporting System (CERS) is complete, accurate and in compliance by March 1st. Your business was notified via email on 4/28/23 that your facility was out of compliance with this requirement. Please visit https://cers.calepa.ca.gov/ to access CERS and submit your completed HMBP forms. Failure to submit HMBEP forms is a violation of the California Health & Safety Code and California Code of Regulations. Progressive enforcement will be taken by this Agency if a submittal/certification has not been completed within 30 days of this report.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-11-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Bake Smog Center 23261 Del Lago Dr., Ste. 9 & 10 Laguna Hills, CA 92653 (949) 305-8733 On site to conduct new hazardous materials chemical inventory and business emergency plan inspection due to change of ownership. Oscar Salas granted consent to conduct inspection. This business moved from facility at 15795 Rockfield Blvd., in Irvine to this location in March 2019. I walked through the facility, perimeter and inspected waste storage area in shop and yard across facility/driveway. Volumes of oxygen, argon and argon/carbon dioxide mixture stored on site are below disclosure threshold. Facility has the following hazardous materials at disclosure threshold: - 55 gallons of new motor oil - 240 gallons of waste oil - 240 gallons of waste antifreeze I assisted business owner with correcting/updating Facility Information, Hazardous Materials Inventory and Emergency Plan in CERS during inspection.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-25-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Went to site to find out if business had moved out since I did not receive copies of manifests documenting that hazardous waste was removed from facility. Business had closed. A new business, Bake Smog Center, moved into facility in February. Business may be conducting auto repair in the future. Owner was not on site. Inspection will be conducted at a later date to add new business to program if storing hazardous materials at disclosure threshold.

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-11-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Bake Smog Center 23261 Del Lago Dr., Ste. 9 & 10 Laguna Hills, CA 92653 (949) 305-8733 On site to conduct new hazardous waste generator inspection due to change of ownership. Oscar Salas granted consent to conduct inspection. This business moved from facility at 15795 Rockfield Blvd., in Irvine to this location in March 2019. EPA ID# for this business is CAL000444130. I walked through the facility, perimeter and inspected waste storage area in yard across facility/driveway. I did not observe any hazardous waste in trash cans throughout the facility. Waste oil and waste antifreeze are stored in aboveground tanks that are kept closed and labeled. Used oil filters (1) drum is stored closed and labeled. Manifest was reviewed. Emergency card was provided to be filled out and posted.
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-05-2020
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Went to site and assisted business owner with resetting password and submitting annual certification documents.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Legal Owner
Entity Name: BAKE SMOG CENTER INC
Entity Title: Not reported
Affiliation Address: 23261 Del Lago Dr Unit 9&10
Affiliation City: Laguna Hills
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92653
Affiliation Phone: (949) 305-8733,

Affiliation Type Desc: Parent Corporation
Entity Name: BAKE SMOG CENTER
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: CUPA District
Entity Name: Orange County Env Health

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6406,
Affiliation Type Desc:	Document Preparer
Entity Name:	Oscar Salas
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	Oscar Salas
Entity Title:	President
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	BAKE SMOG CENTER INC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 305-8733,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Oscar Salas
Entity Title:	Not reported
Affiliation Address:	23261 Del Lago Dr Unit 9&10
Affiliation City:	Laguna Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	23261 Del Lago Dr Unit 9&10
Affiliation City:	Laguna Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92653
Affiliation Phone:	,

BRIGGS INVESTMENT PROPERTIES (Continued) **S101299821**

Name: BRIGGS INVESTMENT PROPERTIES
Address: 23261 DEL LAGO
City,State,Zip: LAGUNA HILLS, CA 92653
Site ID: 715539
CERS ID: T0605901415
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: GENIECE HIGGINS - ORANGE COUNTY LOP
Entity Title: Not reported
Affiliation Address: 1241 EAST DYER ROAD SUITE 120
Affiliation City: SANTA ANA
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 7144336260,

N88 **BRIGGS INVESTMENT PROPERTIES** **UST FINDER RELEASE** **1028927340**
ESE **23261 DEL LAGO** **N/A**
1/4-1/2 **LAGUNA HILLS, CA 92653**
0.460 mi.
2429 ft. **Site 2 of 2 in cluster N**

Relative: **Lower**
Actual: **291 ft.**

UST FINDER RELEASE:
Object ID: 69051
Facility ID: Not reported
Lust ID: CAT0605901415
Name: BRIGGS INVESTMENT PROPERTIES
Address: 23261 DEL LAGO
City,State,Zip: LAGUNA HILLS, CA 92653
Address Match Type: PointAddress
Reported Date: Not reported
Status: No Further Action
Substance: Not reported
Population within 1500ft: 121
Domestic Wells within 1500ft: 0
Land Use: Developed, High Intensity
Within SPA: No
SPA PWS Facility ID: Not reported
SPA Water Type: Not reported
SPA Facility Type: Not reported
SPA HUC12: Not reported
Within WHPA: No
WHPA PWS Facility ID: Not reported
WHPA Water Type: Not reported
WHPA Facility Type: Not reported
WHPA HUC12: Not reported
Within 100yr Floodplain: No
Tribe: Not reported
EPA Region: 9
NFA Letter 1: Not reported
NFA Letter 2: Not reported
NFA Letter 3: Not reported
NFA Letter 4: Not reported
Closed With Residual Contaminate: Not reported
Coordinate Source: Geocode

BRIGGS INVESTMENT PROPERTIES (Continued) **1028927340**

X Coord: -117.72698
Y Coord: 33.62447
Latitude: 33.62447
Longitude: -117.726979999999

Count: 7 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LAGUNA HILLS	S128935388	ARTISTIC MAINTENANCE INC	SE CORNER MOULTON & RIDGE ROUT	92653	CPS-SLIC
LAGUNA HILLS	S102432591	GOLDEN RAIN FOUNDATION OF LAG HILL	24401 MOULTON PKY	92653	LUST, EMI
LAGUNA HILLS	S121700187	SUNNY FRESH CLEANERS VII,GREG KEAR	27001 MOULTON PKY #106	92653	DRYCLEANERS
LAGUNA HILLS	S121700453	BEASLEY'S LAGUNA HILLS CLEANERS, J	27001 MOULTON PKY #114	92653	DRYCLEANERS
LAGUNA HILLS	S121694238	LAGUNA HILLS CLEANERS	27001 MOULTON PKY #114	92653	DRYCLEANERS
LAGUNA HILLS	S121696222	WILLOW TREE CLEANERS, YOUNG SOOK K	24310 MOULTON PKY UNIT B	92653	DRYCLEANERS
LAGUNA HILLS	S121698923	WILLOW TREE CLEANERS	24310 MOULTON PKY UNIT B	92653	DRYCLEANERS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2023
Date Data Arrived at EDR: 12/20/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/26/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 80

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/04/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22
Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 11/16/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 89
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 89

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/17/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/18/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/12/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/04/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/04/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 81
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/21/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 85

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/20/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50
Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/30/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/11/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86
Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 70
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 57

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/11/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 5

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/26/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/02/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 12

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/20/2023
Number of Days to Update: 12

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/17/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/12/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data
The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing
A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 88

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/06/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing
Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/08/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 84

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GRANT: Grant Recipients List

Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 01/26/2024
Date Made Active in Reports: 04/16/2024
Number of Days to Update: 81

Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/28/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 77

Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78
Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 76
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89
Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468
Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/02/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 01/08/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 01/05/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing

A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 11/14/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/12/2024
Number of Days to Update: 88

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 02/08/2024
Number of Days to Update: 23

Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/21/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86
Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77
Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/15/2024
Date Data Arrived at EDR: 04/17/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 7
Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 10/18/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 90
Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88
Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 03/19/2024
Date Data Arrived at EDR: 03/21/2024
Date Made Active in Reports: 04/12/2024
Number of Days to Update: 22
Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 01/11/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86
Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0
Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 01/26/2024
Date Data Arrived at EDR: 01/30/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/06/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 02/29/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing

Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20

Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 90

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/18/2023
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 86

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/19/2024
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 76

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 03/26/2024
Number of Days to Update: 68

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/09/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/09/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 12/14/2023
Number of Days to Update: 1

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/18/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/15/2023
Date Data Arrived at EDR: 11/20/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 87

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/31/2023
Date Data Arrived at EDR: 11/03/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 81
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/09/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 11/21/2023
Number of Days to Update: 12
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/29/2024
Number of Days to Update: 85
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 01/26/2024
Number of Days to Update: 8

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 90

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 11/27/2023
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 81

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 01/31/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 01/15/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/05/2024
Number of Days to Update: 78
Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 90

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/07/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/16/2023
Number of Days to Update: 8

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/05/2023
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 27

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 75

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 89
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

23161 MILL CREEK
23161 MILL CREEK
LAGUNA HILLS, CA 92653

TARGET PROPERTY COORDINATES

Latitude (North):	33.626 - 33° 37' 33.60''
Longitude (West):	117.735577 - 117° 44' 8.08''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	431772.6
UTM Y (Meters):	3720738.2
Elevation:	334 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50005786 LAKE FOREST, CA
Version Date:	2022
Southeast Map:	50006201 SAN JUAN CAPISTRANO, CA
Version Date:	2022
Southwest Map:	50005785 LAGUNA BEACH, CA
Version Date:	2022
Northwest Map:	50006231 TUSTIN, CA
Version Date:	2022

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

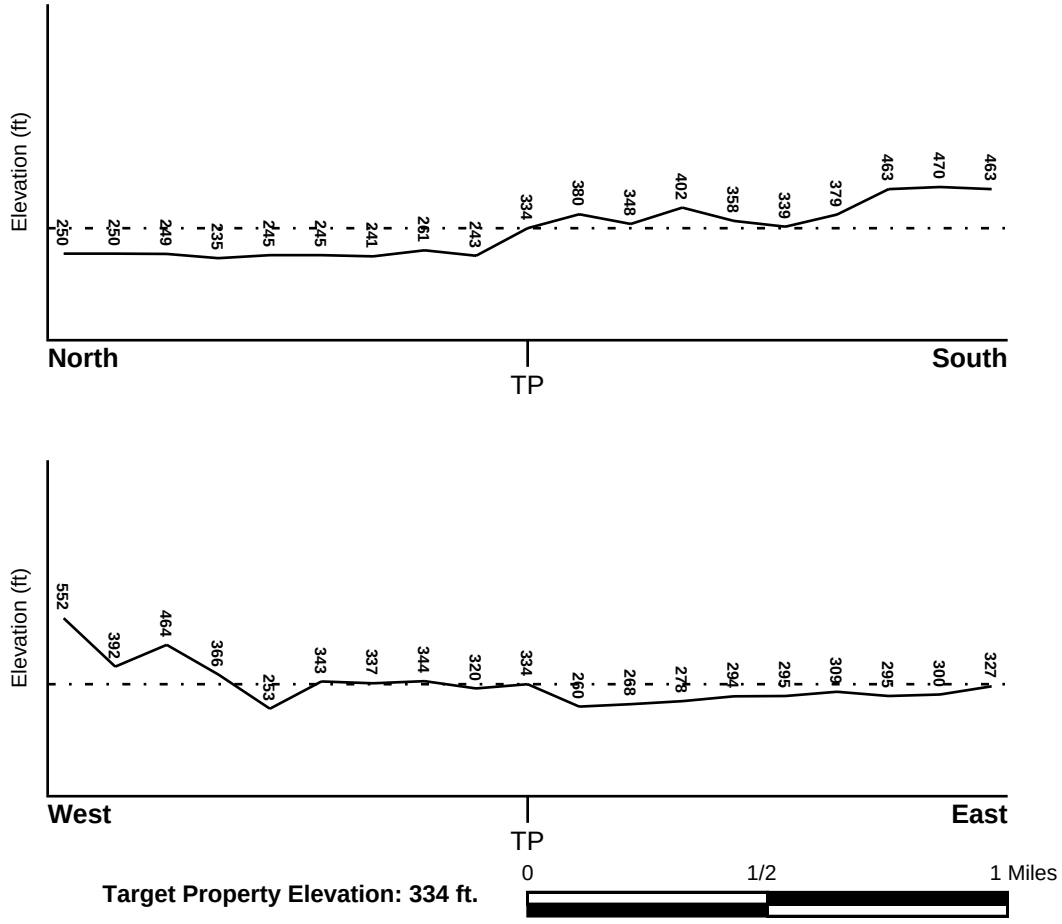
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06059C0313J	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06059C0294J	FEMA FIRM Flood data
06059C0314J	FEMA FIRM Flood data
06059C0407J	FEMA FIRM Flood data
06059C0426J	FEMA FIRM Flood data
06059C0427J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
EL TORO	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
22	1/2 - 1 Mile ENE	NW
1G	1/2 - 1 Mile ENE	NW

For additional site information, refer to Physical Setting Source Map Findings.

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

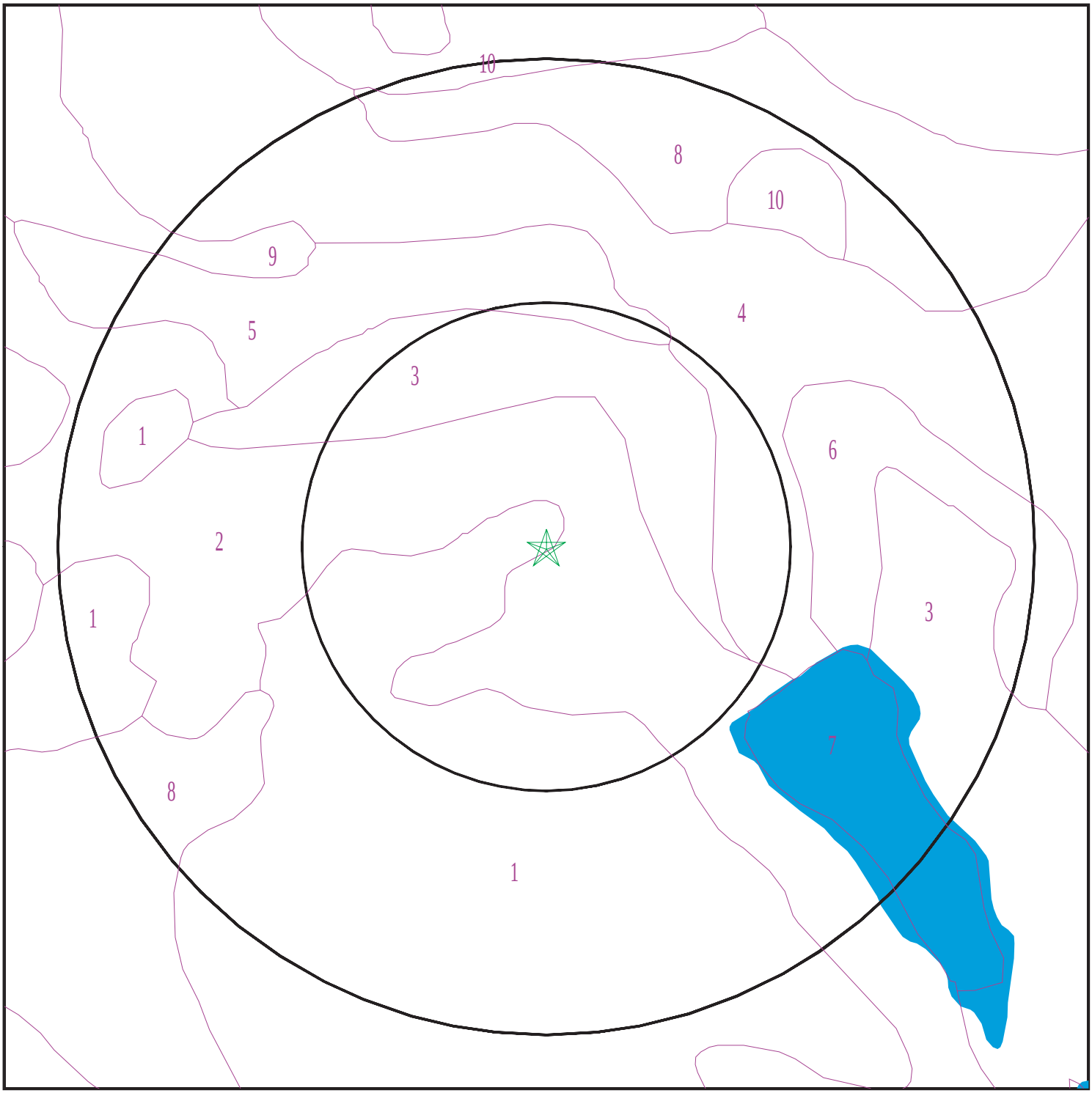
Era:	Cenozoic
System:	Tertiary
Series:	Miocene
Code:	Tm *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7637810.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	23161 Mill Creek	CLIENT:	Thornburgh Consulting, Inc.
ADDRESS:	23161 Mill Creek Laguna Hills CA 92653	CONTACT:	Stephen Krummlett
LAT/LONG:	33.626 / 117.735577	INQUIRY #:	7637810.2s
		DATE:	April 29, 2024 6:29 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: ALO VARIANT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
2	25 inches	38 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: ALO VARIANT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
2	25 inches	38 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	18 inches	sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	18 inches	27 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
4	27 inches	70 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 4

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1
2	22 inches	27 inches	sandy clay	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	27 inches	38 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1
4	38 inches	70 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1
5	70 inches	79 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 5

Soil Component Name: BOTELLA

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	7 inches	35 inches	silty clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	35 inches	66 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 6

Soil Component Name: YORBA

Soil Surface Texture: cobbly sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	cobbly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 8.4 Min: 5.1
2	11 inches	40 inches	very gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 8.4 Min: 5.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	40 inches	62 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 8.4 Min: 5.1

Soil Map ID: 7

Soil Component Name: Water

Soil Surface Texture: cobbly sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 8

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
2	11 inches	18 inches	sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	18 inches	27 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
4	27 inches	70 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 9

Soil Component Name: BOTELLA

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	7 inches	35 inches	silty clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	35 inches	66 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 10

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
2	7 inches	11 inches	sandy clay	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	11 inches	20 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	20 inches	64 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
5	64 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D24	USGS40000136184	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

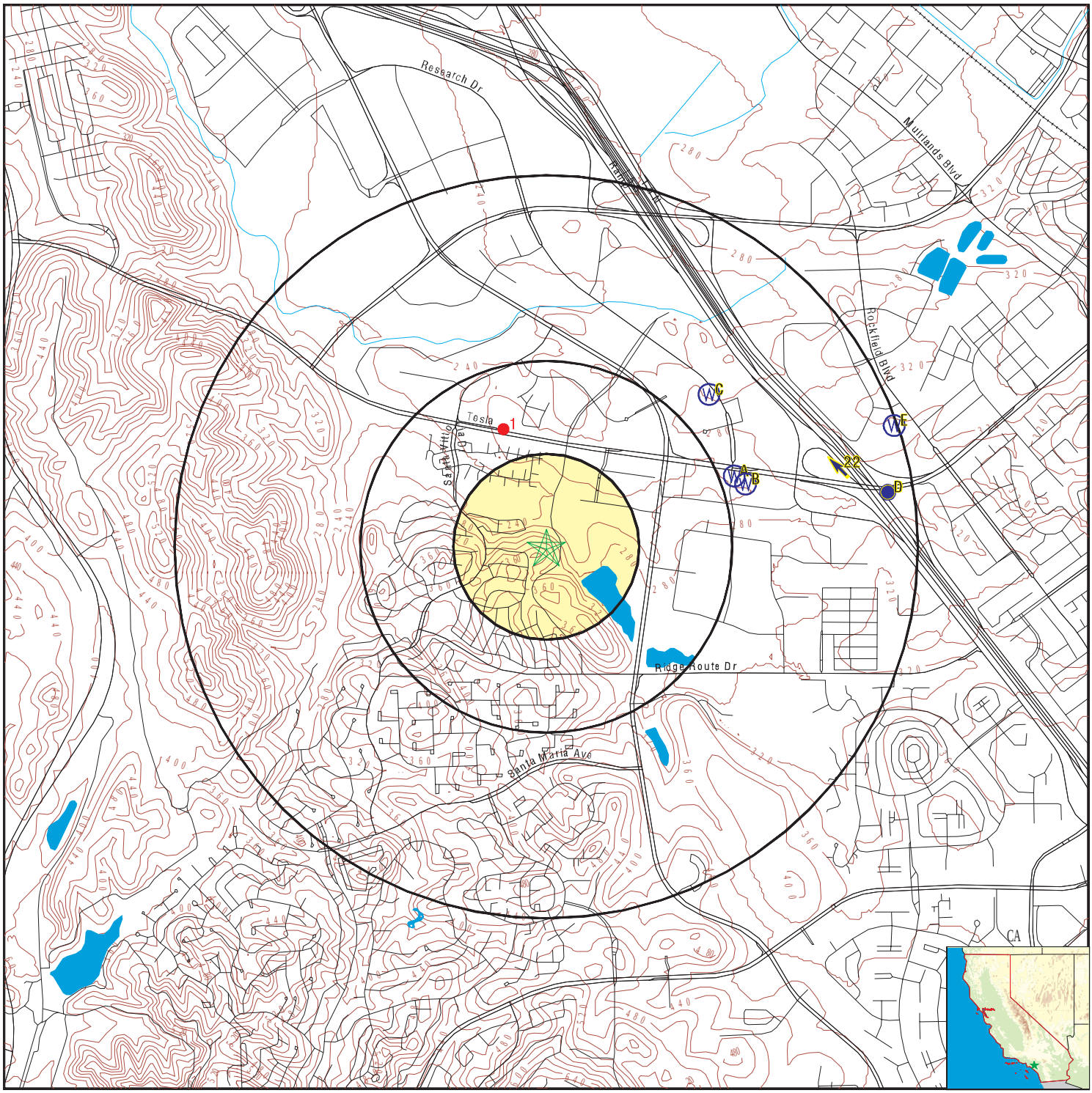
MAP ID	WELL ID	LOCATION FROM TP
A1	CAEDF0000093680	1/2 - 1 Mile ENE
A2	CAEDF0000106897	1/2 - 1 Mile ENE
A3	CAEDF0000033226	1/2 - 1 Mile ENE
A4	CAEDF0000062475	1/2 - 1 Mile ENE
A5	CAEDF0000038579	1/2 - 1 Mile ENE
A6	CAEDF0000110846	1/2 - 1 Mile ENE
A7	CAEDF0000094071	1/2 - 1 Mile ENE
A8	CAEDF0000060683	1/2 - 1 Mile ENE
A9	CAEDF0000124428	1/2 - 1 Mile ENE
A10	CAEDF0000044500	1/2 - 1 Mile ENE
B11	CAEDF0000075888	1/2 - 1 Mile ENE
B12	CAEDF0000137642	1/2 - 1 Mile ENE
A13	CAEDF0000041502	1/2 - 1 Mile ENE
A14	CAEDF0000037700	1/2 - 1 Mile ENE
A15	CAEDF0000136357	1/2 - 1 Mile ENE
B16	CAEDF0000119651	1/2 - 1 Mile ENE
B17	CAEDF0000114104	1/2 - 1 Mile ENE
C18	CAEDF0000013113	1/2 - 1 Mile NE
C19	CAEDF0000098573	1/2 - 1 Mile NE
C20	CAEDF0000047982	1/2 - 1 Mile NE
C21	CAEDF0000012046	1/2 - 1 Mile NE
D23	CADWR0000006260	1/2 - 1 Mile ENE
D25	CAUSGSN00004768	1/2 - 1 Mile East
E26	CAEDF0000123035	1/2 - 1 Mile ENE
E27	CAEDF0000083126	1/2 - 1 Mile ENE
E28	CAEDF0000105085	1/2 - 1 Mile ENE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG17000004694	1/4 - 1/2 Mile NNW

