



BEDFORD COURT COFFEE SHOP AND CAR WASH PROJECT

PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
TECHNICAL APPENDICES
JANUARY 2025

Prepared for:

City of Temecula
Community Development Department
Planning Division
41000 Main Street
Temecula, CA 92590

Prepared by:

De Novo Planning Group
180 E. Main Street, Suite 108
Tustin, CA 92780

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



Appendix A
Air Quality, Greenhouse Gas, and Energy Impact
Study

Bedford Court Mixed Use Project

Air Quality, Greenhouse Gas, and Energy Impact Study

City of Temecula, CA

Prepared for:

Mr. Brandon Humann
Catalyst Commercial Group
38605 Calistoga Dr. Ste 150
Murrieta, CA 92563

Prepared by:

MD Acoustics, LLC
Tyler Klassen, EIT
1197 Los Angeles Ave, Ste C-256
Simi Valley, CA 93065

Date: 8/13/2024



Noise Study Reports | Vibration Studies | Air Quality | Greenhouse Gas | Health Risk Assessments

P) AZ - 602.774.1950

P) CA - 805.426.4477

www.mdacoustics.com
info@mdacoustics.com

TABLE OF CONTENTS

1.0	Introduction	1
1.1	Purpose of Analysis and Study Objectives	1
1.2	Project Summary	1
1.2.1	Site Location	1
1.2.2	Project Description	1
1.2.3	Sensitive Receptors	1
1.3	Executive Summary of Findings and Mitigation Measures	2
2.0	Regulatory Framework and Background.....	6
2.1	Air Quality Regulatory Setting	6
2.1.1	National and State	6
2.1.2	South Coast Air Quality Management District	8
2.1.3	Local	11
2.2	Greenhouse Gas Regulatory Setting	12
2.2.1	International	12
2.2.2	National	13
2.2.3	California	14
2.2.4	South Coast Air Quality Management District	21
2.2.5	Local	22
3.0	Setting.....	24
3.1	Existing Physical Setting	24
3.1.1	Local Climate and Meteorology	24
3.1.2	Local Air Quality	25
3.1.3	Attainment Status	28
3.2	Greenhouse Gases	29
4.0	Modeling Parameters and Assumptions	31
4.1	Construction	31
4.2	Operations	32
4.3	Localized Construction Analysis	32
4.4	Localized Operational Analysis	34
5.0	Thresholds of Significance	35
5.1	Air Quality Thresholds of Significance	35
5.1.1	CEQA Guidelines for Air Quality	35
5.1.2	Regional Significance Thresholds for Construction Emissions	35
5.1.3	Regional Significance Thresholds for Operational Emissions	36
5.1.4	Thresholds for Localized Significance	36
5.2	Greenhouse Gas Thresholds of Significance	36
5.2.1	CEQA Guidelines for Greenhouse Gas	36
6.0	Air Quality Emissions Impact.....	38
6.1	Construction Air Quality Emissions Impact	38

6.1.1	Regional Construction Emissions	38
6.1.2	Localized Construction Emissions	39
6.1.3	Odors	39
6.1.4	Construction-Related Toxic Air Contaminant Impact	40
6.2	Operational Air Quality Emissions Impact	40
6.2.1	Regional Operational Emissions	40
6.2.2	Localized Operational Emissions	41
6.3	CO Hot Spot Emissions	41
6.4	Cumulative Regional Air Quality Impacts	42
6.5	Air Quality Compliance	42
7.0	Greenhouse Gas Impact Analysis.....	45
7.1	Construction Greenhouse Gas Emissions Impact	45
7.2	Operational Greenhouse Gas Emissions Impact	45
7.3	Greenhouse Gas Plan Consistency	46
8.0	Energy Analysis.....	52
8.1	Construction Energy Demand	52
8.1.1	Construction Equipment Electricity Usage Estimates	52
8.1.2	Construction Equipment Fuel Estimates	53
8.1.3	Construction Worker Fuel Estimates	54
8.1.4	Construction Vendor/Hauling Fuel Estimates	54
8.1.5	Construction Energy Efficiency/Conservation Measures	55
8.2	Operational Energy Demand	56
8.2.1	Transportation Fuel Consumption	56
8.2.2	Facility Energy Demands (Electricity and Natural Gas)	57
8.3	Renewable Energy and Energy Efficiency Plan Consistency	57
9.0	References.....	59

LIST OF APPENDICES

- Appendix A:**
CalEEMod Emission Output
- Appendix B:**
EMFAC2021 Output

LIST OF EXHIBITS

Exhibit A	4
Location Map	4
Exhibit B	5
Site Plan	5

LIST OF TABLES

Table 1: Land Use Summary.....	1
Table 2: Ambient Air Quality Standards	7
Table 3: Meteorological Summary.....	25
Table 4: Local Area Air Quality Levels from the Lake Elsinore Monitoring Stations	26
Table 5: South Coast Air Basin Attainment Status.....	28
Table 6: Description of Greenhouse Gases.....	30
Table 7: Construction Equipment Assumptions ¹	33
Table 8: Regional Significance - Construction Emissions (pounds/day)	38
Table 9: Localized Significance – Construction	39
Table 10: Regional Significance - Unmitigated Operational Emissions (lbs/day)	40
Table 11: Localized Significance – Unmitigated Operational Emissions.....	41
Table 12: Construction Greenhouse Gas Emissions	45
Table 13: Opening Year Unmitigated Project-Related Greenhouse Gas Emissions	46
Table 14: Applicable WRCOG Subregional CAP Local Reduction Measure Project Comparison ¹	48
Table 15: Project Consistency with CARB Scoping Plan Policies and Measures ¹	49
Table 16: Project Construction Power Cost and Electricity Usage	52
Table 17: Construction Equipment Fuel Consumption Estimates	53
Table 18: Construction Worker Fuel Consumption Estimates	54

Table 19: Construction Vendor Fuel Consumption Estimates (MHD Trucks)¹ 55
Table 20: Construction Hauling Fuel Consumption Estimates (HHD Trucks)¹ 55
Table 21: Estimated Vehicle Operations Fuel Consumption 56
Table 22: Project Unmitigated Annual Operational Energy Demand Summary¹ 57

GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
LST	Localized Significant Thresholds
MTCO ₂ e	Metric tons of carbon dioxide equivalent
MMTCO ₂ e	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxides
NO ₂	Nitrogen dioxide
N ₂ O	Nitrous oxide
O ₃	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SO _x	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This air quality and greenhouse gas (GHG) analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by South Coast Air Quality Management District (SCAQMD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The project site is located at the southeast corner of Temecula Parkway and the I-15 in the City of Temecula, CA, as shown in Exhibit A. The site is current zoned Highway/Tourist Commercial (HT) in the City of Temecula Zoning Map. The proposed use is a mix of commercial uses a car wash and a drive-thru restaurant. Land uses surrounding the site include multi-family residential to the south, the I-15 to the west, and commercial uses to the north and east.

1.2.2 Project Description

The Project proposes to develop the site with an express car wash (3,596 sqft) and a drive-thru coffee shop (950 sqft) on a 1.88 acres parcel. Exhibit B demonstrates the site plan for the project.

Construction activities within the Project area will consist of site preparation, on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

Table 1: Land Use Summary

Land Use	Unit Amount	Size Metric
Car Wash	3.60	1000sqft
Fast Food Restaurant with Drive Thru (Coffee Shop)	0.95	1000sqft
Parking Lot	35	Space
Other Asphalt Surfaces	1.40	Acre

1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include

children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc).

The closest existing sensitive receptors (to the site area) are the residential land uses located approximately 10 feet to the south of the project site.

1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions

The project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related traffic will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO “hotspots”). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant.

Project-related GHG emissions meet the SCAQMD draft screening threshold of 3,000 metric tons of carbon dioxide equivalents (MTCO₂e) per year and are also considered to be less than significant. The project also complies with the goals of the WRCOG Subregional CAP, CARB Scoping Plan, AB-32, and SB-32.

Mitigation Measures

A. Construction Measures

Adherence to SCAQMD Rule 403 is required.

No construction mitigation required.