PHYSICAL SETTING SOURCE MAP - 7637810.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: 23161 Mill Creek	CLIENT: Thornburgh Consulting, Inc.
ADDRESS: 23161 Mill Creek Laguna Hills CA 92653	CONTACT: Stephen Krummlett
LAT/LONG: 33.626 / 117.735577	INQUIRY #: 7637810.2s DATE: April 29, 2024 6:29 pm

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Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000093680**

Well ID:	T0605988853-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-1		

A2
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000106897**

Well ID:	T0605988853-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-2		

A3
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000033226**

Well ID:	T0605988853-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-4		

A4
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000062475**

Well ID:	T0605988853-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-5		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A5
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000038579**

Well ID:	T0605988853-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-8		

A6
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000110846**

Well ID:	T0605988853-MW-16	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-16
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-16&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-16		

A7
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000094071**

Well ID:	T0605988853-MW-17	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-17
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-17&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-17		

A8
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000060683**

Well ID:	T0605988853-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-7		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A9
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000124428**

Well ID:	T0605988853-MW-10	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-10		

A10
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000044500**

Well ID:	T0605988853-MW-11	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-11		

B11
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000075888**

Well ID:	T0605988853-MW-14	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-14
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-14&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-14		

B12
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000137642**

Well ID:	T0605988853-MW-13	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-13
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-13&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-13		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A13
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000041502**

Well ID:	T0605988853-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-3		

A14
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000037700**

Well ID:	T0605988853-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-6		

A15
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000136357**

Well ID:	T0605988853-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-9		

B16
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000119651**

Well ID:	T0605988853-MW-12	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-12		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B17
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000114104**

Well ID:	T0605988853-MW-15	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-15
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605988853&assigned_name=MW-15&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605988853&assigned_name=MW-15		

C18
NE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000013113**

Well ID:	T0605900655-AEC-3	Well Type:	MONITORING
Source:	EDF	Other Name:	AEC-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605900655&assigned_name=AEC-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605900655&assigned_name=AEC-3		

C19
NE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000098573**

Well ID:	T0605900655-AEC-1	Well Type:	MONITORING
Source:	EDF	Other Name:	AEC-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605900655&assigned_name=AEC-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605900655&assigned_name=AEC-1		

C20
NE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000047982**

Well ID:	T0605900655-AEC-4	Well Type:	MONITORING
Source:	EDF	Other Name:	AEC-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605900655&assigned_name=AEC-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605900655&assigned_name=AEC-4		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
C21 **NE** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**CAEDF0000012046**

Well ID:	T0605900655-AEC-2	Well Type:	MONITORING
Source:	EDF	Other Name:	AEC-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605900655&assigned_name=AEC-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605900655&assigned_name=AEC-2		

---

22 **ENE** **1/2 - 1 Mile** **Lower**	Site ID:	083001148T	**AQUIFLOW**	**65133**
	Groundwater Flow:	NW		
	Shallow Water Depth:	12		
	Deep Water Depth:	33		
	Average Water Depth:	Not Reported		
	Date:	11/15/1988		

D23 **ENE** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**CADWR0000006260**	

Well ID:	06S08W28B001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	06S08W28B001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=06S08W28B001S&store_num=		
GeoTracker Data:	Not Reported		

D24 **East** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000136184**	

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S008W28B001S	Type:	Well
Description:	Not Reported	HUC:	18070204
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D25
East
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00004768**

Well ID:	USGS-333740117430701	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-333740117430701	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-333740117430701&store_num=		
GeoTracker Data:	Not Reported		

E26
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000123035**

Well ID:	T0605901988-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605901988&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605901988&assigned_name=MW-5		

E27
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000083126**

Well ID:	T0605901988-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605901988&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605901988&assigned_name=MW-8		

E28
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000105085**

Well ID:	T0605901988-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0605901988&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0605901988&assigned_name=MW-6		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1G **ENE** **1/2 - 1 Mile** **Lower**	Site ID:	083001148T	**AQUIFLOW**	**65133**
	Groundwater Flow:	NW		
	Shallow Water Depth:	12		
	Deep Water Depth:	33		
	Average Water Depth:	Not Reported		
	Date:	11/15/1988		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
NNW **OIL_GAS** **CAOG17000004694**
1/4 - 1/2 Mile

OIL_GAS:

API #:	0405900854	Well #:	1
Well Type:	Dry Hole	Well Status:	Plugged
Lease Name:	Lease by Almeria Industries Co.		
Well Design:	1	Operator ID:	00251
Operator Name:	Almeria Industries Co.	Field Name:	Any Field
Area Name:	Any Area	Place:	Laguna Hills
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	Spud Date:	Not Reported
Well Record Request URL:	https://filerequest.conservation.ca.gov/WellRecord?api=05900854		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92653	111	5

Federal EPA Radon Zone for ORANGE County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 92653

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.200 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

Geothermal Wells Listing
Department of Conservation
Telephone: 916-445-9686
Geothermal well means a well constructed to extract or return water to the ground after it has been used for heating or cooling purposes. Geothermal wells in California (except for wells on federal leases which are administered by the Bureau of Land Management) are permitted, drilled, operated, and permanently sealed and closed (plugged and abandoned) under requirements and procedures administered by the Geothermal Section of the Department of Conservations Geologic Energy Management Division (CalGEM, formerly DOGGR).

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E

HISTORICAL RECORDS

23161 Mill Creek

23161 Mill Creek

Laguna Hills, CA 92653

Inquiry Number: 7637810.8

April 29, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/29/24

Site Name:

23161 Mill Creek
23161 Mill Creek
Laguna Hills, CA 92653
EDR Inquiry # 7637810.8

Client Name:

Thornburgh Consulting, Inc.
24001 Muirlands Blvd., #242
Lake Forest, CA 92630
Contact: Stephen Krummlett

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
2002	1"=500'	Acquisition Date: January 01, 2002	USGS/DOQQ
1994	1"=500'	Acquisition Date: June 01, 1994	USGS/DOQQ
1989	1"=500'	Flight Date: August 03, 1989	USDA
1974	1"=500'	Flight Date: November 06, 1974	USGS
1972	1"=500'	Flight Date: October 30, 1972	USGS
1967	1"=500'	Flight Date: May 07, 1967	USGS
1963	1"=500'	Flight Date: February 28, 1963	USGS
1952	1"=500'	Flight Date: December 12, 1952	USDA
1946	1"=500'	Flight Date: December 29, 1946	USGS
1938	1"=500'	Flight Date: June 14, 1938	USDA

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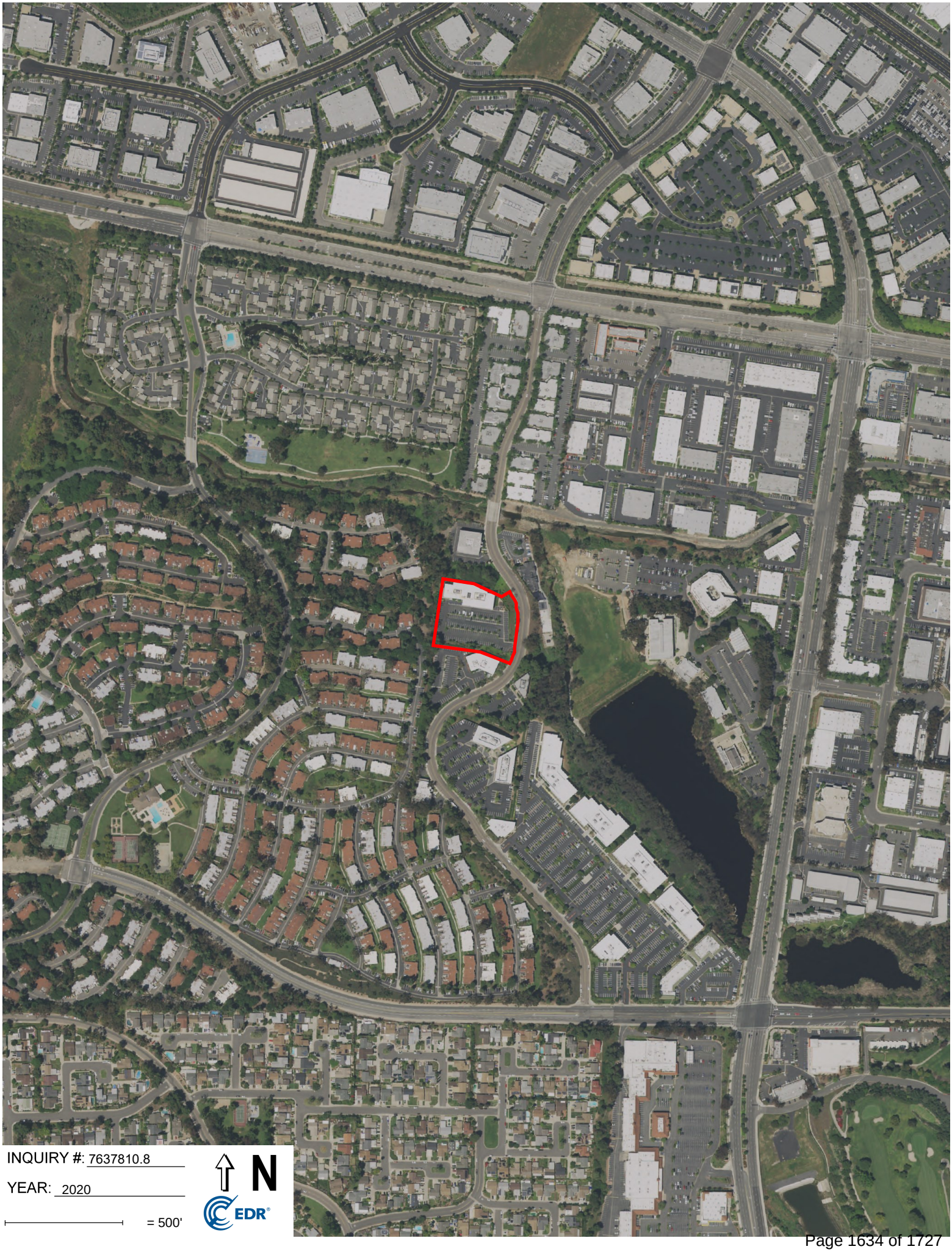
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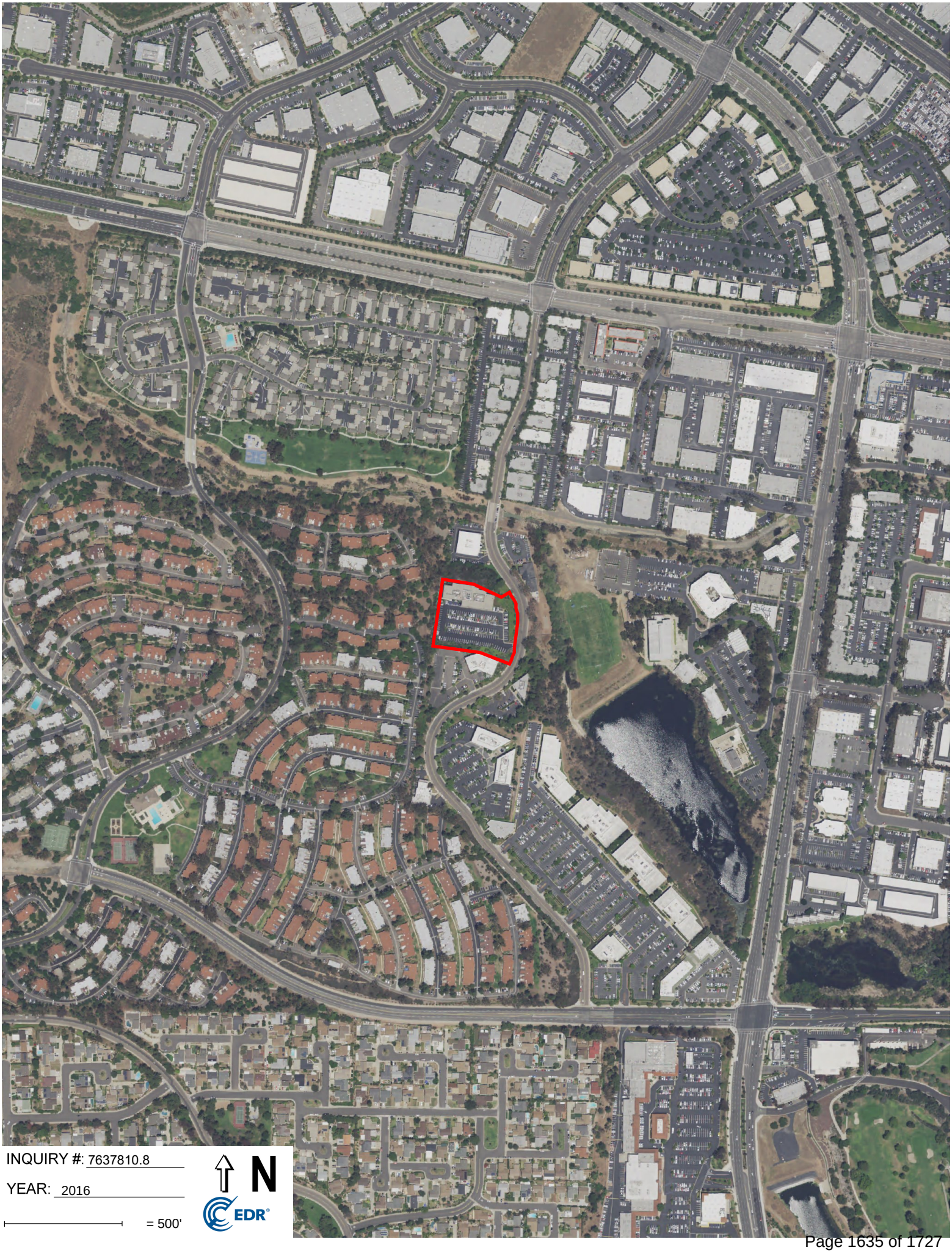
EDR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YEAR: 2016
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EDR

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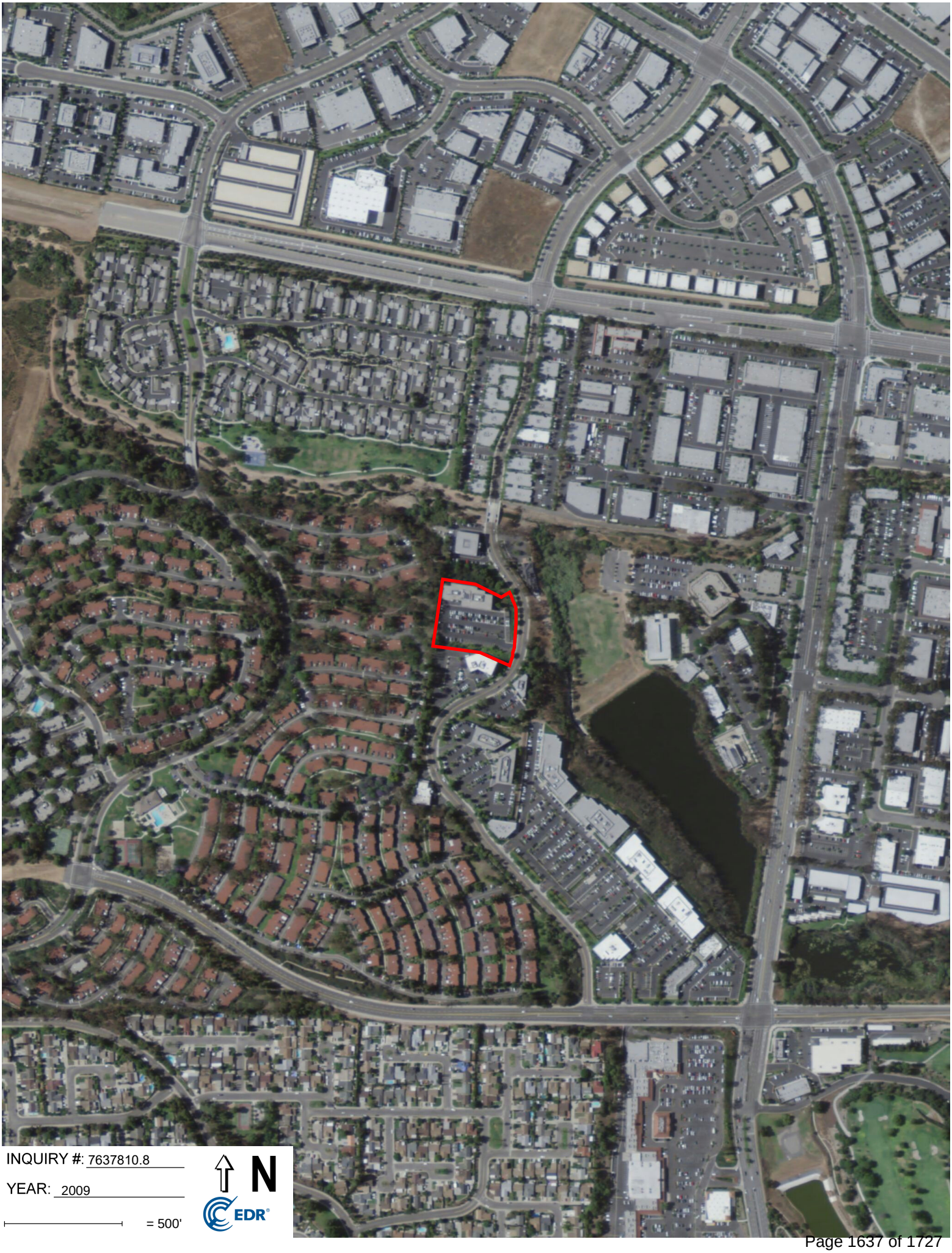
YEAR: 2012
= 500'
N
EDR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YEAR: 2009
= 500'
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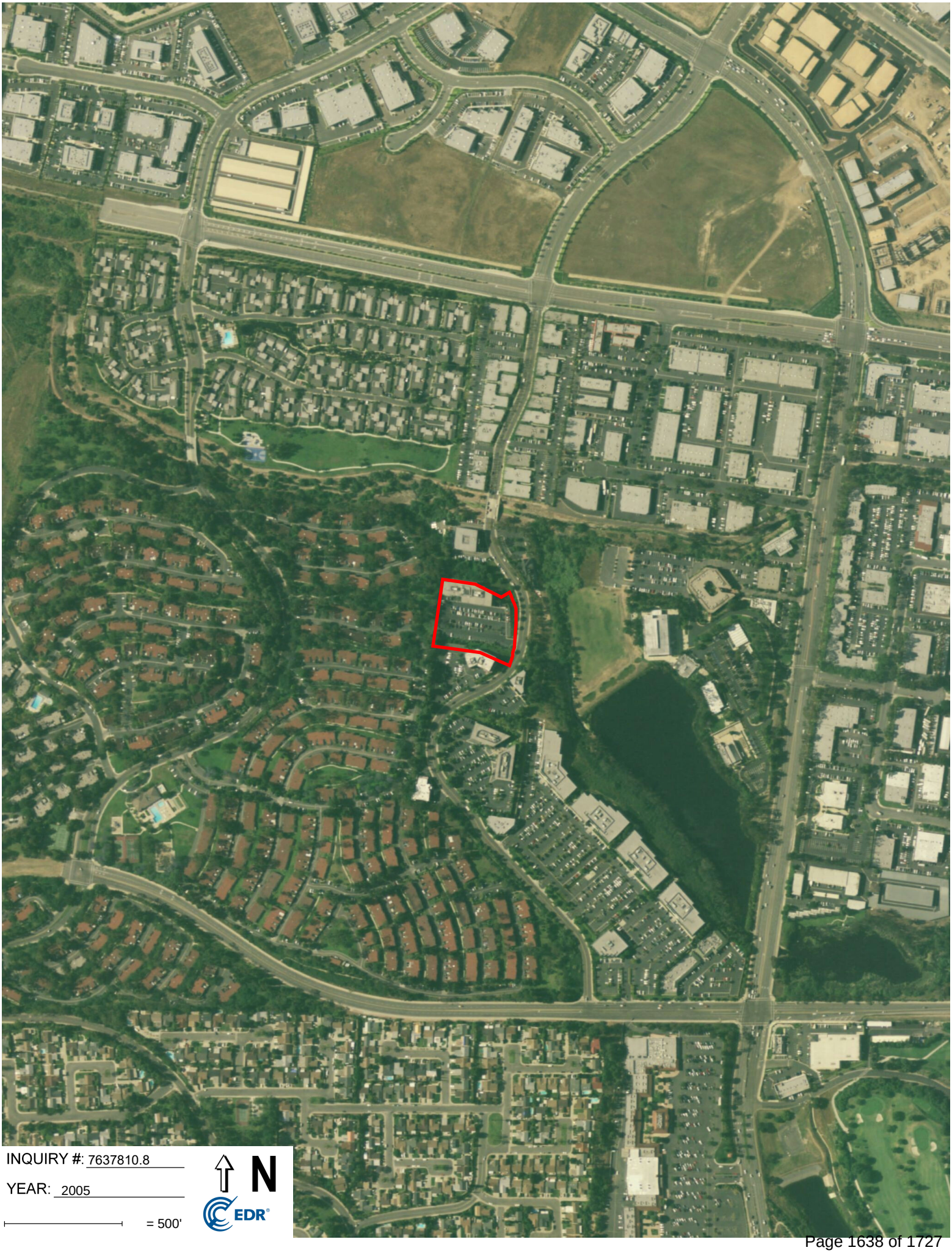
EDR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YEAR: 2005
= 500'
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EDR

INQUIRY #: 7637810.8

YEAR: 2002

= 500'

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EDR

INQUIRY #: 7637810.8

YEAR: 1994

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1989

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1974

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1972

= 500'

N

EDR

[redacted]

INQUIRY #: 7637810.8

YEAR: 1967

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1963

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1952

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1946

= 500'

N

EDR

INQUIRY #: 7637810.8

YEAR: 1938

= 500'

N

EDR

23161 Mill Creek

23161 Mill Creek

Laguna Hills, CA 92653

Inquiry Number: 7637810.3

April 29, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/29/24

Site Name:

23161 Mill Creek
23161 Mill Creek
Laguna Hills, CA 92653
EDR Inquiry # 7637810.3

Client Name:

Thornburgh Consulting, Inc.
24001 Muirlands Blvd., #242
Lake Forest, CA 92630
Contact: Stephen Krummlett

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Certified Sanborn Results:

Certification # 19ED-4058-B73A

PO # 0049

Project 0049

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: 19ED-4058-B73A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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23161 Mill Creek

23161 Mill Creek

Laguna Hills, CA 92653

Inquiry Number: 7637810.4

April 29, 2024

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/29/24

Site Name:

23161 Mill Creek
23161 Mill Creek
Laguna Hills, CA 92653
EDR Inquiry # 7637810.4

Client Name:

Thornburgh Consulting, Inc.
24001 Muirlands Blvd., #242
Lake Forest, CA 92630
Contact: Stephen Krummlett

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Search Results:

P.O.# 0049
Project: 0049

Coordinates:

Latitude:	33.626 33° 37' 34" North
Longitude:	-117.735577 -117° 44' 8" West
UTM Zone:	Zone 11 North
UTM X Meters:	431774.08
UTM Y Meters:	3720931.39
Elevation:	330.29' above sea level

Maps Provided:

2022	1974
2018	1965, 1968
2015	1950
2012	1949
1997	1948
1982	1942
1981	1932, 1935
1978	1902

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Topo Sheet Key

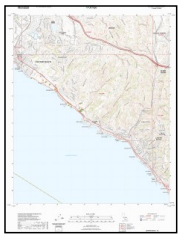
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2022 Source Sheets

Lake Forest
2022
7.5-minute, 24000

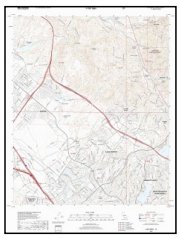
San Juan Capistrano
2022
7.5-minute, 24000

Tustin
2022
7.5-minute, 24000

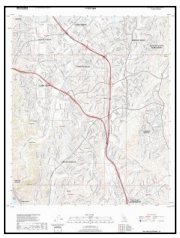


Laguna Beach
2022
7.5-minute, 24000

2018 Source Sheets

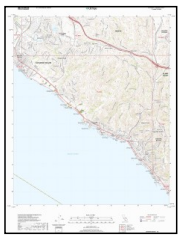


Lake Forest
2018
7.5-minute, 24000



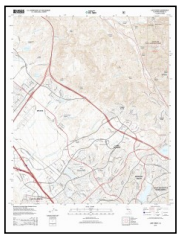
San Juan Capistrano
2018
7.5-minute, 24000

Tustin
2018
7.5-minute, 24000

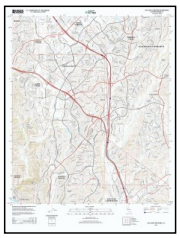


Laguna Beach
2018
7.5-minute, 24000

2015 Source Sheets



Lake Forest
2015
7.5-minute, 24000

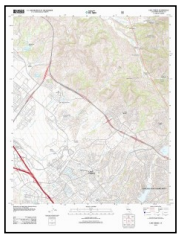


San Juan Capistrano
2015
7.5-minute, 24000

Tustin
2015
7.5-minute, 24000

Laguna Beach
2015
7.5-minute, 24000

2012 Source Sheets



El Toro
2012
7.5-minute, 24000

San Juan Capistrano
2012
7.5-minute, 24000

Tustin
2012
7.5-minute, 24000

Laguna Beach
2012
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1997 Source Sheets

El Toro
1997
7.5-minute, 24000
Aerial Photo Revised 1994

1982 Source Sheets

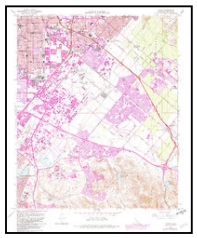
El Toro
1982
7.5-minute, 24000
Aerial Photo Revised 1980

1981 Source Sheets

El Toro
1981
7.5-minute, 24000
Aerial Photo Revised 1978

San Juan Capistrano
1981
7.5-minute, 24000
Aerial Photo Revised 1977

Laguna Beach
1981
7.5-minute, 24000
Aerial Photo Revised 1978



Tustin
1981
7.5-minute, 24000
Aerial Photo Revised 1978

1978 Source Sheets

El Toro
1978
7.5-minute, 24000
Aerial Photo Revised 1974

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1974 Source Sheets

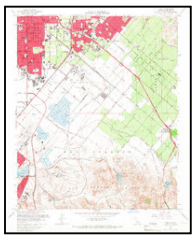
Laguna Beach
1974
7.5-minute, 24000
Aerial Photo Revised 1974

San Juan Capistrano
1974
7.5-minute, 24000
Aerial Photo Revised 1974

Tustin
1974
7.5-minute, 24000
Aerial Photo Revised 1974

El Toro
1974
7.5-minute, 24000
Aerial Photo Revised 1974

1965, 1968 Source Sheets



Tustin
1965
7.5-minute, 24000
Aerial Photo Revised 1963

Laguna Beach
1965
7.5-minute, 24000
Aerial Photo Revised 1963

El Toro
1968
7.5-minute, 24000
Aerial Photo Revised 1967

San Juan Capistrano
1968
7.5-minute, 24000
Aerial Photo Revised 1967

1950 Source Sheets

El Toro
1950
7.5-minute, 24000
Aerial Photo Revised 1946

Tustin
1950
7.5-minute, 24000
Aerial Photo Revised 1946

1949 Source Sheets

El Toro
1949
7.5-minute, 24000
Aerial Photo Revised 1946

San Juan Capistrano
1949
7.5-minute, 24000
Aerial Photo Revised 1946

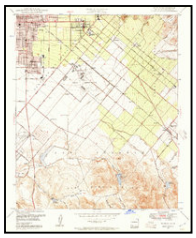
Laguna Beach
1949
7.5-minute, 24000
Aerial Photo Revised 1946

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1948 Source Sheets

San Juan Capistrano
1948
7.5-minute, 24000
Aerial Photo Revised 1946



Tustin
1948
7.5-minute, 24000
Aerial Photo Revised 1946

Laguna Beach
1948
7.5-minute, 24000
Aerial Photo Revised 1946

1942 Source Sheets

SANTA ANA
1942
15-minute, 50000

SANTIAGO PEAK
1942
15-minute, 50000

1932, 1935 Source Sheets

Tustin
1932
7.5-minute, 31680

El Toro
1935
7.5-minute, 31680

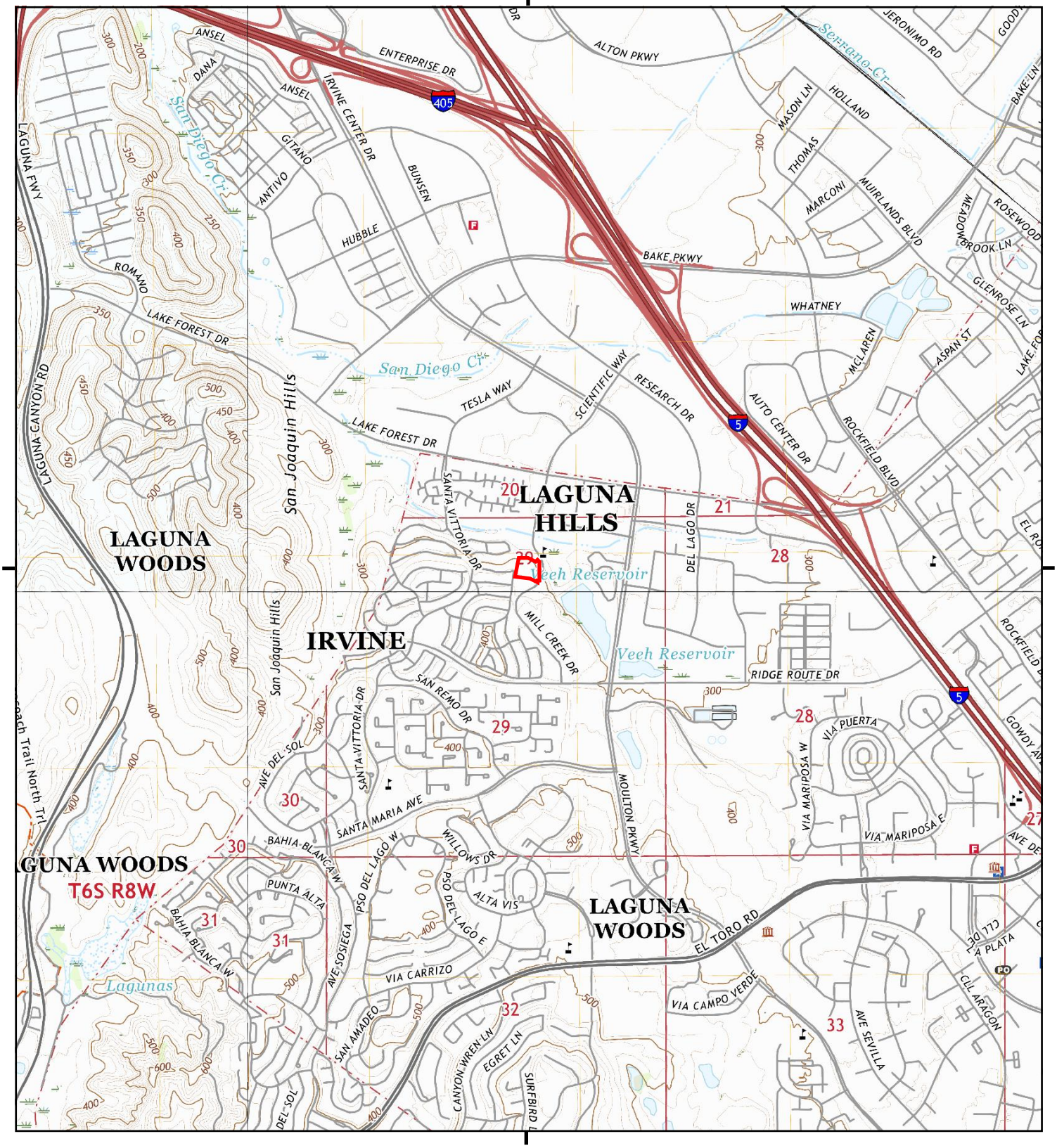
Tustin
1935
7.5-minute, 31680

1902 Source Sheets

Corona
1902
30-minute, 125000

Historical Topo Map

2022



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

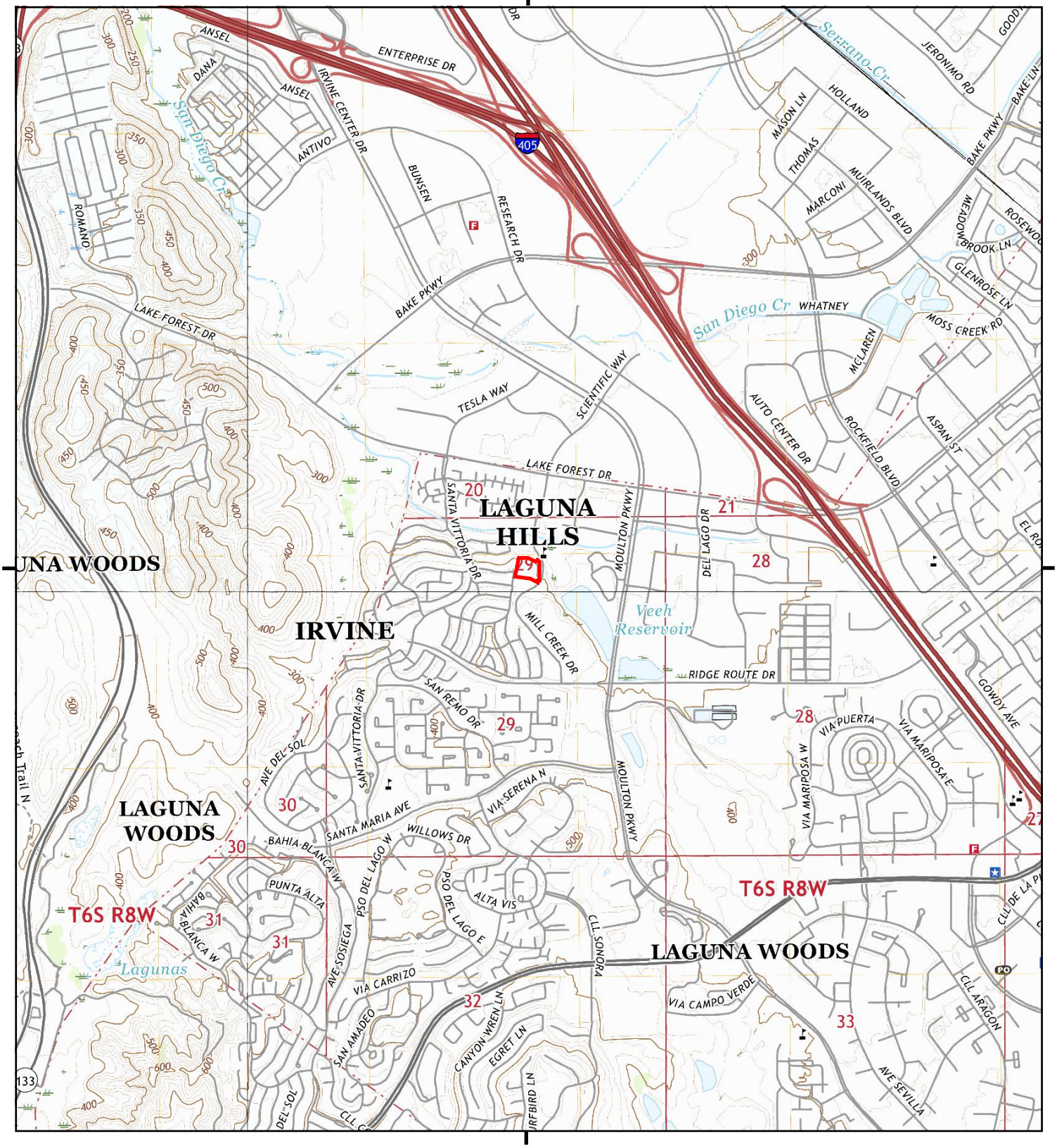
TP, Lake Forest, 2022, 7.5-minute
SE, San Juan Capistrano, 2022, 7.5-minute
SW, Laguna Beach, 2022, 7.5-minute
NW, Tustin, 2022, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

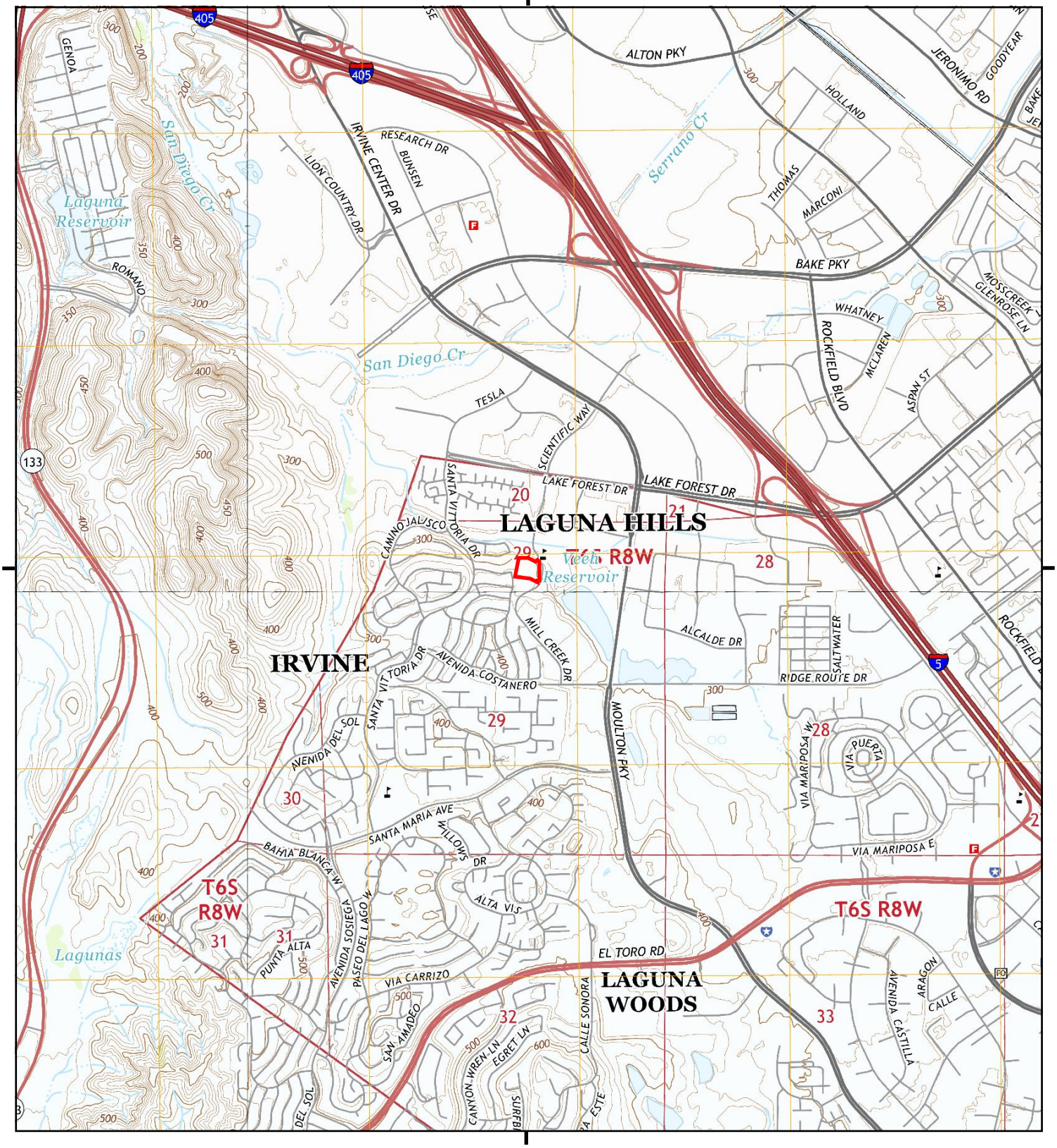
TP, Lake Forest, 2018, 7.5-minute
SE, San Juan Capistrano, 2018, 7.5-minute
SW, Laguna Beach, 2018, 7.5-minute
NW, Tustin, 2018, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

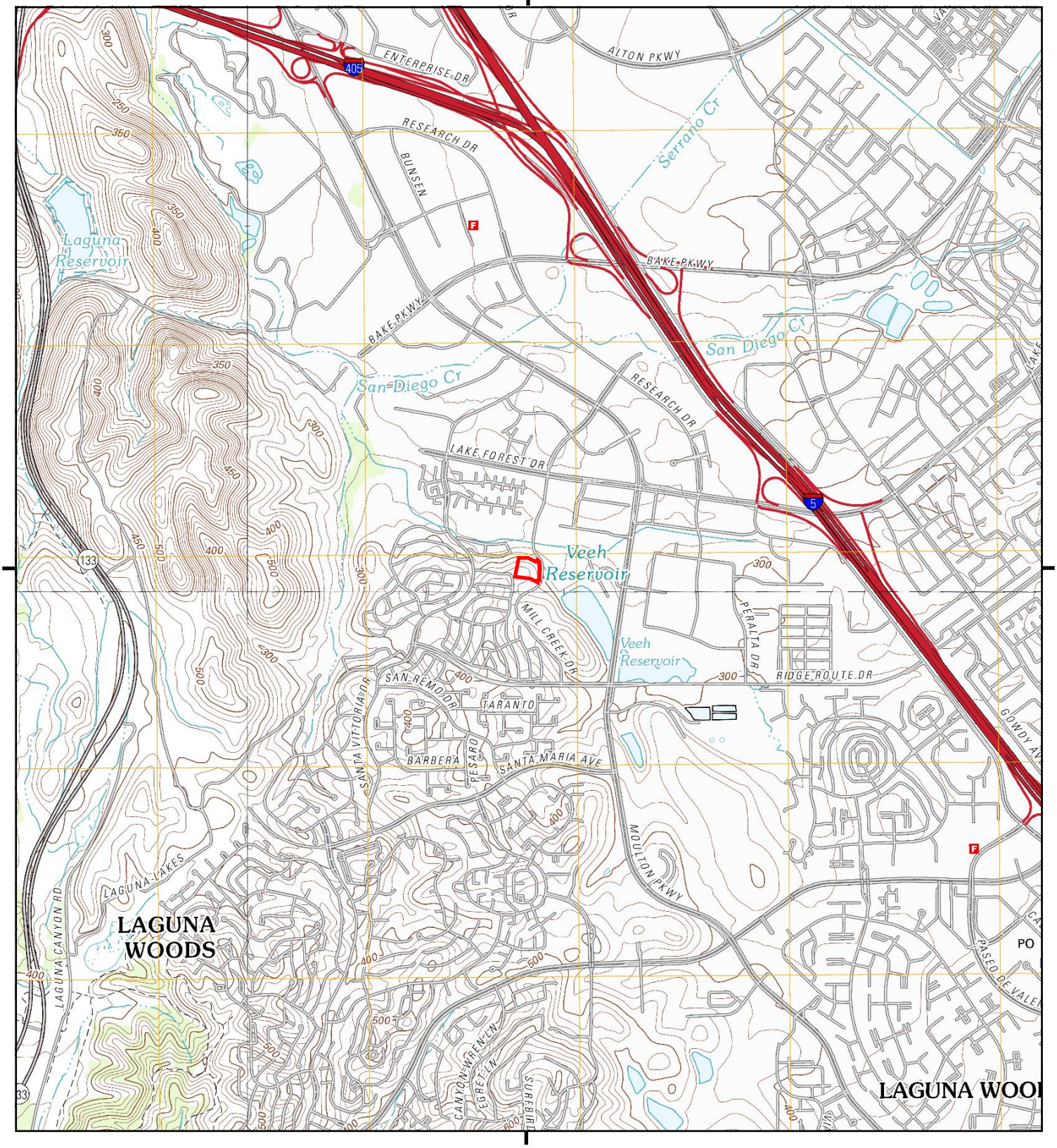
TP, Lake Forest, 2015, 7.5-minute
SE, San Juan Capistrano, 2015, 7.5-minute
SW, Laguna Beach, 2015, 7.5-minute
NW, Tustin, 2015, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

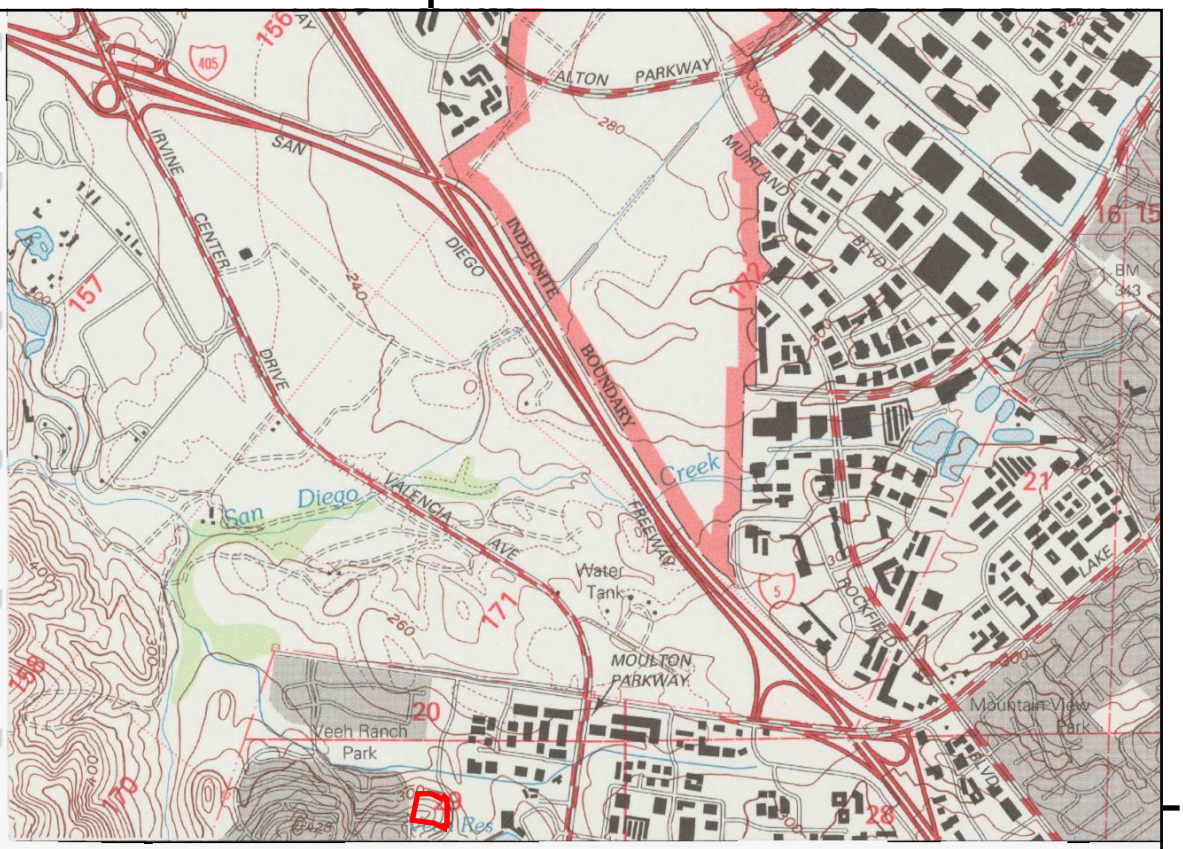
TP, El Toro, 2012, 7.5-minute
SE, San Juan Capistrano, 2012, 7.5-minute
SW, Laguna Beach, 2012, 7.5-minute
NW, Tustin, 2012, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

1997



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

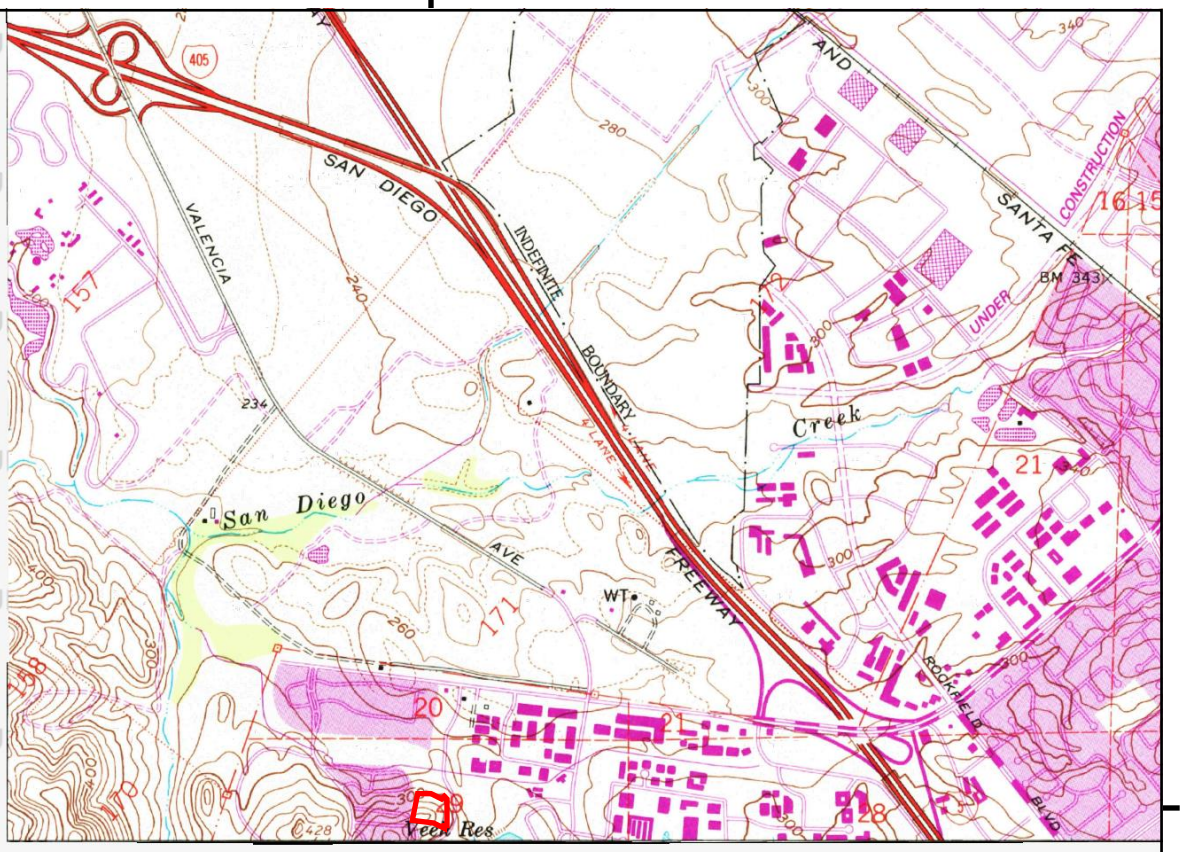
TP, El Toro, 1997, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

1982



This report includes information from the following map sheet(s).

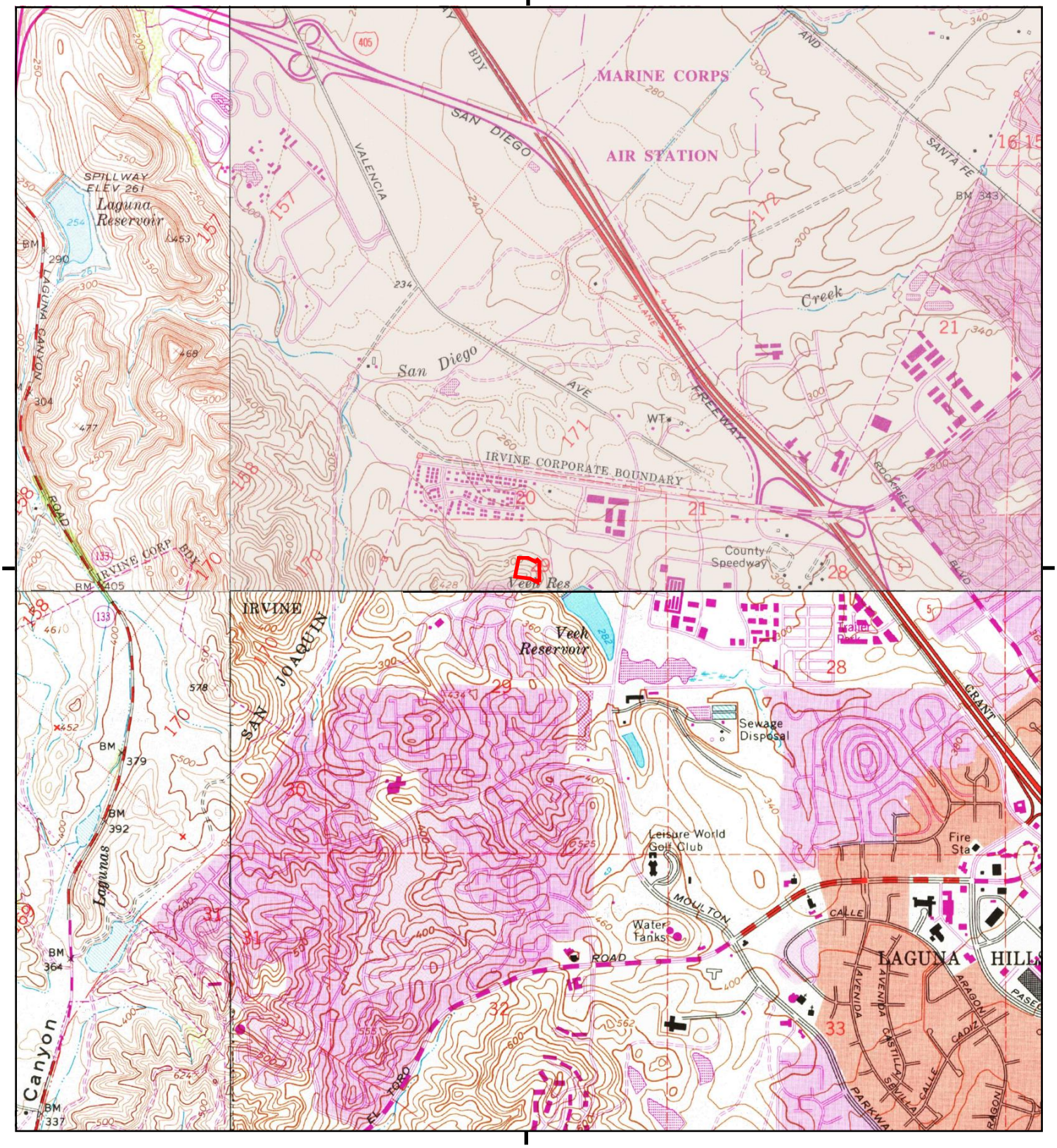
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1982, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

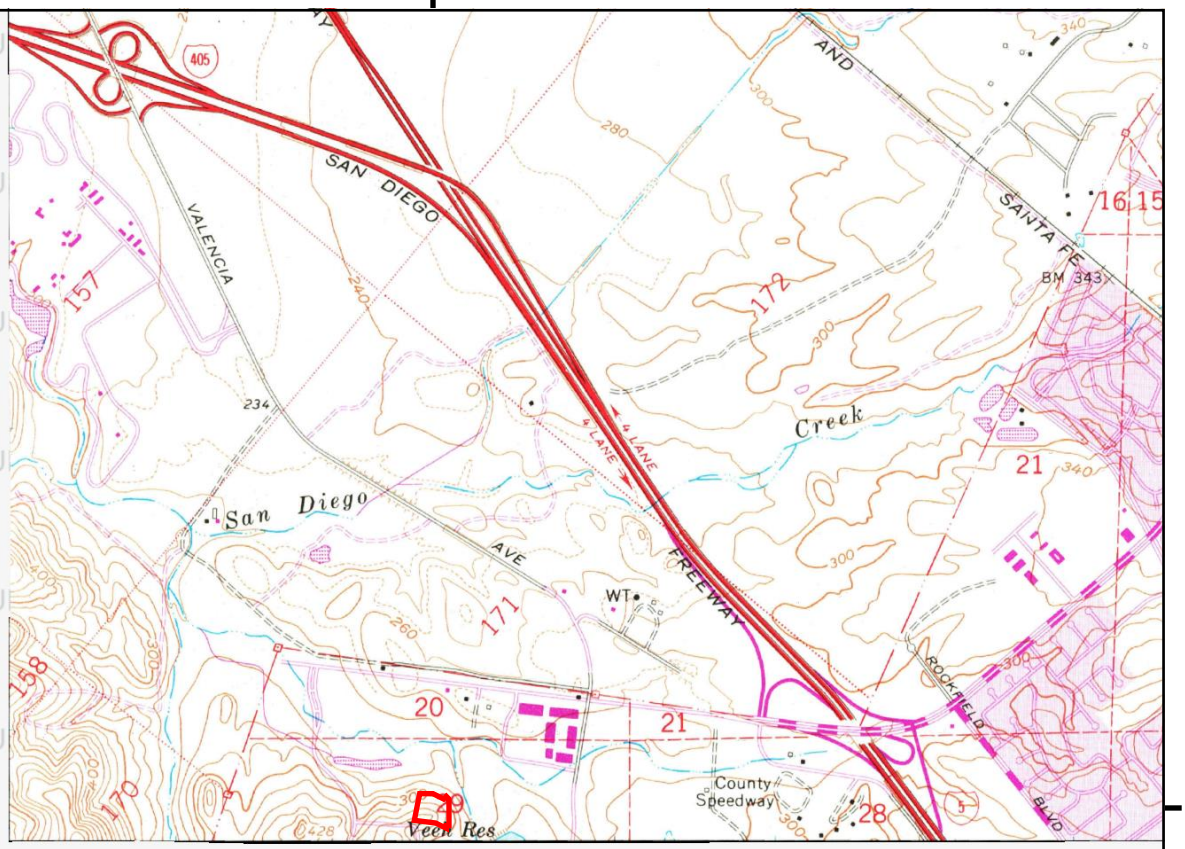
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1981, 7.5-minute
SE, San Juan Capistrano, 1981, 7.5-minute
SW, Laguna Beach, 1981, 7.5-minute
NW, Tustin, 1981, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



UNMAPPED

This report includes information from the following map sheet(s).

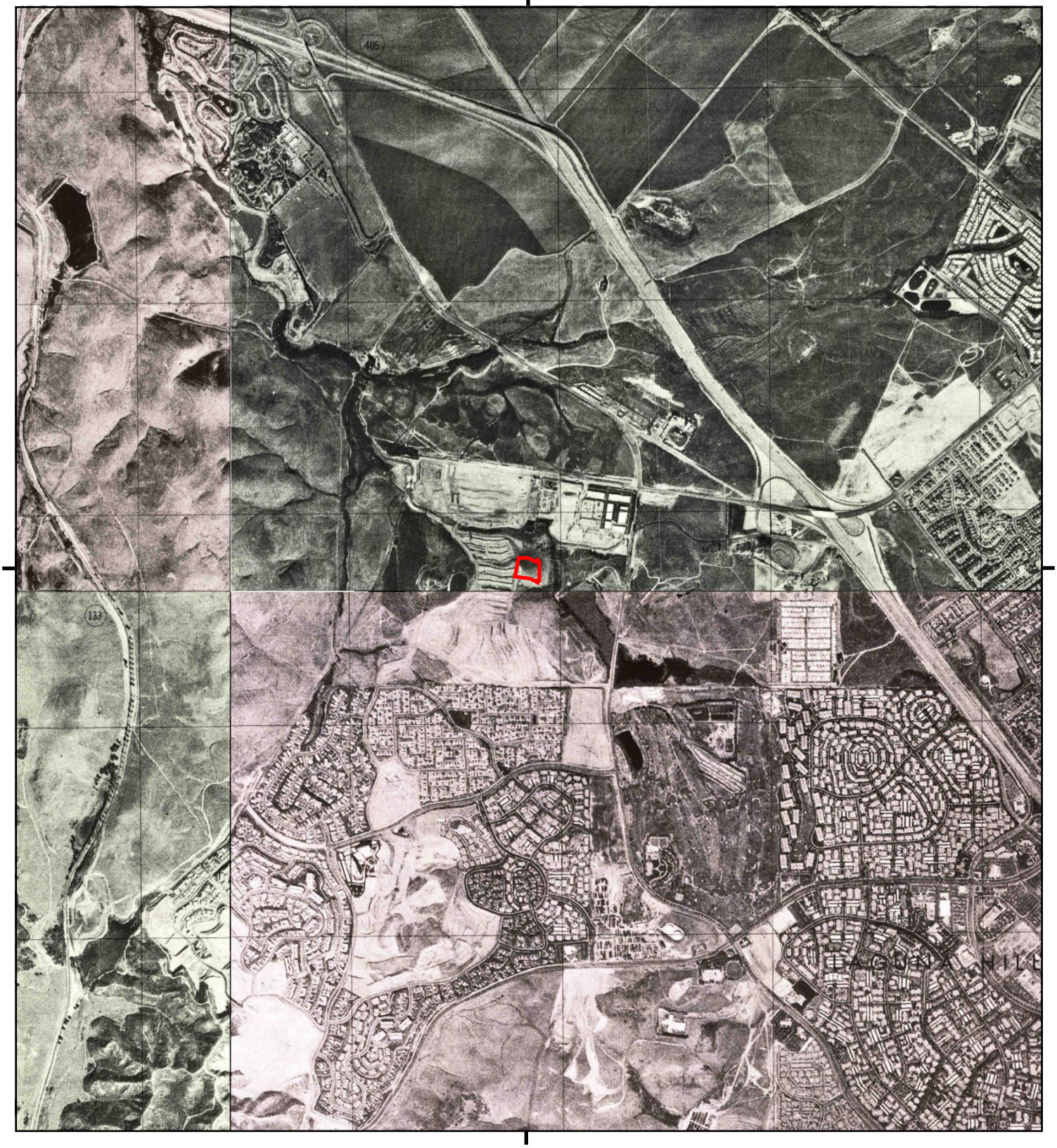
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1978, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

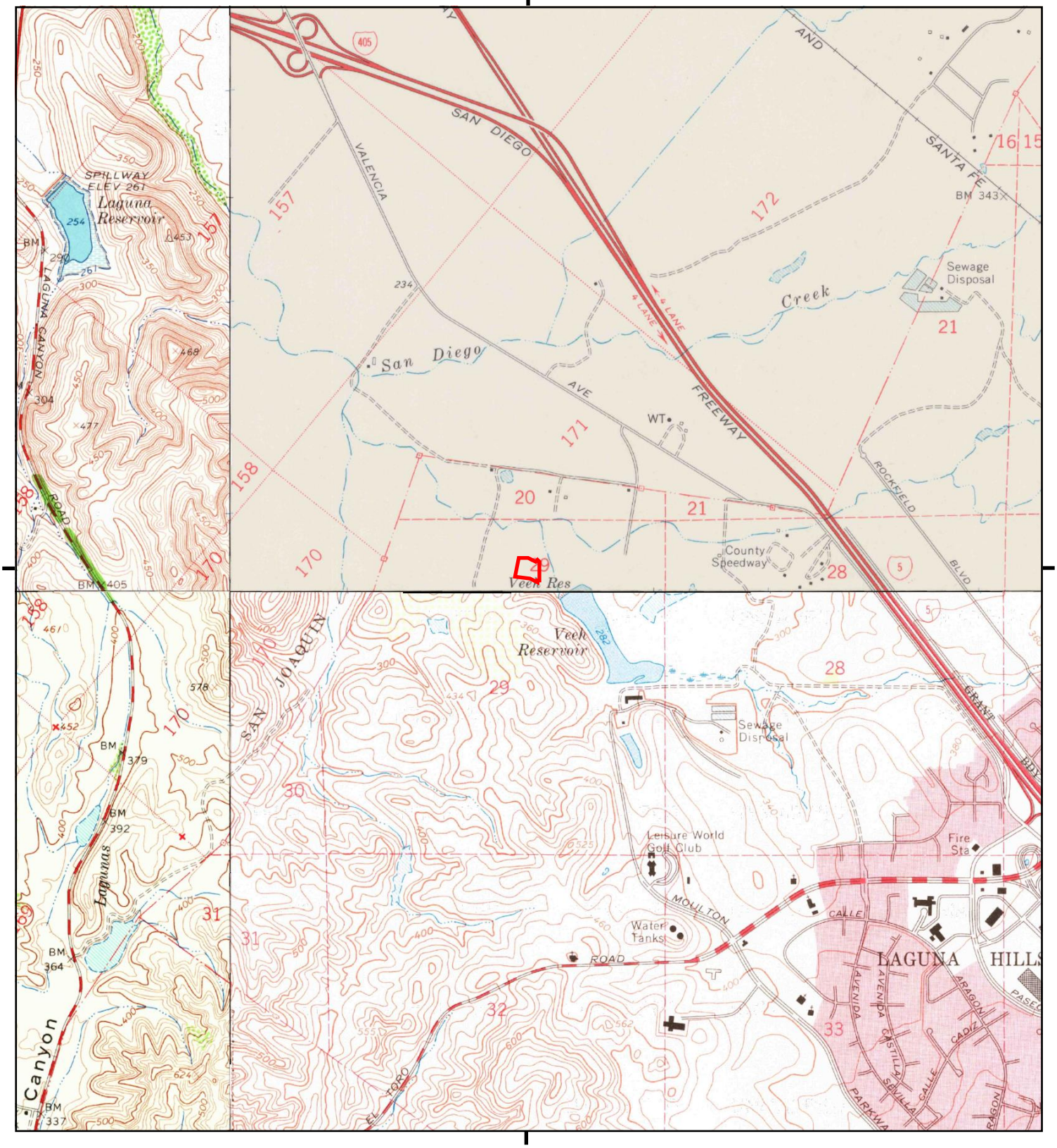
TP, El Toro, 1974, 7.5-minute
SE, San Juan Capistrano, 1974, 7.5-minute
SW, Laguna Beach, 1974, 7.5-minute
NW, Tustin, 1974, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

1965, 1968



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

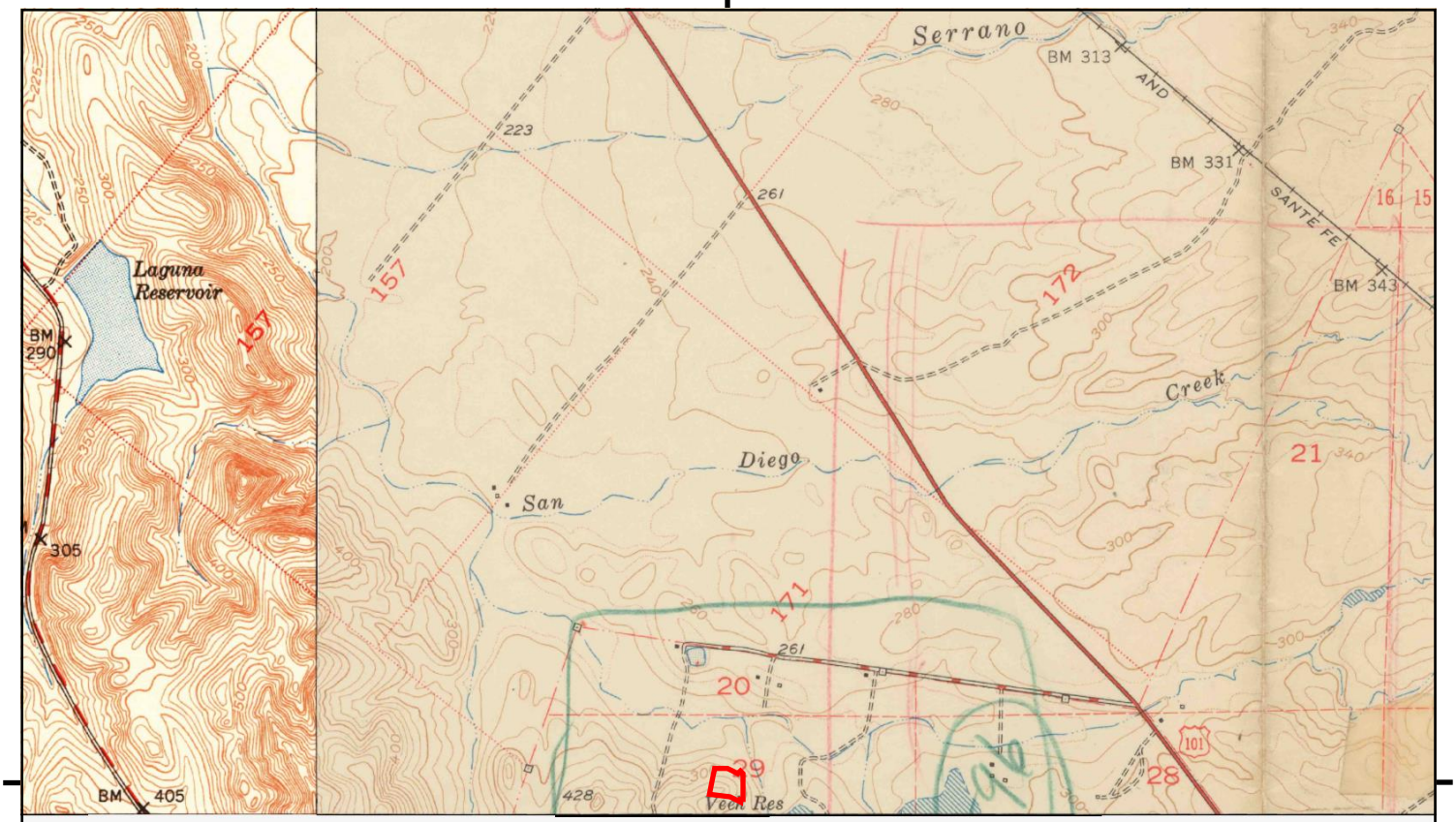
TP, El Toro, 1968, 7.5-minute
SE, San Juan Capistrano, 1968, 7.5-minute
SW, Laguna Beach, 1965, 7.5-minute
NW, Tustin, 1965, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

Historical Topo Map

1950



UNMAPPED

This report includes information from the following map sheet(s).