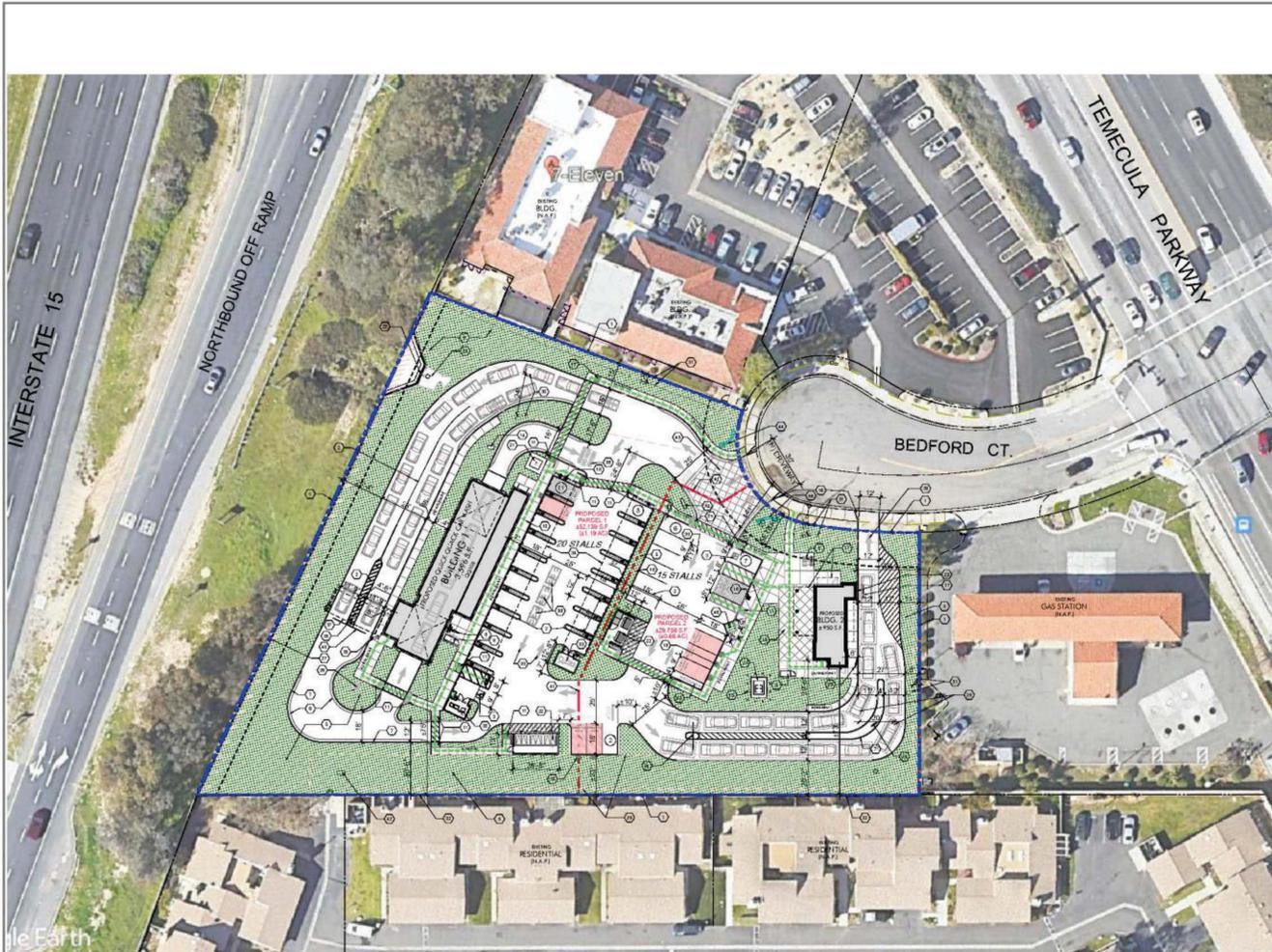
B. Operational Measures to Reduce Greenhouse Gas Emissions

No operational mitigation required.

Exhibit A Location Map



Exhibit B
 Site Plan



KEY NOTES

- 1 EXISTING PROPERTY LINE
- 2 NEW STRIPING
- 3 NEW PAINTED DISABLED SYMBOL
- 4 NEW DISABLED SIGN
- 5 NEW PLANKER
- 6 NEW GUTTER
- 7 NEW CURBS
- 8 NEW SHORT TERM BIKE RACKS (4 BICYCLES)
- 9 NEW LONG TERM BIKE STORAGE PROVIDED: 2 BICYCLES (2 SINGLE LOCKERS)
- 10 NEW CONCRETE PAVING, ACID WASH FINISH, SAW CUT LINES, COLOR, NATURAL GRAY
- 11 NEW RAAMP WITH TRUNCATED DOME
- 12 NEW ACCESSIBLE PARKING STALLS
- 13 NEW DIRECTIONAL SIGN (SIGN BY OTHERS)
- 14 NEW WAIT & GO SIGN
- 15 NEW BOLLARD
- 16 NEW CURB CUT
- 17 NEW METAL CANOPY
- 18 CONDUIT FOR FUTURE CHARGING STATION
- 19 FUTURE ELECTRIC VEHICLE STALL (6)
- 20 ELECTRIC VEHICLE CHARGING STALL (2)
- 21 NEW TRANSFORMER
- 22 NEW TRASH ENCLOSURE WITH ROOF
- 23 NEW DRIVE THRU WINDOW
- 24 NEW DOUBLE OVERHEAD CLEARANCE BAR
- 25 NEW MENU BOARD AND SPEAKER
- 26 PROPOSED FLAG POLE LOCATION
- 27 EXISTING HEADWALL TO REMAIN, AVOIDANCE AREA
- 28 EXISTING CONCRETE
- 29 EXISTING EASEMENT FOR SEWER AND ROAD PURPOSES.
- 30 EXISTING EASEMENT FOR DRAINAGE AND INCIDENTAL PURPOSE.
- 31 EXISTING EASEMENT FOR RIGHT OF WAY FOR UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATION SYSTEMS AND FREE ACCESS AND INCIDENTAL PURPOSES.
- 32 EXISTING SCREEN WALL
- 33 PROPOSED VACUUM ENCLOSURE
- 34 NEW VACUUM CANOPY
- 35 NEW MENU BOARD
- 36 NEW STRIPING PAINT "DO NOT ENTER"
- 37 NEW PAY CANOPY
- 38 NEW UNDERGROUND GREASE INTERCEPTOR
- 39 NEW PAVEMENT MARKING
- 40 NEW DISPLAY PRICE SIGN
- 41 PROPOSED PARCEL LINE
- 42 EXISTING SWR VLT.
- 43 NEW MOTORCYCLE STALL
- 44 NEW LOW MASONRY ENTRY ACCENT WALLS WITH LOW FLOWERING GROUND COVER.
- 45 NEW ENHANCE PAVING
- 46 NEW DIAMOND PLANKER WITH 5' x 9' CLEAR PLANTING AREA

mma
 Architecture

120 W Line Avenue, Monrovia, CA 91016
 TEL: 626.583.8346 | mmaarchitecture.com

PROJECT FOR:

CATALYST
 COMMERCIAL GROUP

28605 CAUSTONDA DR., SUITE 115
 ALHAMBRA, CA 92345
 Telephone: (951) 348-3000

BLDG. 1 **BLDG. 2**

KEY MAP

BEDFORD COURT
 TEMECULA, CA 92592

ISSUES / REVISIONS

No.	DATE	DESCRIPTION
1	02.07.2023	DEVELOPMENT REVIEW & C.U.P.
2	11.13.2023	PA23-0197 & PA23-0198
RESUBMITTAL SET		
3	08.12.2024	PA23-0197 & PA23-0198
RESUBMITTAL SET		

ALL INSTRUMENTS OF SERVICE, ALL RECORDS, DEALS AND INFORMATION SHOWING ON THESE DRAWINGS ARE AND SHALL REMAIN THE PROPERTY OF MMA ARCHITECTURE, INC. NO PART THEREOF SHALL BE COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE SPECIFIC WRITTEN PERMISSION OF MMA ARCHITECTURE, INC. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE DRAWINGS FROM UNAUTHORIZED ACCESS AND USE. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE DRAWINGS FROM UNAUTHORIZED ACCESS AND USE. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE DRAWINGS FROM UNAUTHORIZED ACCESS AND USE.

JOB NUMBER: 22210MMA
 DRAWN BY: _____ CHECKED BY: _____
 DATE: 08 08 2024

SHEET DESCRIPTION:

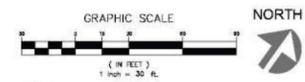
PROPOSED SITE PLAN

SHEET NUMBER:
A010

BASED ON SCHEME SP-07

LEGEND

	NEW BUILDING		PROPERTY LINE		REQUIRED EVCS (2)
	TOTAL LANDSCAPE AREA = ± 30,376 S.F.		PROPOSED PARCEL LINE		FUTURE ELECTRIC VEHICLE STALL (6)
	HANDICAP INDICATION PATH OF TRAVEL				



NOTE:
 See Sheet T 100 for proposed building and parking summary.

PROPOSED SITE PLAN

SCALE: 1" = 30' FT. 1

2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The South Coast Air Quality Management District (SCAQMD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See <http://www.arb.ca.gov/research/aaqs/aaqs.htm> for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

Table 2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentrations ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃)	1-Hour	0.09 ppm	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁸	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		--		
Fine Particulate Matter (PM _{2.5}) ⁸	24-Hour	--	--	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m ³)	--	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m ³)		9 ppm (10 µg/m ³)	--	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m ³)		--	--	
Nitrogen Dioxide (NO ₂) ⁹	1-Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹⁰	1-Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	--		--	0.5 ppm (1300 µg/m ³)	
	24-Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹⁰	--	
	Annual Arithmetic Mean	--		0.130 ppm (for certain areas) ¹⁰	--	
Lead ^{11,12}	30 Day Average	1.5 µg/m ³	Atomic Absorption	--	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Calendar Qtr	--		1.5 µg/m ³ (for certain areas) ¹²		
	Rolling 3-Month Average	--		0.15 µg/m ³		
Visibility Reducing Particles ¹³	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹¹	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Notes:

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equal or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu\text{g}/\text{m}^3$ to 12.0 $\mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu\text{g}/\text{m}^3$, as was the annual secondary standard of 15 $\mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
10. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report 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 it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 South Coast Air Quality Management District

The agency for air pollution control for the South Coast Air Basin (basin) is the South Coast Air Quality Management District (SCAQMD). SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the basin. 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 basin. 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.

Every three (3) years the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon.

On March 23, 2017 CARB approved the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

The 2016 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. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the plan has been approved by CARB, it has been forwarded to the U.S. Environmental Protection Agency for its review. If approved by EPA, the plan becomes federally enforceable

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To meet this standard, the AQMP determined NOx emissions must be reduced by 67% percent more than is required by adopted rules and regulations by 2037. The control strategy for the 2022 AQMP includes aggressive new regulations and the development of incentive programs to support early deployment of advanced technologies. The two key areas for incentive programs are (1) promoting widespread deployment of available zero-emission (ZE) and low NOx technologies and (2) developing new ZE and ultra-low NOx technologies for use in cases where the technology is not currently available. South Coast AQMD will prioritize distribution of incentive funding in environmental justice areas and seek opportunities to focus benefits on the most disadvantaged communities. Cost-effectiveness and affordability will be further considered during the rulemaking or incentive program development process.

South Coast Air Quality Management District Rules

The AQMP for the basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal standards. Some of the rules and regulations that apply 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.

Rule 403 requires that fugitive dust be 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, Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable suppression techniques are indicated below and include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas in active for 10 days or more).
- Water active sites at least three times daily.
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) section 23114.
- Pave construction access roads at least 100 feet onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets.

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.

Idling Diesel Vehicle Trucks – Idling for more than 5 minutes in any one location is prohibited within California borders.

Rule 2702. The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

2.1.3 Local

Local jurisdictions, such as the County of Riverside and City of Temecula, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the County and City are responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The County and City are also responsible for the implementation of transportation control measures as outlined in the 2022 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County and City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The County and City rely on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

City of Temecula General Plan

The Air Quality Element of the City of Temecula General Plan summarizes air quality issues in the Basin, air quality-related plans and programs administered by federal, state, and special purpose agencies, and establishes goals and policies to improve air quality. These goals and policies in the Air Quality Element that relate to the proposed project include:

Goal 2 Improve air quality through effective land use planning in Temecula.

- Policy 2.1 Encourage new development that provides employment opportunities for Temecula residents to improve the balance of jobs relative to housing.
- Policy 2.2 Encourage infill development near activity centers, within Mixed Use Overlay Areas, and along transportation corridors.
- Policy 2.3 Minimize land use conflicts between emission sources and sensitive receptors.
- Policy 2.4 Mitigate air quality impacts associated with development projects to the greatest extent feasible.

Implementation Programs

- AQ-3 Adhere to the policies and programs of the Land Use Element, including development of mixed-use projects where designated and feasible, to ensure that future land use patterns and traffic increases are accompanied by measures to improve air quality.
- AQ-4 Improve the jobs/housing balance in Temecula by encouraging development and expansion of businesses, while also promoting development of housing affordable to all segments of the community near job opportunity sites, and within Mixed Use Overlay

Areas.AQ 1.7 Support legislation which promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels.

AQ-5 Assess the potential air quality impacts of individual development projects by requiring preparation of air quality analysis for individual projects. The City shall require individual development projects to comply with the following measures to minimize shortterm, construction-related PM10 and NOx emissions, and to minimize off-site impacts:

- Water all active construction areas at least twice daily.
- Cover all haul trucks or maintain at least two feet of freeboard.
- Pave or apply water four times daily to all unpaved parking or staging areas.
- Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.
- Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.
- Suspend all operations on any unpaved surface if winds exceed 25 mph.
- Hydroseed or otherwise stabilize any cleared area which is to remain in active for more than 96 hours after clearing is completed.
- Ensure that all cut and fill slopes are permanently protected from erosion.
- Require the construction contractor to ensure that all construction equipment is maintained in peak working order.
- Limit allowable idling to 10 minutes for trucks and heavy equipment.
- Encourage car pooling for construction workers.
- Limit lane closures to off-peak travel periods.
- Park construction vehicles off traveled roadways.
- Wet down or cover dirt hauled off-site.
- Wash or sweep away access points daily.
- Encourage receipt of materials during non-peak traffic hours.
- Sandbag construction sites for erosion control.

Approve development that could significantly impact air quality, either individually or cumulatively, only if it is conditioned with all reasonable mitigation measures to avoid, minimize, or offset the impact.

2.2 Greenhouse Gas Regulatory Setting

2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the

scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

Kyoto Protocol. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

2.2.2 National

Greenhouse Gas Endangerment. On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide

emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Mandatory Reporting of Greenhouse Gases. On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

Climate Adaption Plan. The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: <https://www.epa.gov/arc-x/planning-climate-change-adaptation>

2.2.3 California

California Code of Regulations (CCR) Title 24, Part 6. CCR Title 24, Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013, 2016, and 2019 standards have been approved and became effective July 1, 2014, January 1, 2016, and January 1, 2020, respectively.

California Code of Regulations (CCR) Title 24, Part 11. All buildings for which an application for a building permit is submitted on or after January 1, 2023 must follow the 2022 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11:

<https://www.dgs.ca.gov/BSC/Codes>

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The CEC estimates that over 30 years the 2022 Energy Code will provide \$1.5 billion in consumer benefits and reduce 10 million metric tons of GHG. Changes compared to the 2019 Energy Code include increases to on-site renewable energy generation from solar, increases to electric load flexibility to support grid reliability, reduction of emissions from newly constructed buildings, reduction of air pollution for improved public health, and increased adoption of environmentally beneficial efficient electric technologies.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in

order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:

<http://www.bsc.ca.gov/Home/CALGreen.aspx>

Executive Order S-3-05. California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-01-07. Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

SB 97. Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO₂e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” scenario are estimated to be 596 MMTCO₂e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target.

The ARB’s Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State’s emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.⁴

Senate Bill 100. Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State’s Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

SB 32. The California Global Warming Solutions Act of 2006 designated the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions.

This bill requires the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

AB 1279. The California Climate Crisis Act declares the policy of the state both to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and achieve and maintain net negative greenhouse gas emissions thereafter, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85% below the 1990 levels. The bill requires the state board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified. The bill requires the state board to submit an annual report, as specified.

SB 375. Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375

requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG), which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption or by October 2013.

In April of 2024, SCAG's Regional Council approved and fully adopted the Connect SoCal 2024 (2024–2050 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than \$638 billion in transportation system investments through 2050. Connect SoCal is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently. By integrating the Forecasted Development Pattern with a suite of financially constrained transportation investments, Connect SoCal can reach the regional target of reducing greenhouse gases, or GHGs, from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels).