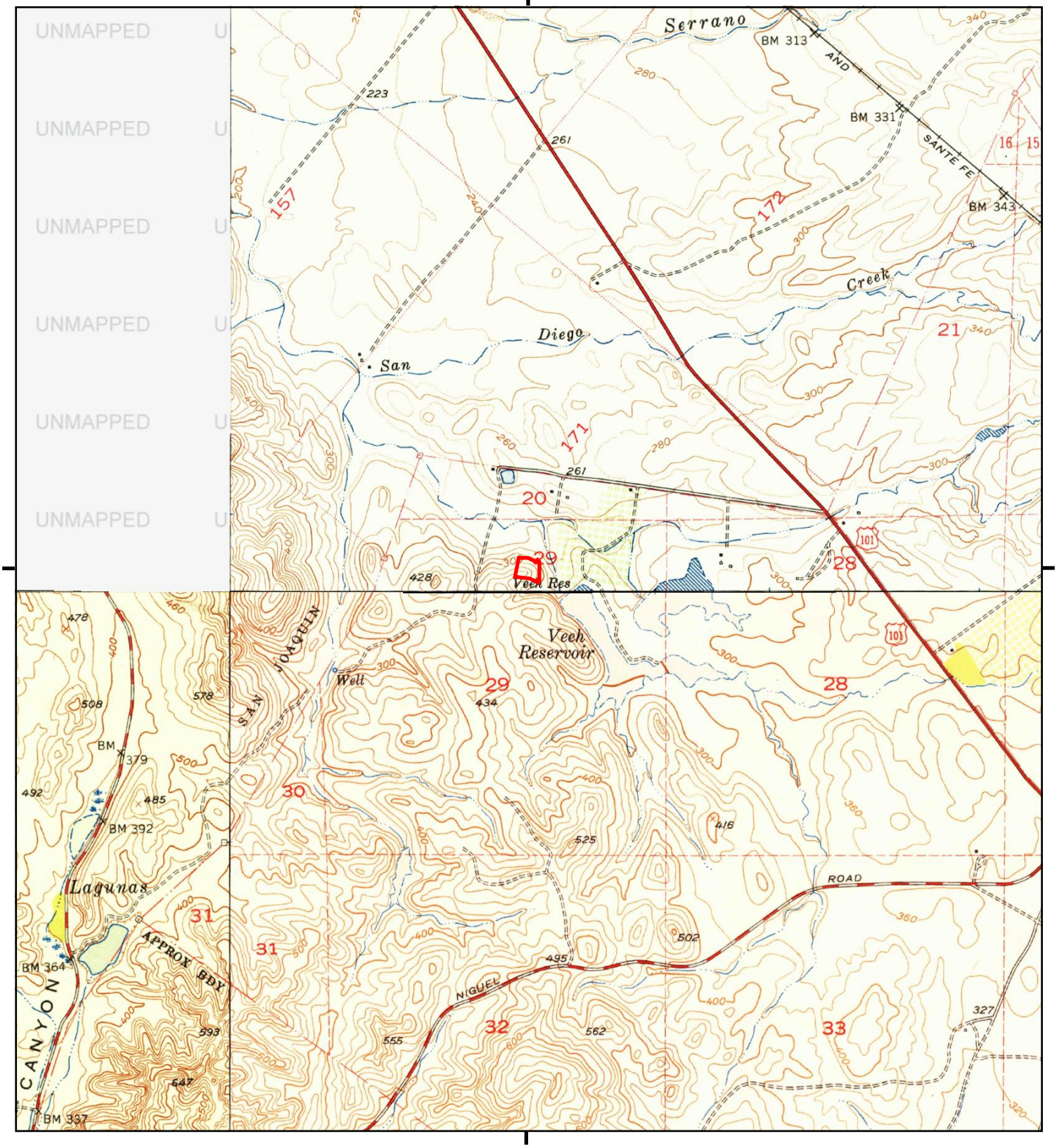
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1950, 7.5-minute
NW, Tustin, 1950, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

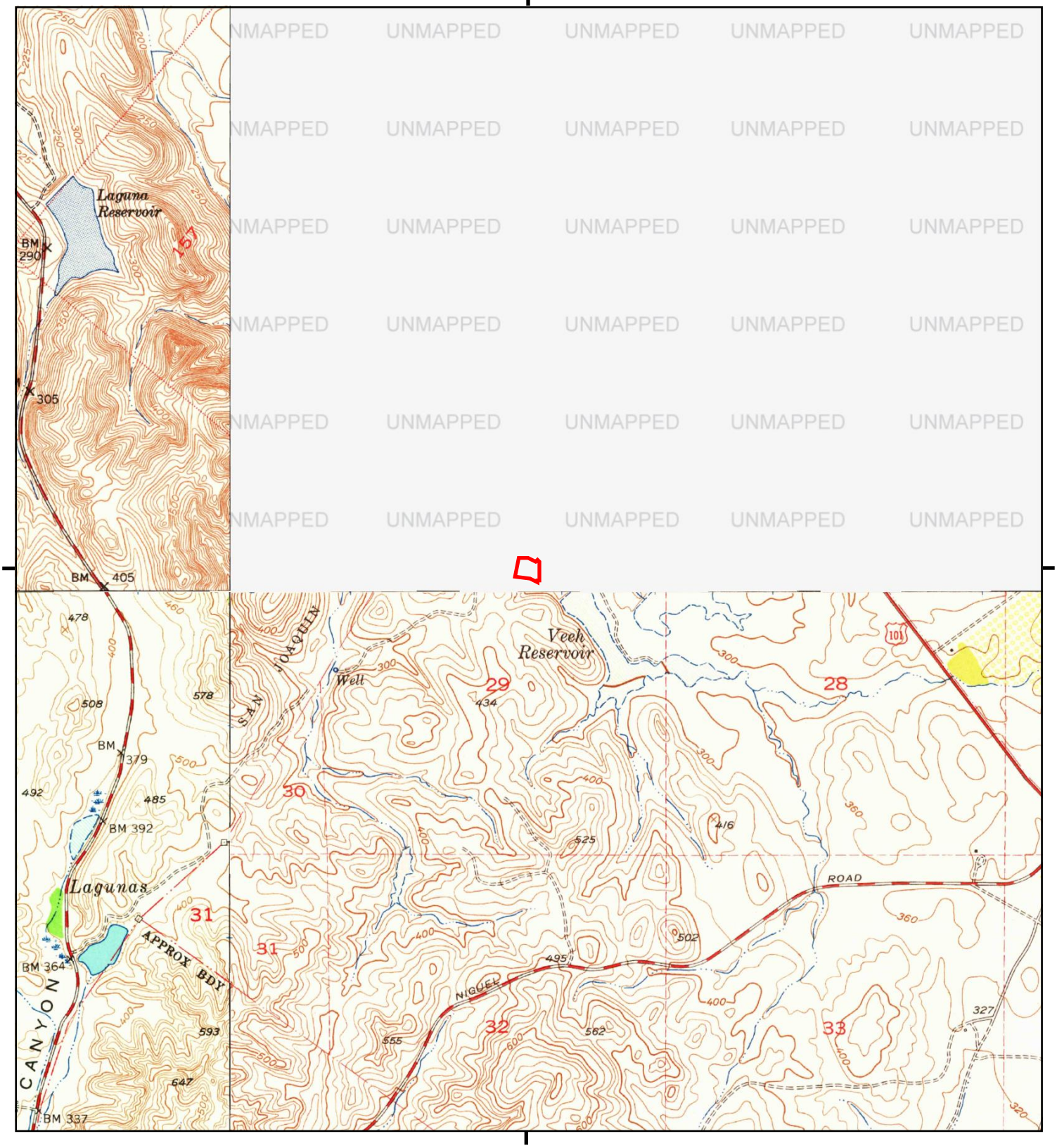
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1949, 7.5-minute
SE, San Juan Capistrano, 1949, 7.5-minute
SW, Laguna Beach, 1949, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

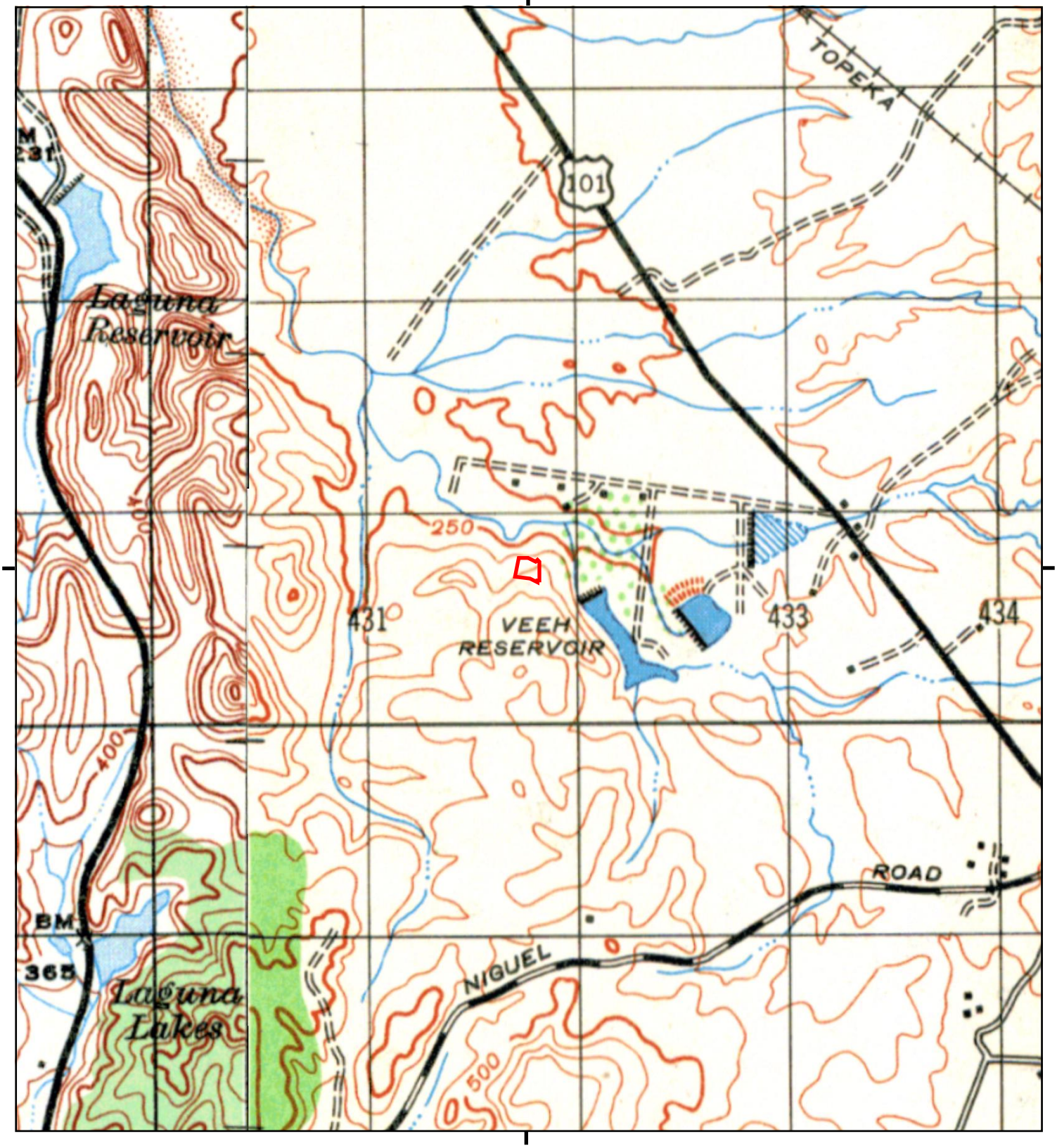
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

SE, San Juan Capistrano, 1948, 7.5-minute
SW, Laguna Beach, 1948, 7.5-minute
NW, Tustin, 1948, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

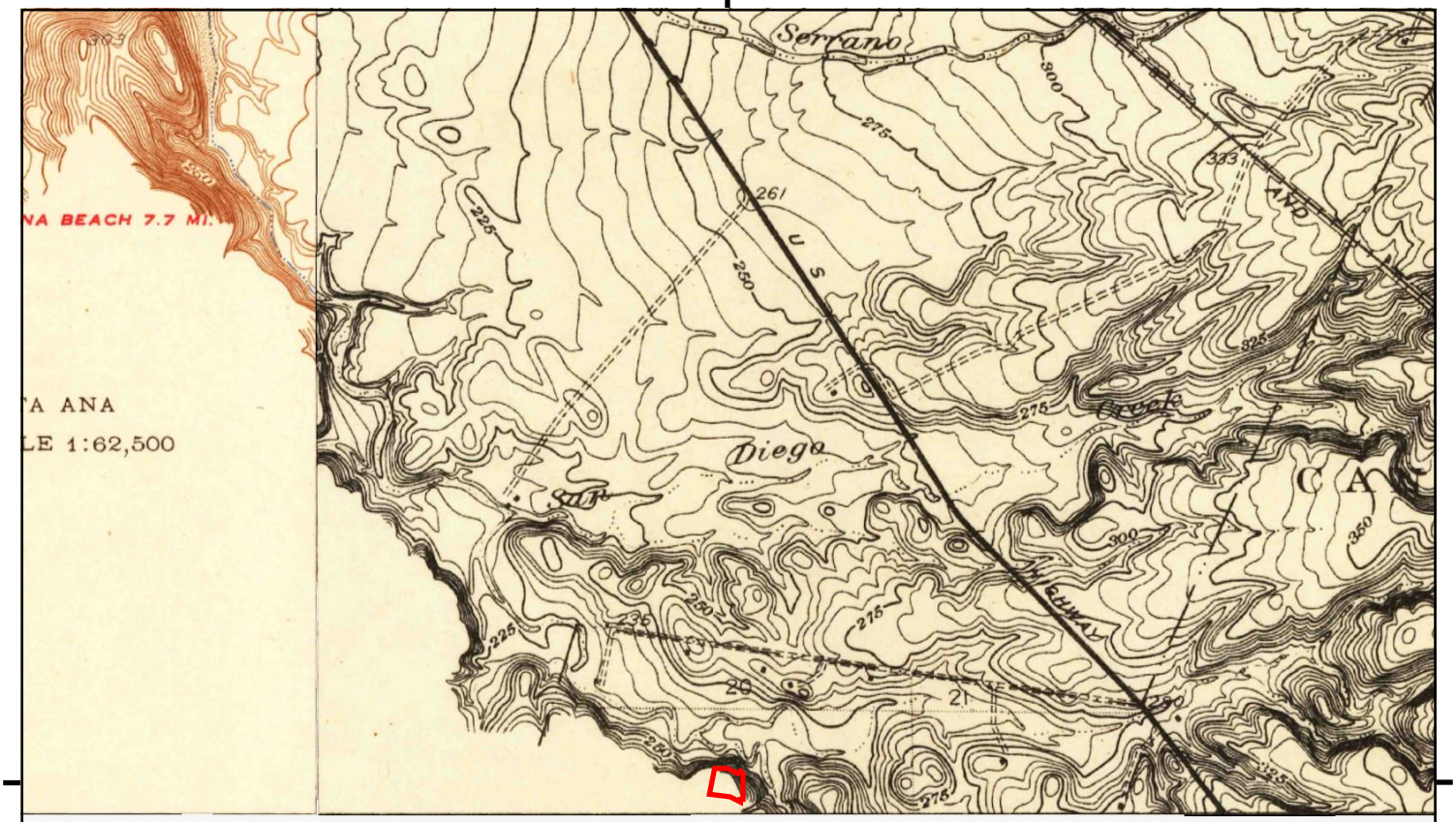
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, SANTIAGO PEAK, 1942, 15-minute
W, SANTA ANA, 1942, 15-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



UNMAPPED

This report includes information from the following map sheet(s).

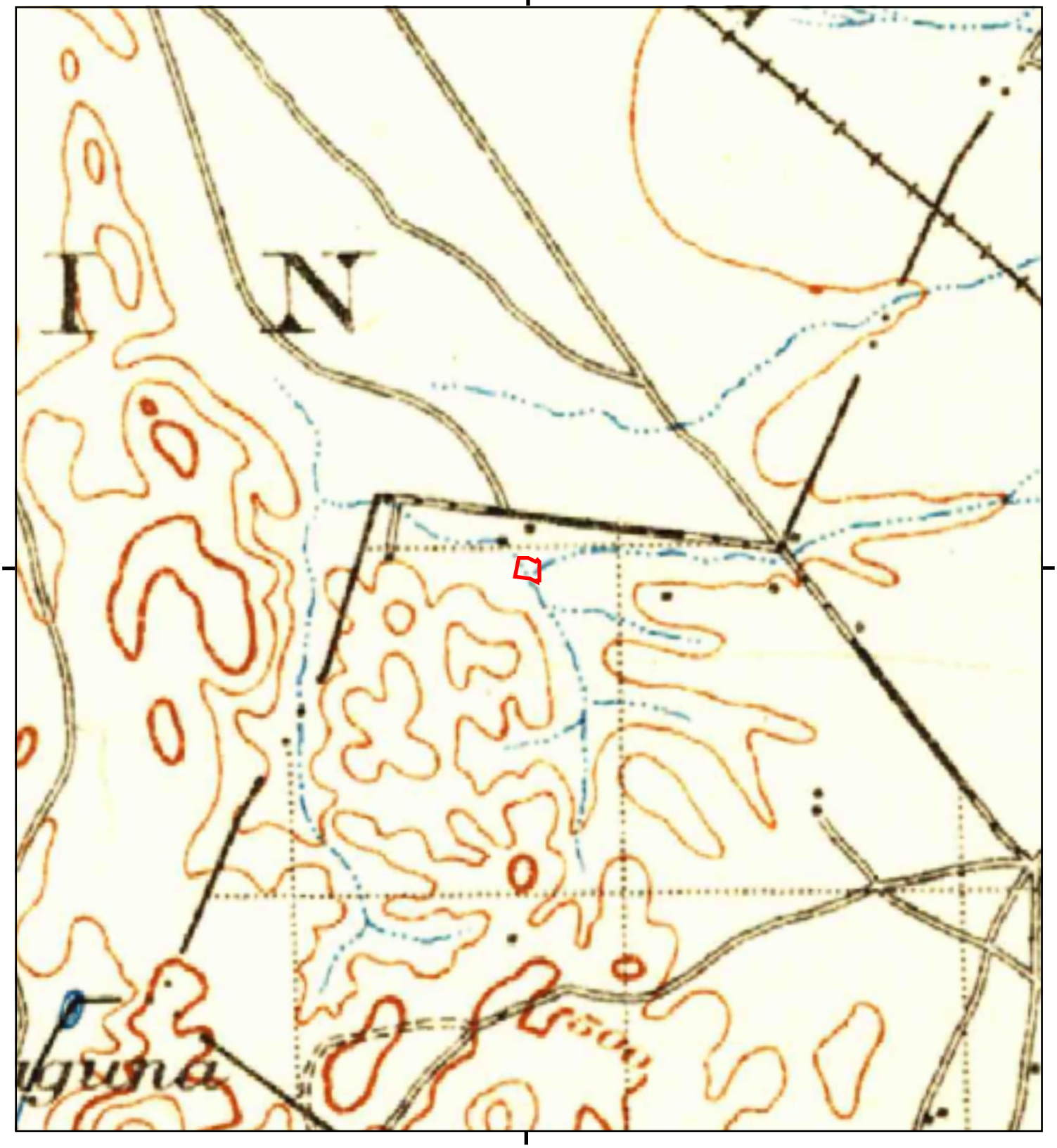
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Toro, 1935, 7.5-minute
NW, Tustin, 1932, 7.5-minute
NW, Tustin, 1935, 7.5-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Corona, 1902, 30-minute

SITE NAME: 23161 Mill Creek
ADDRESS: 23161 Mill Creek
Laguna Hills, CA 92653
CLIENT: Thornburgh Consulting, Inc.