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Assembly Bill 939 and Senate Bill 1374. Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Executive Order S-13-08. Executive Order S-13-08 indicates that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the “... first statewide, multi-sector, region-specific, and information-based climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

Executive Order B-29-15. Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

Executive Order B-37-16. Executive Order B-37-16, continuing the State’s adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

2.2.4 South Coast Air Quality Management District

The Project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

SCAQMD Threshold Development

The SCAQMD has established recommended significance thresholds for greenhouse gases for local lead agency consideration (“SCAQMD draft local agency threshold”). SCAQMD has published a five-tiered draft GHG threshold which includes a 10,000 metric ton of CO₂e per year for stationary/industrial sources and 3,000 metric tons of CO₂e per year significance threshold for residential/commercial projects (South Coast Air Quality Management District 2010c). Tier 3 is anticipated to be the primary tier by which the SCAQMD will determine significance for projects. The Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90-percent emission capture rate means that 90 percent of total emissions from all new or modified

stationary source projects would be subject to CEQA analysis. The 90-percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the SCAQMD's annual Emissions Reporting Program.

The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
 - All land use types: 3,000 MTCO₂e per year
 - Based on land use types: residential is 3,500 MTCO₂e per year; commercial is 1,400 MTCO₂e per year; mixed use is 3,000 MTCO₂e per year; and industrial is 10,000 MTCO₂e per year
- Tier 4 has the following options:
 - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO₂e/SP/year for projects and 6.6 MTCO₂e/SP/year for plans;
 - Option 3, 2035 target: 3.0 MTCO₂e/SP/year for projects and 4.1 MTCO₂e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

2.2.5 Local

WRCOG Subregional Climate Action Plan

The City of Temecula is part of the Western Riverside Council of Government (WRCOG). The WRCOG adopted the WRCOG Subregional Climate Action Plan (CAP) in September 2014, then revised in February 2022. Twelve cities in the subregion joined efforts to develop the Subregional CAP, which set forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). The CAP consists of an emissions reduction target of 50% below 2010 levels by 2030. In order to reach these goals, the CAP provides feasible strategies, while affording its communities other economic and environmental benefits.

Therefore, to determine whether the project's GHG emissions are significant, this analysis uses the SCAQMD draft local agency tier 3 screening threshold of 3,000 MTCO₂e for all land uses.

The project will be subject to the latest requirements of the California Green Building and Title 24 Energy Efficiency Standards (currently 2019) which would reduce project-related greenhouse gas emissions.

3.0 Setting

3.1 Existing Physical Setting

The project site is located in the City of Temecula in of the County of Riverside, which is part of the South Coast Air Basin (SCAB) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the South Coast Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter.

3.1.1 Local Climate and Meteorology

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas where the project site is located. The majority of the annual rainfall in the basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunderstorms in the coastal regions and slightly heavier showers in the eastern portion of the basin along the coastal side of the mountains. Year-to-year patterns in rainfall are unpredictable because of fluctuations in the weather.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the basin are radiation inversions, which form on clear winter nights when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the basin include marine, subsidence, and high-pressure inversions.

Summers are often periods of hazy visibility and occasionally unhealthy air. Strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces

photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloudtrap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution “hot spots” in heavily developed coastal areas of the basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution “hot spots” in heavily developed coastal areas of the basin, there is not enough traffic to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the City of Lake Elsinore, the nearest available data, are in Table 3. Table 3 shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 3: Meteorological Summary

Month	Temperature (°F)		Average Precipitation (inches)
	Average High	Average Low	
January	66.0	38.9	2.56
February	67.7	40.9	2.68
March	72.3	43.4	1.77
April	77.7	47.0	0.67
May	83.8	52.5	0.20
June	91.0	56.5	0.05
July	97.7	61.0	0.16
August	98.6	62.5	0.05
September	93.4	58.9	0.17
October	83.4	52.0	0.59
November	70.4	42.1	0.90
December	65.8	38.5	2.11
Annual Average	80.9	49.7	11.9
Notes: ¹ Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2805			

3.1.2 Local Air Quality

The SCAQMD is divided into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the City of Temecula in the Temecula Valley

Source Receptor Area (Area 26). The nearest air monitoring station to the project site is the Lake Elsinore – W Flint Street Station (Lake Elsinore Station). The Lake Elsinore Station is located approximately 15 miles northwest of the project site, at 506 W Flint Street, Lake Elsinore; however this location does not provide all ambient weather data. Therefore, additional data was pulled from the SCAQMD historical data for the Temecula Valley Area (Area 26) for both sulfur dioxide and carbon monoxide to provide the existing levels. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

Table 4: Local Area Air Quality Levels from the Lake Elsinore Monitoring Stations

Pollutant (Standard) ²	Year		
	2020	2021	2022
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.130	0.118	0.121
Days > CAAQS (0.09 ppm)	1	0	0
Maximum 8-Hour Concentration (ppm)	0.100	0.097	0.091
Days > NAAQS (0.07 ppm)	54	44	37
Days > CAAQS (0.070 ppm)	55	46	37
Carbon Monoxide:			
Maximum 1-Hour Concentration (ppm)	-	-	-
Days > NAAQS (20 ppm)	-	-	-
Maximum 8-Hour Concentration (ppm)	-	-	-
Days > NAAQS (9 ppm)	-	-	-
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppm)	0.044	0.044	0.037
Days > NAAQS (0.25 ppm)	0	0	0
Sulfur Dioxide:			
Maximum 1-Hour Concentration (ppm)	-	-	-
Days > CAAQS (0.25 ppm)	-	-	-
Inhalable Particulates (PM10):			
Maximum 24-Hour Concentration (ug/m ³)	192.4	90.0	91.8
Days > NAAQS (150 ug/m ³)	1	0	0
Days > CAAQS (50 ug/m ³)	*	*	*
Annual Average (ug/m ³)	23.7	22.4	20.3
Annual > NAAQS (50 ug/m ³)	No	No	No
Annual > CAAQS (20 ug/m ³)	Yes	Yes	Yes
Ultra-Fine Particulates (PM2.5):			
Maximum 24-Hour Concentration (ug/m ³)	41.6	28.8	16.2
Days > NAAQS (35 ug/m ³)	*	*	*
Annual Average (ug/m ³)	7.2	6.9	5.8
Annual > NAAQS (15 ug/m ³)	No	No	No
Annual > CAAQS (12 ug/m ³)	No	No	No

¹ Source: obtained from <https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year> and/or <https://www.arb.ca.gov/adam/topfour/topfour1.php>

² CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

³ No data available.

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10) are the air pollutants of primary concern in the project area, which are detailed below.

Ozone

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone has been exceeded one day in 2020 at the Lake Elsinore Station. The State 8-hour ozone standard has been exceeded between 37 and 55 days each year over the past three years at the Lake Elsinore Station. The Federal 8-hour ozone standard has been exceeded between 37 and 54 days each year over the past three years at the Lake Elsinore Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO₂, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Elsinore Area did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

Nitrogen Dioxide

The Lake Elsinore Station did not record an exceedance of the State or Federal NO₂ standards for the last three years.

Sulfur Dioxide

The Elsinore Area did not record an exceedance of the State SO₂ standards for the last three years.

Particulate Matter

During the 2020 to 2022 monitoring period, there was insufficient data for the State 24-hour concentration standard for PM10 at the Lake Elsinore Station. Over the same time period, the Federal 24-hour standard for PM10 was exceeded once in 2020 and the Federal annual standard was not exceeded at the Lake Elsinore Station.

During the 2020 to 2022 monitoring period, there was insufficient data for the Federal 24-hour standard for PM2.5 at the Lake Elsinore Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered

sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are 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. Table 5 lists the attainment status for the criteria pollutants in the basin.

Table 5: South Coast Air Basin Attainment Status

Pollutant	Averaging Time	National Standards ¹	Attainment Date ²	California Standards ³
1979 1-Hour Ozone ⁴	1-Hour (0.12 ppm)	Nonattainment (Extreme)	11/15/2010 (Not attained ⁴)	Extreme Nonattainment
1997 8-Hour Ozone ⁵	8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024	Nonattainment
2008 8-Hour Ozone	8-Hour (0.075 ppm)	Nonattainment (Extreme)	12/31/2032	
2015 8-Hour Ozone	8-Hour (0.070 ppm)	Designations Pending	~2037	
CO	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007 (Attained)	Maintenance
NO ₂ ⁶	1-Hour (100 ppb) Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (Attained)	Attainment
SO ₂ ⁷	1-Hour (75 ppb)	Designations Pending	Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/ Attainment	3/19/1979 (Attained)	
PM ₁₀	24-Hour (150 µg/m ³)	Nonattainment (Serious) ⁸	12/31/2006 (Redesignation request submitted) ⁸	Nonattainment
PM _{2.5}	24-Hour (35 µg/m ³)	Nonattainment	12/31/2006 (Redesignation request submitted) ⁸	Unclassified
Lead	3-Months Rolling (0.15 µg/m ³)	Nonattainment (Partial) ⁹	12/31/2015	Nonattainment (Partial) ⁹

Notes:

¹ Obtained from Draft 2012 AQMP, SCAQMD, 2012. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassified/Attainment or Unclassifiable.

² A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.

³ Obtained from <http://www.arb.ca.gov/design/adm/adm.htm>.

⁴ 1-hour O₃ standard (0.13 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.

⁵ 1997 8-hour O₃ standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the 1997 O₃ standard and most related implementation rules remain in place until the 1997 standard is revoked by U.S. EPA.

⁶ New NO₂ 1-hour standard, effective August 2, 2010; attainment designations June, 2013; annual NO₂ standard retained.

⁷ The 1971 annual and 24-hour SO₂ standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO₂ 1-hour standard. Area designations expected in 2012, with SSAB designated Unclassifiable/Attainment.

⁸ Annual PM₁₀ standard was revoked, effective December 18, 2006; redesignation request to Attainment of the 24-hour PM₁₀ standard is pending with U.S. EPA

⁹ Partial Nonattainment designation - Los Angeles County portion of Basin only.

3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO₂), methane (CH₄), ozone, water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO₂ and nitrous oxide (NO₂) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO₂, where CO₂ is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 6 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: <https://www.arb.ca.gov/cc/inventory/data/data.htm>

<Table 6 on next page>

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N ₂ O), also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N ₂ O.
Methane	Methane (CH ₄) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	A natural source of CH ₄ is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF ₆) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
Notes: 1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html		

4.0 Modeling Parameters and Assumptions

4.1 Construction

Typical emission rates from construction activities were obtained from CalEEMod Version 2022.1. CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the southwestern portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. The project was modeled to be operational in 2023 and begin construction in February 2023. The phases of the construction activities which have been analyzed below are: 1) site preparation, 2) grading, 3) building, 4) paving, and 5) architectural coating. It should be noted that the project was analyzed for a previous scenario of 41 parking spaces which has since been decreased to 35 parking spaces, making this a conservative analysis. For details on construction modeling and construction equipment for each phase, please see Appendix A.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (disturbance area of approximately 2.5 acres) and the fact that the project won't export more than 5,000 cubic yards of material a day a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 is required.

4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project are based upon the trip generation rates given in the CalEEMod output in Appendix A, which shows a trip generation rate of approximately 831 trips per day.

The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less and the CalEEMod model default was utilized as the new model takes this rule into account.

Energy Usage

2022.1 CalEEMod defaults were utilized.

4.3 Localized Construction Analysis

The SCAQMD has published a “Fact Sheet for Applying CalEEMod to Localized Significance Thresholds” (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain in its project design features or its mitigation measures the following parameters:

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.

The construction equipment showing the equipment associated with the maximum area of disturbance is shown in Table 7.

Table 7: Construction Equipment Assumptions¹

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Site Preparation	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Tractors/Loaders/Backhoes	1	0.5	0.5
Total Per Phase				1.5
Grading	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Tractors/Loaders/Backhoes	2	0.5	1.0
Total Per Phase				2.0
Notes:				
¹ Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2				

As shown in Table 7, the maximum number of acres disturbed in a day would be 2.0 acres during grading.

The local air quality emissions from construction were analyzed using the SCAQMD’s Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were based on the Temecula Valley source receptor area (SRA 26) and a disturbance of 2 acres per day at a distance of 25 meters (82 feet). The closest receptors are located 3 meters to the south of the site. SCAQMD recommends using the 25-meter threshold for any project within 25 meters of a sensitive receptor, therefore the 25-meter threshold was used.

4.4 Localized Operational Analysis

For operational emissions, the screening tables for a disturbance area of 2 acres per day and a distance of 25 meters were used to determine significance. The tables were compared to the project's onsite operational emissions.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations; or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. There are daily emission thresholds for construction and operation of a proposed project in the basin.

5.1.2 Regional Significance Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions are established for the Basin:

- 75 pounds per day (lbs/day) of VOC
- 100 lbs/day of NO_x
- 550 lbs/day of CO
- 150 lbs/day of PM₁₀
- 55 lbs/day of PM_{2.5}
- 150 lbs/day of SO₂

Projects in the basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under SCAQMD guidelines.

5.1.3 Regional Significance Thresholds for Operational Emissions

The daily operational emissions significance thresholds for the basin are as follows:

- 55 pounds per day (lbs/day) of VOC
- 55 lbs/day of NO_x
- 550 lbs/day of CO
- 150 lbs/day of PM₁₀
- 55 lbs/day of PM_{2.5}
- 150 lbs/day of SO₂

Local Microscale Concentration Standards The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

5.1.4 Thresholds for Localized Significance

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are NO₂, CO, PM₁₀, and PM_{2.5}.

The emission thresholds were calculated based on the Temecula Valley source receptor area (SRA 26) and a disturbance of 2 acres per day at a distance of 25 meters (82 feet), for construction and 2 acres a day for screening of localized operational emissions.

5.2 Greenhouse Gas Thresholds of Significance

5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

- (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- (b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. As previously discussed (Section 2.2.4 of this report), SCAQMD has drafted interim thresholds. The screening threshold of 3,000 MTCO₂e per year for all land uses was used in this analysis.

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Rule 402 and 403. Rule 402 and 403 (fugitive dust) are not considered mitigation measures as the project by default is required to incorporate these rules during construction.

6.1.1 Regional Construction Emissions

The construction emissions for the project would not exceed the SCAQMD’s daily emission thresholds at the regional level as demonstrated in Table 8, and therefore would be considered less than significant.

Table 8: Regional Significance - Construction Emissions (pounds/day)

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO ₂	PM10	PM2.5
Site Preparation						
On-Site ²	1.54	15.10	13.70	0.02	3.16	1.83
Off-Site ³	0.04	0.05	0.52	0.00	0.01	0.00
Total	1.58	15.15	14.22	0.02	3.17	1.83
Grading						
On-Site ²	1.78	17.50	16.30	0.02	3.61	2.11
Off-Site ³	0.21	13.36	3.79	0.00	0.01	0.01
Total	1.99	30.86	20.09	0.02	3.62	2.12
Building Construction						
On-Site ²	1.19	9.81	10.20	0.02	0.41	0.38
Off-Site ³	0.01	0.04	0.17	0.00	0.00	0.00
Total	1.20	9.85	10.37	0.02	0.41	0.38
Paving						
On-Site ²	1.01	5.09	6.53	0.01	0.25	0.23
Off-Site ³	0.06	0.08	0.86	0.00	0.01	0.00
Total	1.07	5.17	7.39	0.01	0.26	0.23
Architectural Coating						
On-Site ²	7.04	0.93	1.15	0.00	0.04	0.03
Off-Site ³	0.00	0.00	0.02	0.00	0.00	0.00
Total	7.04	0.93	1.17	0.00	0.04	0.03
Total of overlapping phases⁴	9.31	15.95	18.93	0.03	0.71	0.64
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds	No	No	No	No	No	No
Notes: ¹ Source: CalEEMod Version 2022.1 ² On-site emissions from equipment operated on-site that is not operated on public roads. ³ Off-site emissions from equipment operated on public roads. ⁴ Construction, architectural coatings and paving phases may overlap.						

6.1.2 Localized Construction Emissions

The data provided in Table 9 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Table 9: Localized Significance – Construction

Phase	On-Site Pollutant Emissions (pounds/day) ¹			
	NOx	CO	PM10	PM2.5
Site Preparation	15.10	13.70	3.16	1.83
Grading	17.50	16.30	3.61	2.11
Building Construction	9.81	10.20	0.41	0.38
Paving	5.09	6.53	0.25	0.23
Architectural Coating	0.93	1.15	0.04	0.03
Total of overlapping phases	15.83	17.88	0.70	0.64
SCAQMD Threshold for 25 meters (82 feet) or less²	234	1,100	7	4
Exceeds Threshold?	No	No	No	No
Notes:				
¹ Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two acres in the Temecula Valley Source Receptor Area (SRA 26). Project will disturb a maximum of 2.0 acres per day (see Table 7).				
² The nearest sensitive receptor is located 3 meters south; therefore, the 25 meter threshold has been used.				