N

23161 Mill Creek
23161 Mill Creek
Laguna Hills, CA 92653

Inquiry Number: 7637810.5
May 02, 2024

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☐	EDR Digital Archive
2017	☐	☐	Cole Information
2014	☑	☐	Cole Information
2010	☑	☐	Cole Information
2005	☑	☐	Cole Information
2000	☑	☐	Cole Information
1995	☑	☐	Cole Information
1992	☑	☐	Cole Information
1987	☑	☐	Haines Criss-Cross Directory
1982	☑	☐	Haines Criss-Cross Directory
1976	☐	☐	Haines Criss-Cross Directory
1973	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

23161 Mill Creek
Laguna Hills, CA 92653

Year	*CD Image*	*Source*	

MILL CREEK DR

2020	pg A2	EDR Digital Archive	
2017	-	Cole Information	Target and Adjoining not listed in Source
2014	pg A7	Cole Information	
2010	pg A10	Cole Information	
2005	pg A13	Cole Information	
2000	pg A19	Cole Information	
1995	pg A20	Cole Information	
1992	pg A23	Cole Information	
1987	pg A26	Haines Criss-Cross Directory	
1982	pg A27	Haines Criss-Cross Directory	
1976	-	Haines Criss-Cross Directory	Street not listed in Source
1973	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MILL CREEK DR 2020

22892 LAER PEARCE & ASSOC
SIDEPATH INC
22901 TRANSCORP PENSION SVC INC
22912 ESTREAM INC
SQUEEZE TECHNOLOGY INC
22936 FIN FED APPRAISAL
22941 EASY FIT SHOES
METROLASER
OPTICAL MEASUREMENT SYSTEMS
SPECTABIT OPTICS LLC
22951 BLUE BELL BEACON
IDEM GROUP INC
IDEM INC
ITONIS INC
NATIONAL HOLISTIC INSTITUTE
PRIORITY DEBT RELIEF INC
ROCK SOLUTIONS LLC
22952 DTA CONSULTING ENGINEERS
LAWRENCE A STRID LAW OFFICE
PATEL LAW FIRM PC
PATEL LEONARD
22971 AMERICAN RED CROSS
AMERICAN RED CROSS BLOOD SVC
22972 POLIQUIN & DE GRAVE
22981 VENA WELLNESS LLC
22982 FRED SPARKS
JAMBOREE MANAGEMENT
RICHARD M TUCKER & KATHLEEN A
22992 BELLE ARMOIRE
KELLENE GILOFF
SOMERSET STUDIO
STAMPINGTON & CO
WILLOW & SAGE
22995 REHAB ALLIANCE
23016 AMEHR INC
23025 ADVANTAGE TESTING-ORANGE CNTY
MOBISURG
STACI ORANGE
23032 GOODLIFE HOME LOANS
IRONPOINT INSURANCE SVC
23041 BECK & CHRISTIAN APC
PLACERVILLE HAMPTON LLC
23042 BUDGET MARKETING GROUP
SOLAR ART WINDOW FILM
SPECIALTY CLAIMS MANAGEMENT
SUN COAST GENERAL INSURANCE
WINDOW SOLUTIONS
23091 ANONYMOUS LLC
ATHLETES FIRST LLC
BESPOKE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MILL CREEK DR 2020 (Cont'd)

23091	COVA ALOHA LLC
	ELATE LLC
	JUSTIN SCHULMAN
	MARY BRUCE
	SETTING WINES LLC
	SILVER MAPLE MARKETING LLC
	UMBRELLA DRINK CALIFORNIA LLC
	WINSPIRE INC
23092	NEW VISTA SCHOOL
23161	AHMED AGENCY
	ALLEN CHIROPRACTIC A PRO CORP
	BLYTHECO INC
	D V U P
	DEETOP CO LTD
	FARMERS INSURANCE DISTRICT OFC
	FARMERS INSURANCE MICHEL AGCY
	FARMERS INSURANCE-ALLAN HDGRT
	FARMERS INSURANCE-DAVID SNFRD
	FARMERS INSURANCE-JEANNE RBLS
	FARMERS INSURANCE-JORGE RSLS
	FARMERS INSURANCE-KATHRYN JRDN
	FARMERS INSURANCE-LORIE HART
	FARMERS INSURANCE-MICHAEL MCHL
	FARMERS INSURANCE-MICHAEL REY
	FARMERS INSURANCE-NAZIH BAYAA
	FARMERS INSURANCE-RODRIGO BRJS
	FARMERS INSURANCE-SCOTT RTTCHR
	FELDSOTT & LEE
	HUMAN SOCIAL
	KAREN WOOD
	LEHRER ASSOCIATES
	MICHELLE REINGLASS
	PATRICK E TURNER LAW OFFICE
	PETER BERGMANN
	RELATIONSHIP CAFE
	ROGER WOOD
	SCOTT RITTICHIER
	TRINITY INVESTMENTS
	WORLDWIDE SUPPLY
23201	ADVANCED RESERVE SOLUTIONS
	ASHWORTH FINANCIAL INC
	CENTER FOR NEW DIRECTIONS INC
	COMPASSIONATE COUNSELING SVC
	DASHER & TABATA INC
	DERMATEX HAIR ORANGE COUNTY
	DEVELOPMENT & PUBLIC FINANCE
	HALLMARK HOME & ESTATES
	MACON DESIGNS LLC
	PILGRIMAGE FAMILY COUNSELING
	PRIME LAND LLC

MILL CREEK DR 2020 (Cont'd)

23201	PROFESSIONAL EQUITIES INC
	PROFESSIONAL FINANCIAL SVC
	PUMPHREY STEVE
23212	WEIL & DRAGE
23272	29 PRIME
	ABBASOFT TECHNOLOGIES
	AFFORDABLE HOMES IN SOCAL
	BANKERS INVESTMENT GROUP INC
	BECKER STEPHANIE L
	BRANIF SYSTEMS INC
	BROWN ARMSTRONG ACCOUNTANCY
	CAL MORTGAGE
	CHARLES KAMINSKAS
	CLOUD X INC
	EPIC
	EXECU SURV INC
	EXECUQUEST
	FUTUREOPS
	GLOBAL TALENT SOLUTIONS
	GOLBERG LEE R ATY
	HAGIWARA SYS-COM US CO LTD
	I STITCH LLC
	IN SYNC COMPUTER SOLUTIONS INC
	INTERNATIONAL MINISTRIES SPG
	JEAN CARLIN
	JOHN LIMPERT FINANCIAL
	LOST INTERNATIONAL LLC
	MASSAGE BY JODI INC
	MINAGAR & ASSOC
	NORGAARD DANIELLE M
	NOVIA MARKETING
	ORANGE COUNTY IAEDP
	PROMARK ENTERPRISES INC
	ROBERT WISH
	RUIZ
	TATMAN & ASSOC
	TAX RESOLUTION SVC APC
	TRIGGS & REESE INC
	WEST COAST BARBECUE LLC
23282	AVALON FINANCIAL ADVISORS
	BUSINESS BYTES
	CALIFORNIA YOUTH SVC
	CARWIN AUTO GROUP INC
	CARWIN OF LAGUNA HILLS
	COTY FILM LLC
	D B CONSULTING
	ENVIRONMENTAL RECORD SEARCH
	ESCROWPOINT INC
	EVIDANT CORP
	GOLD REBECCA

MILL CREEK DR 2020 (Cont'd)

23282	GREEN PACIFIC COUNSELING
	GRUBBS INSURANCE
	GRUBBS INSURANCE AGENCY INC
	HOME LAW SOLUTIONS
	IDEAL INDUSTRY INC
	LAGUNA SHORES MANAGEMENT
	LUM BRYNNE N
	MALEKJAH RASOUL
	MCFARLIN ANDERSON LAW OFFICE
	MCVAY TAX & FINANCIAL
	MIZAR CHRIS B AN ACCOUNTANCY
	MOAYEDI NIMA
	PHASE ONE INC
	RICHARD WATTS
	SEASONS REALTY
	SHIRLEY WATTS
	SPECTRUM SUMMIT PLAZA
	STORBER
	WESTERN PROPERTY MGMT SVC
	WISILICA INC
23291	CALIFORNIA DENTAL NETWORK
	TAX PROTECTION GROUP LLC
23330	ED PERSONIUS WITH QUALIFIED HM
	JEFFREY MACAREVICH INC
	LOAN SOLUTIONS MARKETING INC
	RICHARD BRACAMONTE
	RICHMONT CORP
	ST FIN CORP
	STAR FINANCIAL
	UNION FINANCIAL
23332	ALLSTATE INSURANCE
	BRADLEY A MORTON LAW OFFICES
	CENTERCODE INC
	COALFIRE
	CODAZEN
	CONSULTNET LLC
	DAPTIV MANAGEMENT LLC
	DEBISYS
	DIMITRI FOODS
	ECONOMIC GROUP PENSION SVC
	INTERNATIONAL ORPHAN CARE INC
	ISLANDS FINE BURGERS & DRINKS
	LAGUNA HILLS BAIL BONDS
	MARKHAM FINANCIAL SVC INC
	MCDOWELL SCHEDULING
	PARALLAX CAPITAL PARTNERS LLC
	PRICE MORTGAGE
	PRIORITY PENSION SVC INC
	ROBERTS LOUIS ATY
	RTH MANAGEMENT CO

Target Street	Cross Street	Source
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MILL CREEK DR 2020 (Cont'd)

23332	S & S FINANCIAL
	SIEMENS ENERGY INC
	SPINEART USA
	STONE HILL TECHNICAL SOLUTIONS
	TERRAZZO & MARBLE SUPPLY
23382	ACCU QUEST
	AMERICAN CAPITAL GROUP INC
	EORM
	HEALTH STRATEGIES GROUP
	HODGES ROXANNA TODD FOUNDATION
	HST
	STEELHEAD COFFEE
	VERIFPOINT
23422	ALTEC PRODUCTS INC
	CHIP 1 EXCHANGE USA INC
	ENVISION CAPITAL GROUP
	GRUBHUB FOR WORK
	IGER WANKEL & BONKOWSKI LLP
	MOMENTUM
	TAYLOR MORSE

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2014

22892 LAER PEARCE & ASSOCIATES
22901 SUPPORT ASSOCIATES INC
22912 ESTREAM INC
22936 FIN FED APPRAISAL
STAMPINGTON & COMPANY
22941 METROLASER INC
OPTICAL MEASUREMENT SYSTEMS
SAFE T ZONE
22951 ITONIS INC
WIN THERAPY
22952 BATES JOHN
PATEL LAW FIRM PC THE
22972 OCCUPANT UNKNOWN,
POLIQUIN & DEGRAVE
22981 ORBIT SYSTEMS INC
22982 JAMBOREE REALTY CORP
PRUFER HANS J
PRUFER MANAGEMENT CO
22992 STAMPINGTON & COMPANY
22995 REHAB ALLIANCE
23016 AMEHR INC
23025 PACIFIC ANESTHESIA SURGICAL SERVICES
23041 BECK CHRISTIAN APC
MICHAEL R BROWN ATTORNEY OF LAW
23042 SPECIALTY CLAIMS MANAGEMENT
SUN COAST GENERAL INSURANCE AGENCY I
23091 ATHLETES 1ST LLC
PACIFIC MONARCH RESRT INC
23092 NEW VISTA SCHOOL
23161 ABBASOFT
ALLEN CHIROPRACTIC
BENNETT GARY S ATTY
BENNETT, GARY S
BRONDINO, JIM
FARMERS INSURANCE GROUP
FELDSOTT & LEE
JACKSON & WILSON A PROFESSIONAL LAW
LAW OFFICES OF BRAD D PORTERFIELD
LAW OFFICES OF BRIAN M BROWN THE
LORIE HART INSURANCE
PATRICK E TURNER INC
REINGLASS MICHELLE ATTY
TRINITY INVESTMENTS
TURNER PATRICK E INC APLC
WORLDWIDE SUPPLY
23201 ADVANCED RESERVE SOLUTIONS
BMC
BOOK NET LTD
CHRISTOPHER BERRY INSURANCE
DAVID OLIVIERI CFP

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2014 (Cont'd)

23201	HALLMARK HOME & ESTATES
	IMPERIAL REALTY
	LAGUNA HILLS LITTLE LEAGUE
	NATIONAL PACIFIC LENDING
	PILGRIMAGE FAMILY THERAPY CENTER
	PROFESSIONAL EQUITIES INC
	PROFESSIONAL LAND CORP
	RICHARD COFFEY INSURANCE
23212	PENSION PERFORMANCE ADVISORS LLC
	VACATION RESORTS
	VACATION RESORTS INTERNATL
	WEIL & DRAGE
	WEIL FINANCIAL SERVICES
23272	1ST PACIFIC
	3G MIX MEDIA
	BD REGIONAL SALES OFFICE
	BEADOR CONSTRUCTION
	BECTON DICKINSON & COMPANY
	CHASE FINANCIAL GROUP
	DURINGER DAVID R PROF CORP
	EXECUSURV
	FOREMOST BUSINESS PARK LIMITED
	GALLANT EQUIPMENT LEASING
	GOLDBERG LEE R ATTORNEY AT LAW
	LAW OFFICES OF MICHELLE J SUKHOV
	LIMPERT JOHN FINANCIAL
	LOCAL ZOOM INC
	LOCAL ZOOM INC DBA 29 PRIME
	RANDALL WITTMAN R ATTORNEY AT LAW
	RANDALL, WITTMAN
	REESE JOSEPH H CPA
	TATMAN & ASSOCIATES
	TRIGGS & REESE INC CERTIFIED PUBLIC
	TRIGGS WILLIAM A CPA
	WORKWELL SYSTEMS
23282	3 MARK FINANCIAL
	APA ENGINEERING
	COGENT HEALTHCARE
	DISCOUNT COURIER SERVICE
	ESCROWPOINT INC
	LAW OFFICE OF MCFARLIN ANDERSON
	MAGUIRE MCVAY & CO
	MC DOWELL SCHELDULING
	SINO AMERICAN MACHINERY CORP
	TOM KING & ASSOCIATES
	WESTERN PROPERTY MANAGEMENT
23291	CALIFORNIA DENTAL NETWORK
23330	HARRISON, JOEL
	STAR FINANCIAL
23332	BANKERS LIFE & CASUALTY COMPANY

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2014 (Cont'd)

23332 BRADLEY A MORTON LAW OFFICES
DAVCO INSURANCE & FINANCIAL SERVICES
DIMITRI FOODS
GLOBAL DELIVERY SERVICES COM
INC SCDRG
ISLAND RESTAURANTS REGIONAL OFFICE
JOHNSTON GEORGE ATTY
JOHNSTON, GEORGE
LARIOS, YOLANDA
MARKHAM FINANCIAL SERVICES
RCE CONSULTANTS
ROBERTS LOUIS ATTORNEY AT LAW
RTH MANAGEMENT COMPANY
SCDRG INC
SIDEPLATE SYSTEMS
SOLOMON & SOLOMON PC
SON, H

23382 ACCUQUEST
DCSE
EORM
HEALTH STRATEGIES GROUP
MOROVISION
NJ PRODUCTS INCORPORATED
SOUTH COAST PHYSICIAN
STONEHILL TECHNICAL SOLUTIONS
VERIFPOINT

23422 ALTEC PRODUCTS INC
ANDREW MERRIT MD
BEKKEN LAW GROUP
DAO, LEN N
ENERGI PENSION SYSTEMS INC
GERSHONOVITCH RON
LAW OFFICES OF DAVID C WERNER
LEIBOLD MCCLENDON & MANN
LEIBOLD ZEID BARBARA ATTY
MANN DAVID ATTY
MCCLENDEN JOHN ATTY
METRONOME SOFTWARE LLC
REC SOLAR
RIVERROCK REAL ESTATE GROUP

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2010

22892 LAER PEARCE & ASSOC
22901 SUPPORT ASSOCIATES INC
22911 UNITY SPIRITUAL LIFE CTR
22912 IMAGE 2000
SPHERE HEALTH SYSTEMS INC
22932 JAMBOREE MANAGEMENT INC
22941 SAFE T ZONE
22951 WESTERN INSTITUTE OF THERAPY
22952 BATES, JOHN T
JOHN BATES ASSOC
22972 POLIQUIN & DE GRAVE
22981 POWER PLAY INTERACTIVE
22992 STAMPINGTON & CO
22995 HAYES, DAVID
REHAB ALLIANCE
23016 AMEHR INC
23025 DANTONY POLIQUIN & DOYLE
23041 BECK CHRISTIAN PC
BROWN MICHAEL R
DOUGLAS B SPOORS LAW OFFICES
JEFFREY C METZGER LAW CORP
23091 CALIFORNIA RIVIERA VACATIONS
MONARCH GRAND VACATIONS
PACIFIC MONARCH RESORTS INC
23092 NEW VISTA SCHOOL
23161 ABBASOFT TECHNOLOGIES
ACCOUNTING SERVICES
ALLEN CHIROPRACTIC
BASURTO PAUL A
BLYTHECO LLC
BRAD D PORTERFIELD LAW OFFICES
DON TAYLOR INSURANCE
GARY S BENNETT LAW OFFICES
IDP TAX ADVISORY SVC
IMMEL TAX SVC
INSTITUTIONAL REVIEW BOARD
JACK HOUSENGA INSURANCE
JACKSON & WILSON
JACKSON & WILSON A PRO LAW CRP
LORIE HART INSURANCE
MANHATTEN GROUP
MEEKER CO INC
MICHELLE REINGLASS LAW OFFICE
PATRICK E TURNER INC APLC
PENDLETON SANDY
SPECKTRUM ENGINEERING
TRINITY INVESTMENTS
23201 ADVANCED RESERVE SOLUTIONS
CHRISTIAN M DILLON LAW OFCS
CHRISTOPHER BERRY INSURANCE

Target Street	Cross Street	Source
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MILL CREEK DR 2010 (Cont'd)

23201 DEN PUBLIC FINANCE
DEVELOPMENT & PUBLIC FINANCE
EQUITY SOLUTIONS FINANCIAL
LAGUNA HILLS LITTLE LEAGUE
NATIONAL PACIFIC LENDING
PILGRIMAGE FAMILY THERAPY CTR
PROFESSIONAL EQUITIES INC
RICHARD COFFEY INSURANCE
TRANSCEND INVESTMENT GROUP
23212 PENSION PERFORMANCE ADVISORS
WEIL & DRAGE
23272 B D REGIONAL SALES OFFICE
BANKERS INVESTMENT GROUP
BECTON DICKINSON & CO
CHASE FINANCIAL GROUP
COASTAL LENDING GROUP
EULERA NETWORKS INC
EXECUSURV INC
FOREMOST BUSINESS PARKS
GOLDBERG LEE R
INSTANT MEDIA NETWORK
MICHELLE SUKHOV LAW OFFICES
PHOENIX PLANNING & CONSTR SVC
PRIORITY CLUB SYSTEMS INC
RANDALL WITTMAN R ATTY AT LAW
RANDALL, R
TRIGGS & REESE INC
UNITED FUNDING INC
23282 3 MARK FINANCIAL
CAPITAL TRUST MORTGAGE LENDING
CHARLES HALL & ASSOC INC
CREDIT CARD DIRECT
DWIGHT STEARNS & ASSOC
EDUPOINT EDUCATIONAL SYSTEMS
ESCROWPOINT INC
GRUBBS INSURANCE AGENCY INC
HIGHLAND CAPITAL BROKERAGE
SAVE FINANCIAL
STEARNS DWIGHT & ASSOC
TOM KING & ASSOC
WESTERN PROPERTY MGMT SVC
23291 BOBCO DESIGN INC
FAIRFIELD INVESTMENTS INC
HOLGUIN, ANTOINETTE A
23330 BANKERS PORTFOLIO LLC
J & B CAPITAL GROUP
SUN TRUST FUNDING
23332 ACCESS SECURITIES CONTROL
ASPHALT PAVEMENT ASSOC
BANKERS LIFE & CASUALTY CO

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2010 (Cont'd)

23332	BASEBALL CARDS SCP AUCTIONS
	BRADLEY A MORTON LAW OFFICES
	DAVCO INSURANCE & FINANCIAL
	DIMITRI FOODS
	IMRI
	INFINITE TALENT
	INFORMATION MANAGEMENT RSRCS
	INSTALLATION DAY
	ISLAND RESTAURANTS REGIONAL
	JOHNSTON, GEORGE
	LA PAZ MORTGAGE INC
	LOUIS ROBERTS ATTORNEY AT LAW
	MARKHAM FINANCIAL SVC INC
	NOVA REAL ESTATE SVC
	PARALLAX CAPITAL PARTNERS LLC
	ROBERTS LOUIS
	ROBERTS, LOUIS B
	ROXANNA TODD HODGES FOUNDATION
	RTH MANAGEMENT CO
	SENTINEL CAPITAL MANAGEMENT
	SIDEPLATE SYSTEMS
	SOLOMON & SOLOMON INSURANCE
	SPARTA INC
	WESTERN UNION
23382	CENTERCODE INC
	HAMPTON ESCROW
	SOUTH COAST PHYSICIAN
	TAYLOR BEAN & WHITAKER
	VERIFPOINT
23422	ALTEC PRODUCTS INC
	ARISTOCARE HOME HEALTH SVC
	BEKKEN LAW GROUP
	DAVID C WERNER LAW OFFICES
	ENERGI PENSION SYSTEMS
	JONES TURNER & LIU
	KEYCODE
	LEIBOLD MC CLENDON & MANN
	PINNACLE ONE
	PREMIER PHYSICAL THERAPY
	RIVERROCK REAL ESTATE GROUP
	ROBERT R CUMMINGS MEDICAL CORP
	TAYLORMORSE
	VAN BLARCOM & LEIBOLD ATTYS

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2005

22892 INTERCONTINENTAL WORDS PCTRS
LAER PEARCE & ASSOCIATES
VOICE OF THE VICTIMS
22901 SUPPORT ASSOCIATES INC
22911 UNITY COMMUNITY CHURCH
22912 TRI CORD HEALTH CARE INFO SYSTEM
22936 ACCELERATED DEBT PAY OFF
GET THE MESSAGE
22941 SAFETZONE TECHNOLOGIES CORP
22951 INNOVATIONS IN MARKETING
22952 BATES, JOHN T
22972 OCCUPANT UNKNOWN,
22981 CBSK FINANCIAL GROUP INC
IDEAL DIRECT AD
WESTERN INSTITUTE OF NEUROMUSCULAR T
22982 AAM LLC
STANDEL PUBLISHING
STEWARDSHIP ADVISORS
22992 LEGACY
STAMPINGTON & CO
22995 FIRST OPTION LOANS
OCCUPANT UNKNOWN,
23016 A MEHR INC
23025 DANTONY POLIQUIN & DOYLE
KENNETH B JD
23041 ARTHURAY LLC
BECK & CHRISTIAN
M & J DEVELOPMENT LLC
METZGER JEFFREY C A LAW CORP
MICHAEL BROWN ATTORNEY OF LAW
23042 INLAND MANAGEMENT CO
SUN COAST GENERAL INSURANCE AGENCY I
23091 CAPISTRANO SURFSIDE INN LTD
PACIFIC MONARCH RESORTS INC
RESORT SERVICES GROUP INC
23092 LA MONTE ACADEMIE
23161 ABBASOFT TECHNOLOGIES
BENNETT, GARY S
BLYTHECO
DAVID R STABBE
DOMINGO AND ASSOCIATES
DOMINGO, GLENN P
FELDE, PATRICK
GARY BENNETT LAW OFFICES
JACK HOUSENGA INSURANCE
LAW OFFICE MCHELLE A REINGLASS
LAW OFFICES OF BRAD D PORTERFIELD
MY TRIAL PRO
OCPA
ORANGE COUNTY PILOTS ASSOCIATION

Target Street	Cross Street	Source
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MILL CREEK DR 2005 (Cont'd)