6.1.3 Odors

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the trash storage areas and vehicle emissions. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

6.1.4 Construction-Related Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty construction equipment and construction schedule, the proposed project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

6.2 Operational Air Quality Emissions Impact

6.2.1 Regional Operational Emissions

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2023. The summer and winter emissions created by the proposed project’s long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 10.

Table 10: Regional Significance - Unmitigated Operational Emissions (lbs/day)

Activity	Pollutant Emissions (pounds/day) ¹					
	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources ²	0.17	0.00	0.22	0.00	0.00	0.00
Energy Usage ³	0.00	0.09	0.07	0.00	0.01	0.01
Mobile Sources ⁴	4.79	5.27	44.50	0.10	3.51	0.69
Total Emissions	4.96	5.36	44.79	0.10	3.52	0.70
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

¹ Source: CalEEMod Version 2022.1

² Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

³ Energy usage consists of emissions from on-site natural gas usage.

⁴ Mobile sources consist of emissions from vehicles and road dust.

Table 10 provides the project's unmitigated operational emissions. Table 10 shows that the project does not exceed the SCAQMD daily emission threshold and regional operational emissions are considered to be less than significant.

6.2.2 Localized Operational Emissions

Table 11 shows the calculated emissions for the proposed operational activities compared with appropriate LSTs. The LST analysis only includes on-site sources; however, the CalEEMod software outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table 11 include all on-site project-related stationary sources and 10% of the project-related new mobile sources. This percentage is an estimate of the amount of project-related new vehicle traffic that will occur on-site.

Table 11: Localized Significance – Unmitigated Operational Emissions

On-Site Emission Source	On-Site Pollutant Emissions (pounds/day) ¹			
	NOx	CO	PM10	PM2.5
Area Sources ²	0.00	0.22	0.00	0.00
Energy Usage ³	0.09	0.07	0.01	0.01
On-Site Vehicle Emissions ⁴	0.53	4.45	0.35	0.07
Total Emissions	0.62	4.74	0.36	0.08
SCAQMD Threshold for 25 meters (82 feet)⁵	234	1,100	2	1
Exceeds Threshold?	No	No	No	No

Notes:
¹ Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two acres in Temecula Valley Source Receptor Area (SRA 26).
² Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
³ Energy usage consists of emissions from generation of electricity and on-site natural gas usage.
⁴ On-site vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.
⁵ The nearest sensitive receptor is located 3 meters south; therefore, the 25-meter threshold has been used.

Table 11 indicates that the local operational emission would not exceed the LST thresholds at the nearest sensitive receptors, located adjacent to the project. Therefore, the project will not result in significant Localized Operational emissions.

6.3 CO Hot Spot Emissions

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented in above in Section 5.0.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above in Section 5.0, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

Micro-scale air quality emissions have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for CO. However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no “hot spots” anywhere in the air basin, even at intersections with much higher volumes, much worse congestion, and much higher background CO levels than anywhere in Riverside County. If the worst-case intersections in the air basin have no “hot spot” potential, any local impacts will be below thresholds.

Traffic data from CalEEMod showed that the project would generate 831 trips per day. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. The volume of traffic at project buildout would be well below 100,000 vehicles and below the necessary volume to even get close to causing a violation of the CO standard. Therefore no CO “hot spot” modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

6.4 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project’s air quality must be generic by nature.

The project area is out of attainment for both ozone and PM10 particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The project does not exceed any of the thresholds of significance and therefore is considered less than significant.

6.5 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region’s ability to comply with Federal and State air quality standards. If the decision-makers determine that

the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

- (1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- (2) Whether the project will exceed the assumptions in the AQMP in 2022 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

A. Criterion 1 - Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that, long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

Therefore, the proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

B. Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2024-2050 Regional Transportation/Sustainable Communities Strategy, prepared by SCAG, 2024, includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the County of Riverside and City of Temecula Land Use Plans define the assumptions that are represented in the AQMP.

The City of Temecula Zoning Map and the City of Temecula General Plan Land Use Policy Map both identify the land use designation of the site as Highway/Tourist Commercial (HT).

The proposed project is a mix of commercial uses with a car wash and a drive-thru restaurant. Therefore, the proposed project would not result in an inconsistency with the land use designation in

the City's General Plan. Therefore, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

7.0 Greenhouse Gas Impact Analysis

7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 12. The emissions are from all phases of construction. The total construction emissions amortized over a period of 30 years are estimated at 6.75 metric tons of CO₂e per year. Annual CalEEMod output calculations are provided in Appendix A.

Table 12: Construction Greenhouse Gas Emissions

Activity	Emissions (MTCO ₂ e) ¹		
	Onsite	Offsite	Total
Site Preparation	1.88	0.09	1.97
Grading	4.47	21.35	25.82
Building Construction	164.00	4.75	168.75
Paving	4.51	0.79	5.30
Coating	0.61	0.02	0.63
Total	175.47	27.00	202.47
Averaged over 30 years²	5.85	0.90	6.75

Notes:
¹. MTCO₂e=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide).
². The emissions are averaged over 30 years because the average is added to the operational emissions, pursuant to SCAQMD.
 * CalEEMod output (Appendix A)

7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. The operational emissions for the project are 946.24 metric tons of CO₂e per year as shown in Table 13. These emissions do not exceed the SCAQMD screening threshold of 3,000 metric tons of CO₂e per year for all land uses. Therefore, the project's GHG emissions are considered to be less than significant.

<Table 13 next page>

Table 13: Opening Year Unmitigated Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year) ¹						CO ₂ e
	Bio-CO ₂	NonBio-CO ₂	CO ₂	CH ₄	N ₂ O	R	
Area Sources ²	0.00	0.10	0.10	0.00	0.00	124.00	124.10
Energy Usage ³	0.00	42.10	42.10	0.00	0.00	0.00	42.20
Mobile Sources ⁴	0.00	747.00	747.00	0.04	0.04	0.00	761.00
Solid Waste ⁵	2.80	0.00	2.80	0.28	0.00	0.00	9.78
Water ⁶	0.25	1.32	1.57	0.03	0.00	0.00	2.41
Construction ⁷	0.00	6.70	6.70	0.00	0.00	0.00	6.75
Total Emissions	3.05	797.22	800.27	0.35	0.04	0.00	946.24
SCAQMD Draft Screening Threshold							3,000
Exceeds Threshold?							No
Notes:							
¹ Source: CalEEMod Version 2022.1							
² Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.							
³ Energy usage consist of GHG emissions from electricity and natural gas usage.							
⁴ Mobile sources consist of GHG emissions from vehicles.							
⁵ Solid waste includes the CO ₂ and CH ₄ emissions created from the solid waste placed in landfills.							
⁶ Water includes GHG emissions from electricity used for transport of water and processing of wastewater.							
⁷ Construction GHG emissions based on a 30-year amortization rate.							

7.3 Greenhouse Gas Plan Consistency

The proposed project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The City of Temecula is participating the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan. The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 50% below 2010 by 2030, following guidance from CARB and the Governor’s Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.

As discussed above, the project’s emissions are 946.24 MTCO₂e per year and do not exceed the SCAQMD draft threshold and is in compliance with the reduction goals of AB-32 and SB-32. Therefore, as the WRCOG Subregional CAP’s emissions reduction target is consistent with the reduction goals of AB 32, the proposed project would also be anticipated to be consistent with the WRCOG Subregional CAP. Furthermore, as shown in Table 14, the project is consistent with applicable local reduction measures identified in the WRCOG Subregional CAP and would result in a less than significant impact.

CARB Scoping Plan Consistency

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

In May 2014, CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California’s leadership on climate change. While California continues on its path to meet the near-term 2020 greenhouse gas limit, it must also set a clear path toward long-term, deep GHG emission reductions. This report highlights California’s success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State’s climate goals, and includes a description of a suite of specific actions to meet the State’s 2030 GHG limit. In addition, Chapter 4 provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State’s mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State’s largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

The 2022 Scoping Plan was adopted by CARB in November 2022 and expands upon earlier plans with a target of reducing GHG emissions to 85% below 1990 levels by 2045. As the latest 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 15. As shown in Table 15, the project is consistent with the applicable strategies and would result in a less than significant impact.

Therefore, the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Furthermore, the project will also comply with applicable Green Building Standards and County of Riverside’s policies regarding sustainability (as dictated by the County’s General Plan). With incorporation of regulatory compliance and credit for reductions due to CAPCOA location-based efficiency measures, impacts are considered to be less than significant, further analysis is not warranted.

Table 14: Applicable WRCOG Subregional CAP Local Reduction Measure Project Comparison¹

WRCOG Local Reduction Measure	Measure Description	Project Compliance with Measure
LE-1: Expand Local Renewable Energy Production	Increase solar PV installations on new and existing buildings.	Consistent. The project shall comply with all City PV installation requirements.
LE-6: Shade Trees	Strategically plant trees to reduce the urban heat island effect.	Consistent. The proposed project is to include trees per City requirements for new developments.
LT-1: Bicycle Infrastructure Improvements	Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	Consistent. The proposed project will follow City requirements for bicycle infrastructure.
LT-2: Pedestrian Infrastructure Improvements	Expand and improve pedestrian infrastructure, including sidewalks, crosswalks, and pedestrian signals.	Consistent. The proposed project will follow City requirements for pedestrian infrastructure.
LT-7: Increase Housing Density	Increase the density of planned housing units within the city.	Not directly applicable as the project is commercial; however, the proposed project is located within 0.25 miles of a residential community.
LT-8: Increase Land Use Diversity	Provide for a variety of development types and uses.	Consistent. The proposed project is commercial and located within 0.25 miles of a residential community.
LT-9: Transit-Oriented Development	Place new developments in close proximity to transit services.	Consistent. The proposed project is commercial and located within 0.25 miles of a bus stop.
LT-10: Local ZEV Programs	Provide charging stations and other support for zero emission vehicles (ZEVs).	Consistent. The proposed project will follow City requirements for ZEV infrastructure.
LS-1: Zero Waste Initiatives	Support the State’s mandates and strive for zero waste.	Consistent. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
LW-1: Increase Recycled Water Use	Expanding the available water supply through water recycling and reuse infrastructure	Consistent. The proposed project will follow City requirements for recycled water use.

¹ Source: WRCOG Subregional Climate Action Plan (2022).

Table 15: Project Consistency with CARB Scoping Plan Policies and Measures¹

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
2022 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Deploy ZEVs and reduce driving demand	Consistent. The project will be in an urbanized area within a quarter mile of transit.
Coordinate supply of liquid fossil fuels with declining California fuel demand	Consistent. The project will be compliant with the current Title 24 standards.
Generate clean electricity	Consistent. The project will be compliant with the current Title 24 standards and would not interfere with clean energy generation.
Decarbonize industrial energy supply	Consistent. The project will be compliant with the current Title 24 standards and would be commercial, therefore would not interfere with this goal.
Decarbonize buildings	Consistent. The project will be compliant with the current Title 24 standards.

Reduce non-combustion emissions	Consistent. The project will be compliant with the current Title 24 standards.
Notes: ¹ Source: CARB Scoping Plan (2008, 2017, and 2022)	

8.0 Energy Analysis

Information from the CalEEMod 2022.1 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

8.1 Construction Energy Demand

8.1.1 Construction Equipment Electricity Usage Estimates

Electrical service will be provided by Southern California Edison (SCE). Based on the 2017 National Construction Estimator, Richard Pray (2017)¹, the typical power cost per 1,000 square feet of building construction per month is estimated to be \$2.32. The project plans to develop the site with 5,124 square feet of new commercial space over the course of approximately 11 months. Based on Table 16, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately \$130.76. As shown in Table 16, the total electricity usage from Project construction related activities is estimated to be approximately 5,386 kWh.²

Table 16: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot) ¹	Construction Duration (months)	Total Project Construction Power Cost
\$2.32	5.12	11	\$130.76

Cost per kWh	Total Project Construction Electricity Usage (kWh)
\$0.06	2,378

* Assumes the project will be under the GS-1 General Service rate under SCE.

¹ Pray, Richard. 2017 National Construction Estimator. Carlsbad: Craftsman Book Company, 2017.

² LADWP's Small Commercial & Multi-Family Service (A-1) is approximately \$0.06 per kWh of electricity Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf

8.1.2 Construction Equipment Fuel Estimates

Using the CalEEMod data input, the project’s construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB’s 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal.³ As presented in Table 17 below, project construction activities would consume an estimated 20,065 gallons of diesel fuel.

Table 17: Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel) ¹
Site Preparation	2	Graders	1	8	187	0.41	613	66
	2	Rubber Tired Dozers	1	7	247	0.40	692	75
	2	Tractors/Loaders/Backhoes	1	8	97	0.37	287	31
Grading	4	Graders	1	8	187	0.41	613	133
	4	Rubber Tired Dozers	1	8	247	0.40	790	171
	4	Tractors/Loaders/Backhoes	2	7	97	0.37	502	109
Building Construction	200	Cranes	1	6	231	0.29	402	4,345
	200	Forklifts	1	6	89	0.20	107	1,155
	200	Generator Sets	1	8	84	0.74	497	5,376
	200	Tractors/Loaders/Backhoes	1	6	97	0.37	215	2,328
	200	Welders	3	8	46	0.45	497	5,371
Paving	10	Cement and Mortar Mixers	1	6	9	0.56	30	16
	10	Pavers	1	6	130	0.42	328	177
	10	Paving Equipment	1	8	132	0.36	380	205
	10	Rollers	2	7	80	0.38	426	230
	10	Tractors/Loaders/Backhoes	1	8	97	0.37	287	155
Architectural Coating	10	Air Compressors	1	6	78	0.48	225	121
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								20,065
Notes:								

³ Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB’s 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

¹Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
 (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

8.1.3 Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 10,020 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB’s EMFAC model (see Appendix B for details). Table 18 shows that an estimated 324 gallons of fuel would be consumed for construction worker trips.

Table 18: Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	2	7.5	18.5	277.5	30.95	9
Grading	4	10	18.5	740	30.95	24
Building Construction	200	1.79	18.5	6,623	30.95	214
Paving	10	12.5	18.5	2,313	30.95	75
Architectural Coating	10	0.36	18.5	67	30.95	2
Total Construction Worker Fuel Consumption						324

Notes:

¹Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1 defaults.

8.1.4 Construction Vendor/Hauling Fuel Estimates

Tables 19 and 20 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 14,194 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.⁴ Tables 19 and 20 show that an estimated 2,037 gallons of fuel would be consumed for vendor and hauling trips.

<Tables 19 and 20, next page>

⁴ Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix C for details).

Table 19: Construction Vendor Fuel Consumption Estimates (MHD Trucks)¹

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	2	0	10.2	0	9.22	0
Grading	4	0	10.2	0	9.22	0
Building Construction	200	0.84	10.2	1,714	9.22	186
Paving	10	0	10.2	0	9.22	0
Architectural Coating	10	0	10.2	0	9.22	0
Total Vendor Fuel Consumption						186

Notes:

¹ Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1 defaults.

Table 20: Construction Hauling Fuel Consumption Estimates (HHD Trucks)¹

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	2	0	20	0	6.74	0
Grading	4	156.0	20	12,480	6.74	1,852
Building Construction	200	0	20	0	6.74	0
Paving	10	0	20	0	6.74	0
Architectural Coating	10	0	20	0	6.74	0
Total Construction Hauling Fuel Consumption						1,852

Notes:

¹ Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1 defaults.

8.1.5 Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 11-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California’s Energy Efficiency Standards and 2019 CALGreen Standards.

Construction of the proposed commercial development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies).

Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

8.2 Operational Energy Demand

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

8.2.1 Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers. The site is located in an urbanized area just in close proximity to transit stops. Using the CalEEMod output, it is assumed that an average trip for autos were assumed to be 16.6 miles, light trucks were assumed to travel an average of 6.9 miles, and 3- 4-axle trucks were assumed to travel an average of 8.4 miles⁵. To show a worst-case analysis, as the proposed project is an office project, it was assumed that vehicles would operate 365 days per year. Table 21 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.⁶ Table 21 shows that an estimated 137,497 gallons of fuel would be consumed per year for the operation of the proposed project.