23161	PORTERFIELD, BRAD
	POUCH EXPRESS INC
	PROMARK ENTERPRISES INC
	TDP
	THE CLOROX SALES
	VIRGINIA BATES INCOME TAX SERV
	VISTA DEL NORTE CAPITAL PARTNERS INC
	WEST COAST MAINTENANCE SERVICES
	WEST COAST MAINTENANCE SRVC
23201	ADVANCED RESERVE SOLUTIONS INC
	APLAND, KENNETH R
	ASHWORTH FINANCIAL INC
	BARTLETT, RICHARD E
	BOYER, ROBERT P
	CENTER FOR NEW DIRECTIONS
	COPELAND, TERRY E
	CRUICKSHANK, DANA
	EMPIRE OF CALIFORNIA
	EQUITY SOLUTIONS FINANCIAL
	ESCUADRO, FELIZABETH
	FLOWERS, SHARON
	GARCIA, MILA A
	HALLMARK HOMES & ESTATES
	HEALTH PRO UPHOLSTERY CLEANING
	HOLLOWAY, JASON
	HOLMES, ROBERT
	HONEYCUTT, JERRY R
	HUYETT, RICHARD
	KAHN, SCOTT
	KIM, MOON W
	LICKTEIG, FREDERIC W
	MARTINEZ, ANTHONY
	MCQUEEN, STEVEN R
	MISAWA, TERUHIKO
	MONARCH HOME LENDING
	NATIONAL PACIFIC LENDING
	OLVIERI DAVE PROF FINANCIAL SERVICES
	PHD HOMES INC
	PROFESSIONAL LAND CORP
	PUTIAN, BEATRIZ
	RONALD & RANDY HOROWITZ
	SALAZAR, VICTORIA
	SARAS INC
	SMITH, CRAIG A
	SUE, LOIS
	THREE ARCH INVESTORS
	TORRES, REBECCA
23212	LAYDE J ENTERPRISES
	RIF ENTERPRISES
	STAR COMPUTER SERVICES

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2005 (Cont'd)

23212 VRI DEVELOPMENT & SALES
23272 2000SOFT LLC
BANKERS INVESTMENT GROUP
BECTON DICKINSON CO
BOND STREET FINANCIAL
BRIGHTON PARK LTD PARTNERSHIP
COLONIAL CREDIT
DANA POINT FAMILY MEDICAL CENTER INC
DANA POINT FMLY MDCL CTR
EVIDANT CORP
FOREMOST AIRPORT VEGAS LTD
FOREVER FITNESS INC
GOLDBERG, LEE
GRADE PROS INC
GUINNESS IMPORT
H & H GLASS
INSTANT MEDICAL NETWORK INC
INTERSTATE MARKETING ASSOCS
MANN, D
MODIS
NEXT ON MEDIA
PCT TECHNOLOGIES
PHOENIX PLANNING AND CONSTRUCTION SE
PRIORITY CLUB SYSTEMS INC
REPUTATION DATA LLC
RETAIL RESOURCES GROUP
SAN JUAN FITNESS INC
SAVE MOST DESERT RANCHO
TNC NEW MEDIA
TRIGGS AND REESE INC
WESTERN FINANCIAL PLANNING CORP
WHYRENTHOMELOAN COM
WILLIAM A TRIGGS CPA
WITTMAN, RANDALL R
23280 AH PARTNERSHIP
23282 3 MARK FINANCIAL
ABSOLUTE HEALTH CARE
AIW STRATEGIC WEALTH SOLUTIONS
ALLIED LENDING CORP
ANNA MARIE GRUBBS
APA ENGINEERING INC
COGENT HEALTHCARE
ESCROWPOINT INC
HALL CHARLES & ASSOCS INC
HIGHLLAND CAPITAL
IMPACT WEB ENTERPRISES INC
KNA CONSULTING ENGINEERS INC
MAISOFT INC
ONE CHOICE
PERFORMANCE PLUS MORTGAGE

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2005 (Cont'd)

23282 QUANDIS INC
ROSSELLI ASSOCIATES
SENIOR CLINICAL TRIALS INC
STODDARD CONSULTING GROUP
23291 CASTLE POINT MRTG ESCROW DIVISION
FAIRFIELD DEVELOPMENT INC
KASTLEPOINT MORTGAGE INC
MCQUOWN, KEVIN
23330 CENTER CODE INC
HOME LOAN SPECIALISTS
KEDING, CRAIG E
WWW HLSDIRECT CO
WWW HLSDIRECT COM
23332 ABACUS FINANCIAL NETWORK
ACCESS SECURITIES CONTROL
ASPHALT PAVEMENT ASSOCIATION
BRIGHT & CLEAN SERVICES
CAPITAL LEASE FUNDING INC
CASTLE LENDING
DALEY MILTON A
DCG HOME LOANS INC
DERRYBERRY, TOM L
DIMITRI FOODS
DIRECT CAPITAL GUARANTY
DIVERSIFIED FINANCIAL GROUP
FLAIR EVENT & FLORAL DESIGN
FLAIR EVENT AND FLORAL DESIGN
GMRI
HARDCORE TECHIES INC
HILSMEYER BRUCE ATTORNEY AT L
INFINIGATE INC
INFINITY CORPORATE INSURANCE SERVICE
INTEGRITY MORTGAGE GROUP
INTERNATIONAL MUSIC CENTER
JWCI
LAKE HILLS EXECUTIVE SUITES II
LAW OFFICES OF ANDREW D WEISS
LAW OFFICES R DONALD MCINTYRE
LYONS AND WOLIVER INC
MASSAR, MARC S
MILAM KNECHT AND CO LLP
MILTON, A D
MOUNT BALDY RESORT
MY HOME LOAN
N O P E INC
NAZRI & ASSOC FINANCIAL & INSU
NAZRI & ASSOCS FINANCIAL AND INSURAN
NET LOGIX
NEWMAN & WELLS
ORANGE COUNTY LEGAL ENTERPRISES LLC

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 2005 (Cont'd)

23332	ORNG CNTY LEGAL ENTRPRS LLC
	OTAY MESA METALS CORP
	PROTOCO ENGINEERING AND CONSTRUCTION
	REAL ESTATE MANAGEMENT CORP
	RIVERTECH INC
	ROBERTS LOUIS ATTORNEY AT LAW
	ROBERTS, LOUIS
	ROYAL FINANCIAL
	SAVANNAH DISTRIBUTORS INC
	SOLOMON AND SOLOMON INSURANCE BROKER
	STREAMLINE CAPITAL FUNDING
	SUMMIT MAC LANE CORP
	THE WRITE CONNECTION
	THOMAS MELVIN D ATTORNEY AT LAW
	THOMAS, MELVIN D
	TOPY ENTERPRISES
	UNITED TITLE
	WASHINGTON CAPITAL
23382	CENTEX HOME EQUITY CORP
	CHAPARRO ADVISORS
	CORESOFT INC
	EQUITY DIRECT MTGE
	FIRST PACIFIC SEC FINANCIAL SERVICES
	RYLAND HOMES
	SAXON MORTGAGE
	SPARTA INC
	TD CAPITAL LENDING
	VERIFPOINT & CREDENTAL SERVICES INC
23422	ADVANCED TECHNOLOGY CENTER
	ALTAVEST WORLDWIDE TRADING
	ALTEC INC
	ALTEC PRODUCTS INC
	CUMMINGS ROBERT R MD PHD A MEDICAL C
	CUMMINGS, ROBERT R
	E WORKPLACE SOLUTIONS INC
	EMPLOYERS NATIONAL EXPERT
	ENERGI
	ESSENTIAL SALON SERVICES
	INTEGRITY NATIONAL GROUP INC
	INTERGRAPH CORP
	JONES TURNER & LIU
	JOSTENS
	PACIFIC REAL ESTATE GROUP
	ROSS, LAWRENCE S
	SIDE PLATE SYSTEM INC
	SIDEPLATE SYSTEMS INC
	SILVER STRAND MARKETING CORP
	TAYLOR BEAN & WHITAKER
	TAYLORMORSE LTD
	UNITED TITLE

Target Street	Cross Street	Source
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MILL CREEK DR 2005 (Cont'd)

23422 WEB SYMMETRY INC

Target Street	Cross Street	Source
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MILL CREEK DR 2000

23161 PECK, TERRY D

Target Street	Cross Street	Source
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MILL CREEK DR 1995

22892 C L & ASSOC
CALIFORNIA FINANCIAL INC
MARKETING BY DESIGN
NOUVEAU SOUND RECORDING
OSBORNE DEVELOPMENT CORP
22901 TRANSCORP PENSION SVC
22911 COUNSELING ASSOCIATES S ORANGE
DZIERZYNSKI, JEAN
HUMPHREYS & ASSOC
JOANNA DOVALIS
KIRSCHBAUM & KIRSCHBAUM
PATRICIA LAWSON
PROFESSIONALS TAX & FINANCIAL
SOUTH COUNTY COUNSELING CTR
22912 ON HOLD SYSTEMS INC
PRESTIGE HOLDINGS LTD
RIVENDELL MANAGEMENT GROUP INC
22936 THESIS TECHNOLOGIES DEV CORP
TRI CORD HEALTCARE INFO SYSTEM
22941 ONTEK CORP
22951 UNITED PROFESSIONAL MORTGAGE
22952 JOHN BATES ASSOC
22972 INCENTIVE ASSOCIATES INC
22982 ADVANCED TECHNOLOGY CTR
22992 NICHOLS NICHOLS & ANDREWS
ROBERT F NICHOLS JR
STAR INVESTMENTS
STEPHEN M NICHOLS
22995 TRICORD SYSTEMS INC
23016 MANUFACTURERS AGENTS NATIONAL
23025 BURKE LESTER & ASSOC
23041 ORANGE COUNTY VENTURE FORUM
23042 SUN COAST GENERAL INSURANCE
23091 EQUITY MORTGAGE
GERALD D BLOCH
23161 ABBA COMPUTER SYSTEMS
CORPORATE FINANCE ASSOC
CULLINS & GRANDY
FACILICOM INC
HART, LORIE
JAMES L WALTZ LAW OFFICE
MICHELLE REINGLASS LAW OFFICE
NORTON CO
ONE SOURCE BOOKKEEPING SVC
RESEARCH NETWORK
SCHOOL PLANNING SVC
STANDARD INFORMATION SVC
TRIAD MEDICAL INC
23201 A DIVORCE HOT LINE
ATHALYE CONSULTING ENGINEERS

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 1995 (Cont'd)

23201 BRAVO PROPERTY BROKERAGE
BUCK HANSEN DEVELOPMENT
CORE MANAGEMENT INC
FARRIS, JAMES
JAMES R BURLISON
LA ROSA & CO
P M CO
PROFESSIONAL EQUITIES INC
RAND A BORRESEN
RICHARD W BUCHANAN
SEAVIEW COUNSELING
THOMAS CALLAWAY
23212 SOUTHERN CALIFORNIA GRAPHICS
VACATION RESORTS INTL
23272 HEALTHCARE ADMINISTRATIVE SVC
MITTELHAUSER CORP
MORELLI, ANGELA
SYNETICS
23282 ADAPTIVE RESEARCH CORP
CONVERSE ATHLETIC SHOES
LOPEZ & THOMAS FOODS
SPECK WEST LAND USE SVC
STANDARD INFORMATION SVC
TOWNSEND & OLEARY INC
23291 ALAN WELLS & ASSOC
ASSOCIATION FOR INOVATIVE TRVL
F A TRAVEL & TOURS
FINANCIAL ADMINISTRATORS INC
HIDE OUTS TRAVEL
PAULA L WILSON EMPLOYEE
SHELDON INSURANCE SVC
WEST COAST ACTUARIAL INC
23332 ADLER WILSON CAMPAIGN SVC
BRUCE STEVENS
BUSINESS LEGAL HOTLINE
ERIC LAMPEL
FRANK WILSON & ASSOC INC
FRED S PARDES LAW OFFICES
METRO DYNAMICS INC
PHI HEALTH CARE MANAGEMENT
RESIDENTIAL FUNDING CORP
RIVERTECH CONSULTANTS RESOURCE
ROBERT J LEGATE & ASSOC
RSL MORTGAGE CORP
SMITH, MELISSA
23382 BROCK HOMES
COM PRODUCTS INC
GALLAGHER BASSETT INSURANCE
INTERSTATE TRUST DEED SVC
JOHN LAING HOMES

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 1995 (Cont'd)

23382 JOHN, LAING
KAISER PERMANENTE MEDICAL CARE
MERCHANT BANKING SVC INC
PREMIER ESCROW CO

23422 DOCTOR INSURANCE
FARMERS INSURANCE GROUP
FHL FINANCIAL
FHL FUNDING GROUP
HENDERSON, JON
JOSTENS RECOGNITION DIV
LANDMARK ASSET DEV GROUP
MARK WALLING
PITKIN & ASSOC
ROBERT R CUMMINGS MD
SCS MORTGAGE CORP
T D LENDERS SVC
U S FLYWHEEL SYSTEMS INC

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 1992

22892 MARKETING BY DSGN
MORTGAGE NETWORK
NOUVEAU SND RCRDNG
OSBORNE DEVELOPMENT
22901 TRANSCORP PNSN SERV
22911 COUNSELING ASSOCTS
DZIERZYNSKI J PHD
DZIERZYNSKI, JEAN
HUMPHREYS&ASSOC
KIRSCHBAUM D PHD
LAWSON P MFCC
LAWSON, P
PROFSNL TAX&FNCL SV
SOUTH CO CNSLG CNTR
22912 MUSIC MINSTRY CRSDE
RIVENDALE MNG GROUP
22936 CHAPEL J F&ASSOC
WESTRN UNITD INS CO
22951 ONTEK CORP
22952 BATES JOHN ASSOCTS
22972 INCENTIVE ASC INC
22982 A T C
22992 CIRILLO MICHAEL
CIRILLO, MICHAEL
NICHOLS&NICHOLS
22995 ADVANCED CHIRO SYST
INTGRTD HSP SOLUTNS
23016 AGENCY SALES MAGZNE
23025 BURKE LESTER&ASCTS
23041 CORRECTIONAL CNSLT
HART, SUSAN K
JENKINS ROBERT ASC
KALEIDOSCOPE DESIGN
UNIDIRECT CORP
23042 SUN COAST GENL INS
23092 AMER LIFE&HLTH INS
CREATIVE HLTH PRGRM
23161 ADVANCED CONCEPT
BIC CORPORATION
CENTURY INFO SYSTEM
CORPORATE FNC ASCTS
FACILICOM INC
JIFFY LUBE
LAMAR ASSOCIATES
MANAGED CARE INS
ONE SOURCE BKKPG SV
REINGLASS M ATTY
RESEARCH NETWRK THE
STANDRD INFO SERVS
23201 BORRESEN RAND ATTY

Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 1992 (Cont'd)

23201	BRAVO PROPERTY BRKG
	BURLISON JAMES ATTY
	CORE MANAGEMENT INC
	EXPRESS BUSNS LSNG
	KARLSTAD A LAW OFC
	PRESTON JOHN M LAW
	PROFSNL EQUITIES
23212	VACATION RESORTS
23272	MITTELHAUSER CORP
23282	ABBOTT LAB DIAGNSTC
	ALSYS INC WSTRN OFC
	CONVERSE ATHLTC SHS
	CORDELL EXCELL INS
	LOPEZ&THOMAS FOODS
	LYNN&SCHALLER INS
	STANDRD INFO SERVS
	VARILEASE
	YELLAND PROPERTIES
23291	ASSOCTN TRAVEL
	C O S T
	F A INSURANCE SERV
	FINANCL ADMINSTRTRS
	TRUST INNOVATVE MNG
	WEST CST ACTUARIAL
23332	ADLER WILSON CAMPGN
	BUSINESS LEGL HTLNE
	COASTLINE FINANCIAL
	FRANK WILSON&ASCTS
	INTL RESORT PRPRTY
	LAMPEL ERIC ATTY
	LEGATE ROBERT J&ASC
	MERIT TRAINING CORP
	P H I HEALTHCARE
	PAC ENERGY
	PARDES FRED S ATTY
	PITKIN JOHN M ATTY
	R S L MORTGAGE
	RESIDENTIAL FUNDING
	RIVERTECH CONSLTNTS
	STEVENS BRUCE ATTY
23382	GALLAGHER BASSETT
	KAISER MED MENTAL
	LAING HOMES OF CA
23422	CHRYSLER CRDT CORP
	F H L FINANCIAL
	GREENE TAC INS
	JESSUP MERRILL INS
	JOSTENS RECOGNITION
	LANDMARK ASSET DVLP
	LENDERS T D SERVICE

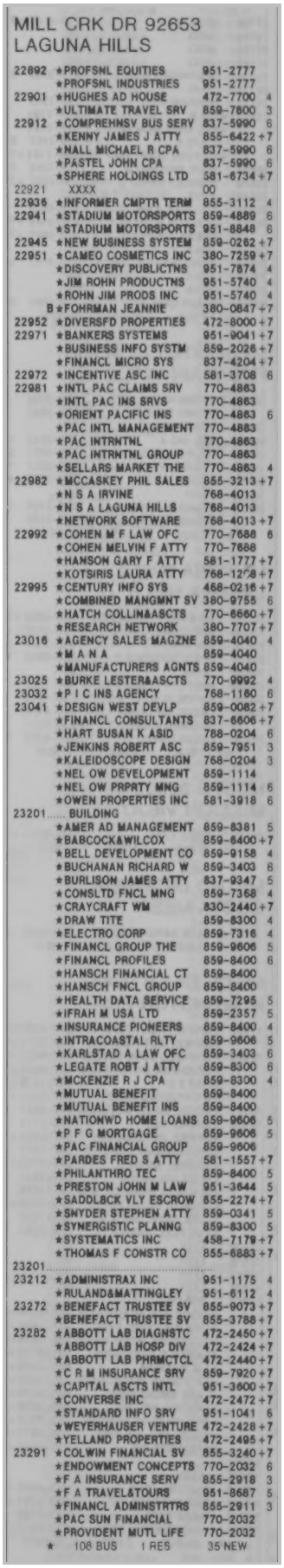
Target Street	Cross Street	Source
✓	-	Cole Information

MILL CREEK DR 1992 (Cont'd)

23422 S C S MORTGAGE INC
SYNETICS
TOWNSEND&OLEARY INC

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

MILL CREEK DR 1987



MILL CRK DR 92653
LAGUNA HILLS

22892	★PROFSNL EQUITIES	951-2777	
	★PROFSNL INDUSTRIES	951-2777	
22901	★HUGHES AD HOUSE	472-7700	4
	★ULTIMATE TRAVEL SRV	859-7800	3
22912	★COMPREHNSV BUS SERV	837-5990	6
	★KENNY JAMES J ATTY	855-6422	+7
	★NALL MICHAEL R CPA	837-5990	6
	★PASTEL JOHN CPA	837-5990	6
	★SPHERE HOLDINGS LTD	581-6734	+7
22921	XXXX	00	
22936	★INFORMER CMPTR TERM	855-3112	4
22941	★STADIUM MOTORSPORTS	859-4889	6
	★STADIUM MOTORSPORTS	951-8848	6
22945	★NEW BUSINESS SYSTEM	859-0262	+7
22951	★CAMEO COSMETICS INC	380-7259	+7
	★DISCOVERY PUBLICTNS	951-7874	4
	★JIM ROHN PRODUCTNS	951-5740	4
	★ROHN JIM PRODS INC	951-5740	4
B	★FOHRMAN JEANNIE	380-0847	+7
22952	★DIVERSFD PROPERTIES	472-8000	+7
22971	★BANKERS SYSTEMS	951-9041	+7
	★BUSINESS INFO SYSTM	859-2026	+7
	★FINANCL MICRO SYS	837-4204	+7
22972	★INCENTIVE ASC INC	581-3708	6
22981	★INTL PAC CLAIMS SRV	770-4863	
	★INTL PAC INS SRVS	770-4863	
	★ORIENT PACIFIC INS	770-4863	6
	★PAC INTL MANAGEMENT	770-4863	
	★PAC INTRNTNL	770-4863	
	★PAC INTRNTNL GROUP	770-4863	
	★SELLARS MARKET THE	770-4863	4
22982	★MCCASKEY PHIL SALES	855-3213	+7
	★N S A IRVINE	768-4013	
	★N S A LAGUNA HILLS	768-4013	
	★NETWORK SOFTWARE	768-4013	+7
22992	★COHEN M F LAW OFC	770-7688	6
	★COHEN MELVIN F ATTY	770-7688	
	★HANSON GARY F ATTY	581-1777	+7
	★KOTSIRIS LAURA ATTY	768-1278	+7
22995	★CENTURY INFO SYS	468-0216	+7
	★COMBINED MANGMNT SV	380-9755	6
	★HATCH COLLIN&ASCTS	770-6660	+7
	★RESEARCH NETWORK	380-7707	+7
23016	★AGENCY SALES MAGZNE	859-4040	4
	★M A N A	859-4040	
	★MANUFACTURERS AGNTS	859-4040	
23025	★BURKE LESTER&ASCTS	770-9992	4
23032	★P I C INS AGENCY	768-1160	6
23041	★DESIGN WEST DEVLP	859-0082	+7
	★FINANCL CONSULTANTS	837-6606	+7
	★HART SUSAN K ASID	788-0204	6
	★JENKINS ROBERT ASC	859-7951	3
	★KALEIDOSCOPE DESIGN	768-0204	3
	★NEL OW DEVELOPMENT	859-1114	
	★NEL OW PRPRTY MNG	859-1114	5
	★OWEN PROPERTIES INC	581-3918	6
23201	BUILDING		
	★AMER AD MANAGEMENT	859-8381	5
	★BABCOCK&WILCOX	859-6400	+7
	★BELL DEVELOPMENT CO	859-9158	4
	★BUCHANAN RICHARD W	859-3403	6
	★BURLISON JAMES ATTY	837-9347	5
	★CONSLTD FNCL MNG	859-7368	4
	★CRAYCRAFT WM	830-2440	+7
	★DRAW TITE	859-8300	4
	★ELECTRO CORP	859-7316	4
	★FINANCL GROUP THE	859-9606	5
	★FINANCL PROFILES	859-8400	6
	★HANSCH FINANCIAL CT	859-8400	
	★HANSCH FNCL GROUP	859-8400	
	★HEALTH DATA SERVICE	859-7295	5
	★IFRAH M USA LTD	859-2357	5
	★INSURANCE PIONEERS	859-8400	4
	★INTRACOASTAL RLTY	859-9606	5
	★KARLSTAD A LAW OFC	859-3403	6
	★LEGATE ROBT J ATTY	859-8300	6
	★MCKENZIE R J CPA	859-8300	4
	★MUTUAL BENEFIT	859-8400	
	★MUTUAL BENEFIT INS	859-8400	
	★NATIONWD HOME LOANS	859-9606	5
	★P F G MORTGAGE	859-9606	5
	★PAC FINANCIAL GROUP	859-9606	
	★PARDES FRED S ATTY	581-1557	+7
	★PHILANTHRO TEC	859-8400	5
	★PRESTON JOHN M LAW	951-3644	5
	★SADDLBCK VLY ESCROW	855-2274	+7
	★SNYDER STEPHEN ATTY	859-0341	5
	★SYNERGISTIC PLANNG	859-8300	5
	★SYSTEMATICS INC	458-7179	+7
	★THOMAS F CONSTR CO	855-6883	+7
23201			
23212	★ADMINISTRAX INC	951-1175	4
	★RULAND&MATTINGLEY	951-6112	4
23272	★BENEFACT TRUSTEE SV	855-9073	+7
	★BENEFACT TRUSTEE SV	855-3788	+7
23282	★ABBOTT LAB DIAGNSTC	472-2450	+7
	★ABBOTT LAB HOSP DIV	472-2424	+7
	★ABBOTT LAB PHRMCTCL	472-2440	+7
	★C R M INSURANCE SRV	859-7920	+7
	★CAPITAL ASCTS INTL	951-3600	+7
	★CONVERSE INC	472-2472	+7
	★STANDARD INFO SRV	951-1041	6
	★WEYERHAUSER VENTURE	472-2428	+7
	★YELLAND PROPERTIES	472-2495	+7
23291	★COLWIN FINANCIAL SV	855-3240	+7
	★ENDOWMENT CONCEPTS	770-2032	6
	★F A INSURANCE SERV	855-2918	3
	★F A TRAVEL&TOURS	951-8687	5
	★FINANCL ADMINSTRTRS	855-2911	3
	★PAC SUN FINANCIAL	770-2032	
	★PROVIDENT MUTL LIFE	770-2032	

★ 108 BUS 1 RES 35 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

MILL CREEK DR 1982

APPENDIX F

OTHER DOCUMENTS

Skip to main content

Public Record Requests

Orange County
Make request
All requests
Documents
Sign in

Request a public record

Everything in this request box will be displayed publicly, if the agency makes your request public.

Request description

Any hazardous material, USTs, or site cleanup records related to 23161 Mill Creek drive, Laguna Hills, CA

To request environmental health records, please create an account in the portal and upload a completed **request form** with your request. The request forms can be found here: https://cms.ocgov.com/gov/health/eh/contact/request.asp

When submitting the request, please be sure to choose “Environmental Health” under the Departments drop down menu.

Upload and attach files (optional)

Choose file(s)

* Department

Environmental Health

Your information

Email

stephen.k@thornburghconsu

Name
Stephen Krummlett
Phone

Street address
8063 Worthy Drive
City
Westminster
State
California
Zip
92683
Company
Thornburgh Consulting

Make request

* Indicates required field

TIPS FOR SUBMITTING A REQUEST

To enable staff to respond to your request as efficiently as possible, please be specific and detailed regarding the records you are seeking. For example, information such as the title of a document, report number, or a date range(s) are helpful. Please do not include any confidential information, such as birthdate, social security number, etc.

FEES FOR RESPONSIVE RECORDS

There is no cost for receiving records electronically (e.g., e-mail). However, the County does charge 15 cents per page (8.5" by 11") when requested to print records. For requests requiring records to be placed on a media device, such as a CD, the County will assess a fee to cover the actual cost of the media used.

USE THIS FORM TO SUBMIT A RECORDS REQUEST

You may use this online form to submit records request for only these departments:

Auditor-Controller, Clerk of the Board, County Executive Office, County Procurement Office, Health Care Agency, Environmental Health, John Wayne Airport, Housing & Community Development, OC Animal Care, OC Community Services, OC Parks, OC Public Libraries, OC Public Works, OC Waste & Recycling, Probation, Registrar of Voters and Social Services Agency.

For all other departments not listed above, please click here to access links to those departments' contact information, as well as Frequently Asked Questions (FAQs) about this web portal.

REQUESTS FOR MULTIPLE DEPARTMENTS

If you have a request for records pertaining to multiple departments, please choose "County Executive Office" under the Department dropdown list. Be sure to include the names of the departments in the description of your request.

ANONYMOUS REQUESTS

Although you are not required to provide your name, you must provide contact information in order for the responding agency to reach you. The responding agency may contact you to clarify your request or to send you the responsive records. You may use non-identifying contact information (e.g., requester123@gmail.com). Alternatively, you may visit the agency to submit anonymous requests and arrange a time to review any responsive records.

FOR MORE INFO

Frequently asked questions are available here.
FAQ
Help
Privacy
Terms

April 26, 2024

State of California
Department of Toxic Substances Control
Region 4 – Cypress Office
5796 Corporate Avenue
Cypress, CA 90630-4732
Phone (714) 484-5337
Fax (714) 484-5318
PubReqAct@dtsc.ca.gov

RE: DTSC Files:

23161 Mill Creek Drive
Laguna Hills, CA 92653

Dear Sir/Madam:

Thornburgh Consulting, Inc. is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Stephen Bartlett
Thornburgh Consulting, Inc.
Stephen.K@thornburghconsulting.com

U.S. Environmental Protection Agency

MyProperty

Environmental Databases Search

The search of EPA's Facility Registry System did not locate any records for the search criteria provided below:

Search Criteria:

Street Address:	23161 Mill Creek Drive
City, State:	Laguna Hills, CA
Query executed on:	05/10/2024 01:23:46 **EST**

Contact the appropriate state, tribal or local agencies if you seek additional information.

>Disclaimer

>The MyProperty reports are provided solely for informational purposes. They do not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. EPA maintains the application to enhance public access to environmental information. This service has continual data updates, and we will correct errors brought to our attention, as appropriate.

THORNBURGH
CONSULTING, INC.

April 26, 2024

Santa Ana Regional Water Quality Control Board
Attention: File Review Request
3737 Main Street , Suite 500
Riverside, California 92501-3348
Phone (951) 782-4130
Fax (951) 781-6288
FileReview8@waterboards.ca.gov

RE: Environmental Files:

23161 Mill Creek Drive
Laguna Hills, CA 92653

Dear Sir/Madam:

Thornburgh Consulting, Inc. is conducting an environmental investigation of the above-referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Stephen Bartlett
Thornburgh Consulting, Inc.
Stephen.k@thornburghconsulting.com

SOUTH COAST AQMD

PUBLIC RECORDS REQUEST FORM

Request Information (For Office Use Only)

Date Stored

Time Stored

Public Record Request Nbr

Public Record Request Tracking Nbr
1424994

Attention Requestor

Please fill out this form completely. You may include an attachment to the form, if necessary.

Requestor Information

Requestor Name
Stephen Krummlett

Requestor Address
8063 Worthy Drive

Requestor Company
Thornburgh Consulting

Requestor City
Westminster

Requestor Email *
STEPHEN.K@THORNBURGHCONSULTING.COM

Requestor State
CA

Requestor Phone

Requestor Zip Code
92683

Type of Requested Record(s).

REQUESTED RECORDS. **Please be as specific as possible in describing the records you are seeking.** The more specific you are, the easier it will be to determine if such records exist in District files. Please contact the Public Records Unit if you need assistance in identifying District records.

Note: Permits to Operate, Equipment Lists, Notices of Violation, Notices to Comply, and Emissions Summaries are available through SCAQMD's FIND page at http://www3.aqmd.gov/webappl/fim/prog/search.aspx (you need to copy and paste this link into your browser).

Please Enter a description of the records you are requesting here: *
Notices of violation, notice to comply, complaints, site inspection records, permits to operate

Is this a resubmittal of a request previously submitted as a email? *
◯ Yes ◉ No

Time Period of Documents Requested

Start Date *
1/1/1924

End Date *
4/26/2024

Requested Facility or Site Information (if applicable)

Note: You may only include one Facility or Site per Form.

Are you requesting an address range, please indicate? *
◯ Yes ◯ No ◯ N/A

Facility ID (if known)

Address
23161 Mill Creek Drive

Facility Name (if known)

City
Laguna Hills

Zip Code

Requested Application or Permit List. (if applicable)

Please click the Add Button to the right to enter a Application/Permit Number

Authorization Letter Attachment (0)

Authorization Letter

Note: Please use the above button for attaching an Authorization Letter from the facility to release confidential information for your public records request.

Supplemental Attachments (0)

Supplemental Documents

Note: Please use the above button for attaching additional documents that will help define your public records request.

Also Note: You MUST press the "Submit Your Public Records Request" button to complete this form otherwise the form will be automatically deleted!

INSTRUCTIONS FOR REQUESTING RECORDS

(California Public Records Act, Govt. Code Sections 6250-6276.48)

1. In order to expedite your request, please fill out the form completely. Requests may also be submitted by phone at (909) 396-3700, by facsimile to (909) 396-3330, or by email to PublicRecordsRequests@aqmd.gov.

2. Requests must be for records prepared, owned, used, or retained by the District (Gov. Code Sec. 6252(e)). Requests should be for clearly identifiable records. The District is not required to create a new record in response to a request. The District will assist the requestor in making a request that describes reasonably identifiable records (Gov. Code Sec. 6253.1). Documents will not be provided if disclosure would infringe upon a copyright, trade secret, or is otherwise exempt in accordance with state law.

3. A search for facility records can only be conducted by one or all of the following:

-- a) Facility Name, Address, or Identification Number

-- b) Facility Application Number, or Permit to Operate Number; or

-- c) Facility Notice of Violation/Notice to Comply Number.

4. You will be notified within ten (10) days whether your request seeks copies of disclosable public records prepared, owned, used, or retained by this agency. In some cases, the District may need an additional 14 days to respond. If so, you will be notified in writing. You will also be provided an estimated date of when the records will be made available.

5. Communications regarding your request, and any records, will be provided by email, unless specified otherwise.

6. If the search for records finds the records voluminous, you will be notified of the approximate number of pages and/or length of time it will take to process your request.

7. If the records you requested have been marked confidential by the source of the record, you will be notified and given the option of continuing with the District's Trade Secret process.

8. If your request is to review records, rather than receive copies, the District will notify you once the records are gathered, and arrangements will be made for your review.

9. The charge for the direct cost of duplication is as follows: Paper Copies, $0.15/page each over 10 pages (first 10 pages are free); Copied CD's or flash drives, no charge; and Copied Audio Tapes, $5.00 each. After a preliminary estimate, advance payment may be required.

10. If the request is for information in an electronic format, the requestor shall bear the cost of producing a copy of the record, including the cost to construct the record and the cost of programming and computer services necessary to produce a copy of the record, when either of the following applies: (1) the District would be required to produce a copy of an electronic record and the record is one that is produced only at otherwise regularly scheduled intervals, or (2) the request would require data compilation, extraction, or programming to produce the record. (Gov. Code Sec. 6253.9(b)). The transfer of gathered electronic records onto CD, DVD or flash drive typically costs $10.00 each. An invoice will accompany your records when completed.

Note: For further information, please refer to the District's Guidelines for Implementing the California Public Records Act. The Guidelines are available in the lobby of the District Headquarters or on the District's web site at www.aqmd.gov.

Note: If you have questions pertaining to the submittal of a Public Records Act request, you may contact the Public Records Unit, (909) 396-3700, Tuesday through Friday, 7:00 a.m. to 5:30 p.m. Our Fax number is (909) 396-3330. Our email address is PublicRecordsRequests@aqmd.gov.

APPENDIX G

PROJECT PERSONNEL QUALIFICATIONS

Attachment 5

Link to Project Documents:

https://www.lagunahillsca.gov/572/Residential-Development-Project-Document

From: Ana Gromis <agromis@biasc.org>
Sent: Wednesday, February 4, 2026 4:04 PM
To: Jennifer Lee; Kayle McDonald
Cc: City Council
Subject: BIAOC Letter of Support for Housing in Laguna Hills
Attachments: Mill Creek _Letter of Support _ 2_4_26.pdf

Good Afternoon Mayor Caskey, Mayor Pro Tem Mathis, and Members of the Council,

Please see the attached correspondence on behalf of BIAOC, expressing our strong support of the application before you for duplexes at 23161 Mill Creek Road.

We appreciate your consideration of this request and look forward to collaborating with the City of Laguna Hills on future housing opportunities.

Thank you,

Ana

Ana Gromis
Vice President of Government Affairs
Building Industry Association of Southern California, Inc.
Email: agromis@biasc.org
ph: (951) 756-5813 **w**: biasc.org
San Bernardino County • Los Angeles/Ventura County • Orange County • Riverside County • Coachella Valley

February 4, 2026

Mayor Don Caskey
City of Laguna Hills
24035 El Toro Road
Laguna Hills, CA 92653

RE: Support of Housing in Laguna Hills – Community at 23161 Mill Creek Road

Dear Mayor Caskey, Mayor Pro Tem Mathis, and Members of the Council,

On behalf of the Orange County Chapter of the Building Industry Association of Southern California (BIAOC), representing hundreds of home builders, trade partners, and suppliers throughout the region, we write to express our strong support for the proposed housing development at 23161 Mill Creek Road in the City of Laguna Hills.

The application before you represents an important step toward addressing the City's housing needs by helping to combat the ongoing housing shortage and providing much-needed homes for the community. This thoughtfully designed project would deliver 36 duplex units -34 market-rate and 2 affordable -on an underutilized commercial site, advancing Laguna Hills' long-term housing goals while making efficient and responsible use of land.

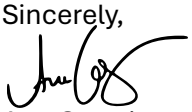
This location exemplifies the type of redevelopment and neighborhood revitalization envisioned in adopted planning policies by replacing aging commercial infrastructure with much-needed housing. The proposed development reflects a context-sensitive approach, with a density and product type that are compatible with the surrounding area. The gated community design includes private backyards for each unit, limits building height to an average of approximately 38 feet, and incorporates high-quality architecture that complements the character of the neighborhood.

Importantly, these homes will provide a meaningful opportunity for younger families and working residents to attain homeownership in Laguna Hills, helping to sustain a diverse, vibrant, and economically healthy community.

For these reasons, we respectfully request your support of the proposed application and urge the City Council to allow this project to move forward. At a critical time of limited housing supply, approving this development will help bring much-needed homes to the market while remaining consistent with the City's adopted plans and policies.

Thank you for your time and thoughtful consideration. Should you have any questions regarding this letter, please do not hesitate to contact me at agromis@biasc.org or (949) 777-3856.

Sincerely,



Ana Gromis
Vice President of Government Affairs
Building Industry Association of Southern California

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Board of Directors
From: Jennifer Lee, City Clerk
Issue: Election of Public Improvement Corporation Officers

Recommendation: That the Board of Directors adopt a Resolution entitled: “A Resolution of the Laguna Hills Public Improvement Corporation, Laguna Hills, California, Electing Officers for 2026."

Background:

In September 1998, the City Council, acting as the Board of Directors for the Laguna Hills Public Improvement Corporation (PIC), took several actions, including the adoption of bylaws, election of officers, and adoption of a Resolution appointing the time and place of meetings. The PIC is a non-profit, public benefit corporation whose primary purpose is to assist the City in issuing Certificates of Participation. In 2010, the PIC was involved in the City’s refinancing project and the subsequent lease payments (debt service) related thereto. Pursuant to the bylaws, the Annual Meeting is held annually in February, and includes the election of officers for the following year. A Resolution has been prepared that will elect the Mayor as President, the City Manager as Vice President, the Finance Director as Treasurer, and the City Clerk as Secretary.

Fiscal Impact:

There is no fiscal impact associated with the election of the PIC Board of Directors.

Attachments:

1. Proposed PIC Resolution 2026-1

RESOLUTION NO. 2026-1

A RESOLUTION OF THE LAGUNA HILLS PUBLIC IMPROVEMENT CORPORATION, LAGUNA HILLS, CALIFORNIA, ELECTING OFFICERS FOR 2026

RESOLVED, by the Board of Directors of the Laguna Hills Public Improvement Corporation, that the following persons are elected to the offices set forth opposite their names below, as officers of the Corporation, to serve until the election and qualification of their successors, as provided in Article IV, Section 2 of the Bylaws of the Corporation.

Name	**Office**
Don Caskey	President
Bob Wingenroth	Vice President
Eric Hendrickson	Treasurer
Jennifer Lee	Secretary

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss
CITY OF LAGUNA HILLS)

I, Jennifer Lee, Secretary of the Laguna Hills Public Improvement Corporation, DO HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a Resolution duly passed and adopted by the Board of Directors of the Laguna Hills Public Improvement Corporation, at a meeting thereof held on the 10th day of February 2026, by the following vote of the Directors thereof:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Jennifer Lee, Secretary

City of Laguna Hills
Public Improvement Corporation
Annual Meeting
Minutes
Tuesday, February 11, 2025

Convene Public Improvement Corporation

The meeting was called to order at 6:36 p.m. by Director Sweeney.

Roll Call of Public Improvement Corporation Board

Present:
Director Joshua Sweeney
Director Erica Pezold
Director Jared Mathis
President Dave Wheeler

Absent:
Director Don Caskey

Public Improvement Corporation Business Items

1 Election of Public Improvement Corporation Officers

Recommendation: That the Board of Directors adopt Resolution No. 2025-1: "A Resolution of the Laguna Hills Public Improvement Corporation, Laguna Hills, California, Electing Officers for 2025."

A motion to approve Resolution 2025-1 was moved by President Wheeler, seconded by Director Pezold.

Roll Call Vote Result: Passed
Yes 4, No 0, Abstained 0

Ayes:	Director Sweeney, Director Pezold, Director Mathis, President Wheeler
Nays:	None
Abstain:	None

2 Approval of the Public Improvement Corporation Minutes for February 27, 2024, Annual Meeting

Recommendation: That the Board of Directors approve the minutes of the February 27, 2024, Annual Meeting.

A motion to approve the minutes of the February 27, 2024, annual meeting was moved by Council Member Mathis, seconded by Council Member Pezold.

Roll Call Vote Result: Passed
Yes 4, No 0, Abstained 0

Ayes:	President Sweeney, Director Pezold, Director Mathis, Director Wheeler
Nays:	None
Abstain:	None

Public Improvement Corporation Adjournment

There being no further business before the Public Improvement Corporation at this session, President Sweeney declared the meeting adjourned at 6:38 p.m.

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Jennifer Lee, Secretary

Approved at meeting of February 10, 2026.

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Holland Gannon, Community Services Director
Issue: 2026 4th of July Fireworks Display

Recommendation: That the City Council:

1. Review proposed options and select and approve either Option 1, Option 2, or Option 3;

2. Direct the City Attorney's office to draft an Amendment No. 1 to the previously approved 2026 4th of July Celebration Fireworks Display Agreement with Garden State Fireworks, Inc. (GSF), reflecting the Council-selected option and any other changes to the Scope of Work;

3. Authorize the City Manager to approve and execute the Amendment;

4. Authorize and direct the Finance Director to amend the budget, accordingly; and

5. Discuss and provide direction for the firework display soundtrack.

Background:

At the January 27, 2026 City Council meeting, Staff was directed to return with options to scale up the annual fireworks display in honor of America's 250th Anniversary. In response, Staff worked with GSF to develop amendment options that incrementally enhance the display through additional aerial shells and finale elements.

Staff is presenting three proposed amendment options to the existing fireworks display

agreement.

Option 1 – $5,000 Increase
Enhances the display by adding additional fireworks throughout the program, increasing overall density and visual interest.

Enhancements include:

- 90 three-inch (3") aerial display shells
- 20 four-inch (4") aerial display shells

Option 2 – $10,000 Increase
Includes all enhancements in Amendment Option 1 and adds a “false finale” midway through the program, creating an additional high-impact moment during the show.

Enhancements include:

- 90 three-inch (3") aerial display shells
- 20 four-inch (4") aerial display shells

Option 3 – $15,000 Increase
Includes all enhancements in Amendment Options 1 and 2 and further expands the grand finale, providing a more robust and extended conclusion to the show.

Additional finale enhancements include:

- 100 three-inch (3") aerial display shells
- 20 four-inch (4") aerial display shells

In addition to selecting an amendment option, City Council is asked to provide direction regarding the firework display soundtrack.

Fiscal Impact:

The fiscal impact varies based on the amendment option selected. The cost increase would be $5,000, $10,000, or $15,000, respectively.

Attachments:
None

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Holland Gannon, Community Services Director
Issue: 2026-2028 Half Marathon, 5k and 10k Honoring USMC Dark Horse Battalion Medal Series

Recommendation: That the City Council discuss and provide direction for the 2026-2028 Half Marathon, 5k and 10k Honoring USMC Dark Horse Battalion Medal Series design.

Background:

The City's annual Half Marathon, 5k, and 10k races feature a commemorative finisher medal that honors the United States Armed Forces and Memorial Day. In previous years, medals have been designed as part of a five-year series, encouraging repeat participation as runners work to complete the full collection.

Staff, along with Spectrum Sports, regularly evaluates event elements to ensure they continue to generate excitement, maintain relevance, and encourage participation among both new and returning runners. Feedback from the 2025 race included the desire to shift back to a medal series.

For the 2026–2028 race years, staff is proposing a shift from a five-year medal series to a three-year medal series. Feedback and participation trends indicate that a shorter series is more attainable for participants and may increase overall engagement and repeat participation across consecutive years.

To support this transition, new medal designs are required for the 2026–2028 series. The design will continue to honor the United States Armed Forces and align with the patriotic and commemorative nature of the event.

The past two medal series were as follows:

Spirit of Valor	2019-2024 (no race in 2020)
Purple Heart	2024
MIA/POW	2023
1st Responders	2022
Women in Service	2021
Coast Guard	2019

Joint Chiefs of Staff	2014-2018
National Guard	2018
Army	2017
Air Force	2016
Navy	2015
USMC	2014

These items are presented as preliminary suggestions, and staff welcomes additional ideas or alternative direction from City Council:

Spirit of America	2026-2028
United States Semiquincentennial	2026
Space Force	2027
Military Working Dogs	2028

Service Through Time	2026-2028
The Oath (enlisting theme)	2026
The Mission (combat/action theme)	2027
The Legacy (Veteran theme)	2028

Fiscal Impact:

There will be a one-time increase in medal costs in 2028 associated with the completion of the three-year medal series, as participants who complete all three years will receive an additional commemorative medal. Each medal costs approximately $2.75. For reference, a similar completion medal was provided in 2024, with approximately 275 recipients receiving a medal. This resulted in an additional cost of approximately $756. Staff anticipates the cost in 2028 may be higher due to increased participation resulting from the transition to a three-year medal series. Any additional costs will be incorporated into the 2028 event budget.

Attachments:
None

City of Laguna Hills
City Council / Planning Agency
Staff Report

Date: February 10, 2026
To: Mayor and Council Members
From: Kayle McDonald, Deputy City Clerk
Issue: Committee Assignment Report

Recommendation: That the City Council receive reports from the City Council Members on the City Council Committee Assignments listed on the staff report.

Background:

There were no recent meetings or events attended by the City Council for their City Council Committee Assignments.

Fiscal Impact:

The City does not provide any additional compensation to City Council members for serving on outside agency boards or committees.

Attachments:
None