Table 21: Estimated Vehicle Operations Fuel Consumption¹

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles) ²	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	459	16.6	7,619	31.82	239.44	87,397
Light Truck	Automobile	48	6.9	332	27.16	12.21	4,458
Light Truck	Automobile	148	6.9	1,022	25.6	39.93	14,575
Medium Truck	Automobile	121	6.9	835	20.81	40.12	14,644
Light Heavy Truck	2-Axle Truck	23	8.4	192	13.81	13.88	5,067
Light Heavy Truck 10,000 lbs +	2-Axle Truck	6	8.4	53	14.18	3.72	1,356
Medium Heavy Truck	3-Axle Truck	10	8.4	82	9.58	8.52	3,111
Heavy Heavy Truck	4-Axle Truck	16	8.4	135	7.14	18.87	6,888
Total		831	--	10,269	--	376.70	--
Total Annual Fuel Consumption							137,497

Notes:

¹ Per CalEEMod assumptions, the project is to generate 831 total net new trips after reduction of existing uses. Default CalEEMod vehicle fleet mix utilized.

² Based on the size of the site and relative location, trips were assumed to be local rather than regional.

⁵ CalEEMod default distance for H-W (home-work) or C-W (commercial-work) is 16.6 miles; 6.9 miles for H-S (home-shop) or C-C (commercial-customer); and 8.4 miles for H-O (home-other) or C-O (commercial-other).

⁶ Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2023). See Appendix C for EMFAC output.

Trip generation generated by the proposed project are consistent with other similar commercial uses of similar scale and configuration as reflected in the CalEEMod traffic data. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

8.2.2 Facility Energy Demands (Electricity and Natural Gas)

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 22.

Table 22: Project Unmitigated Annual Operational Energy Demand Summary¹

Natural Gas Demand		kBTU/year
Car Wash		154,449
Fast Food Restaurant with Drive Thru		174,282
	Total	328,731
Electricity Demand		kWh/year
Car Wash		34,410
Fast Food Restaurant with Drive Thru		53,656
Parking Lot		14,081
	Total	102,147

Notes:

¹Taken from the CalEEMod 2022.1 annual output.

As shown in Table 22, the estimated electricity demand for the proposed project is approximately 102,147 kWh per year. In 2020, the non-residential sector of the County of Riverside consumed approximately 8,015 million kWh of electricity.⁷ In addition, the estimated natural gas consumption for the proposed project is approximately 328,731 kBTU per year. In 2020, the non-residential sector of the County of Riverside consumed approximately 135 million therms of gas.⁸ Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County’s 2020 demand.

8.3 Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may

⁷ California Energy Commission, Electricity Consumption by County. <https://ecdms.energy.ca.gov/elecbycounty.aspx>

⁸ California Energy Commission, Gas Consumption by County. <http://ecdms.energy.ca.gov/gasbycounty.aspx>

be proposed pursuant to the ISTEPA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

9.0 References

The following references were used in the preparing this analysis.

California Air Pollution Control Officers Association

2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2018 Historical Air Quality, Top 4 Summary

City of Temecula

2005 City of Temecula General Plan. April 12.

2016 City of Temecula Zoning Map. August 29.

County of Riverside

2015 County of Riverside General Plan. December 8.

Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2009 CEQA Guideline Sections to be Added or Amended

Office of Environmental Health Hazard Assessment

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

South Coast Air Quality Management District

1993 CEQA Air Quality Handbook

2005 Rule 403 Fugitive Dust

2007 2007 Air Quality Management Plan

2008 Final Localized Significance Threshold Methodology, Revised

2011 Appendix A Calculation Details for CalEEMod

2012 Final 2012 Air Quality Management Plan

2016 Final 2016 Air Quality Management Plan

2022 Final 2022 Air Quality Management Plan

Appendix A:

CalEEMod Emission Output

Bedford Court Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.3. Construction Emissions by Year, Mitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
 - 2.6. Operations Emissions by Sector, Mitigated
- 3. Construction Emissions Details
 - 3.1. Site Preparation (2023) - Unmitigated
 - 3.2. Site Preparation (2023) - Mitigated

3.3. Grading (2023) - Unmitigated

3.4. Grading (2023) - Mitigated

3.5. Building Construction (2023) - Unmitigated

3.6. Building Construction (2023) - Mitigated

3.7. Paving (2023) - Unmitigated

3.8. Paving (2023) - Mitigated

3.9. Architectural Coating (2023) - Unmitigated

3.10. Architectural Coating (2023) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.3.1. Mitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.4.1. Mitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.5.1. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

- 5.3.1.1. 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
 - 5.10.1.1. Unmitigated
 - 5.10.1.2. Mitigated

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
- 6. Climate Risk Detailed Report
 - 6.1. Climate Risk Summary

- 6.2. Initial Climate Risk Scores
- 6.3. Adjusted Climate Risk Scores
- 6.4. Climate Risk Reduction Measures
- 7. Health and Equity Details
 - 7.1. CalEnviroScreen 4.0 Scores
 - 7.2. Healthy Places Index Scores
 - 7.3. Overall Health & Equity Scores
 - 7.4. Health & Equity Measures
 - 7.5. Evaluation Scorecard
 - 7.6. Health & Equity Custom Measures
- 8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Bedford Court
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	23.4
Location	44520 Bedford Ct, Temecula, CA 92592, USA
County	Riverside-South Coast
City	Temecula
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6840
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

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
Fast Food Restaurant with Drive Thru	1.53	1000sqft	0.04	1,528	0.00	—	—	—
Automobile Care Center	3.60	1000sqft	0.08	3,596	0.00	—	—	—

Parking Lot	41.0	Space	0.37	0.00	0.00	—	—
Other Asphalt Surfaces	1.40	Acre	1.40	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.20	9.85	10.4	0.02	0.41	0.03	0.44	0.38	0.01	0.38	—	1,854	1,854	0.07	0.02	0.19	1,862
Mit.	1.20	9.85	10.4	0.02	0.41	0.03	0.44	0.38	0.01	0.38	—	1,854	1,854	0.07	0.02	0.19	1,862
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.04	30.9	20.1	0.09	1.04	10.1	11.1	0.97	4.25	5.23	—	13,689	13,689	0.31	1.79	0.62	14,230
Mit.	7.04	30.9	20.1	0.09	1.04	5.74	6.78	0.97	2.16	3.14	—	13,689	13,689	0.31	1.79	0.62	14,230
% Reduced	—	—	—	—	—	43%	39%	—	49%	40%	—	—	—	—	—	—	—

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.20	9.85	10.4	0.02	0.41	0.03	0.44	0.38	0.01	0.38	—	1,854	1,854	0.07	0.02	0.19	1,862
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	7.04	30.9	20.1	0.09	1.04	5.74	6.78	0.97	2.16	3.14	—	13,689	13,689	0.31	1.79	0.62	14,230
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.91	5.99	6.19	0.01	0.25	0.10	0.35	0.23	0.04	0.26	—	1,212	1,212	0.05	0.03	0.17	1,223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.17	1.09	1.13	< 0.005	0.05	0.02	0.06	0.04	0.01	0.05	—	201	201	0.01	0.01	0.03	202

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.97	5.00	44.8	0.11	0.09	3.43	3.52	0.08	0.61	0.69	18.4	10,980	10,998	2.29	0.47	791	11,988
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.59	5.36	37.1	0.10	0.09	3.43	3.52	0.08	0.61	0.69	18.4	10,323	10,341	2.30	0.49	749	11,294
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.32	2.80	19.8	0.04	0.04	1.54	0.04	0.27	0.31	18.4	4,774	4,792	2.12	0.25	756	5,675
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.61	0.51	3.61	0.01	0.01	0.28	0.01	0.05	0.06	3.05	790	793	0.35	0.04	125	940

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.79	4.91	44.5	0.10	0.08	3.43	3.51	0.08	0.61	0.69	—	10,717	10,717	0.42	0.47	43.3	10,910
Area	0.17	< 0.005	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.92	0.92	< 0.005	< 0.005	—	0.92
Energy	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	254	254	0.02	< 0.005	—	255
Water	—	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	< 0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	748	748
Total	4.97	5.00	44.8	0.11	0.09	3.43	3.52	0.08	0.61	0.69	18.4	10,980	10,998	2.29	0.47	791	11,988
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.45	5.27	37.1	0.10	0.08	3.43	3.51	0.08	0.61	0.69	—	10,060	10,060	0.44	0.49	1.12	10,217
Area	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	254	254	0.02	< 0.005	—	255
Water	—	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	< 0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	748	748
Total	4.59	5.36	37.1	0.10	0.09	3.43	3.52	0.08	0.61	0.69	18.4	10,323	10,341	2.30	0.49	749	11,294

Bedford Court Detailed Report, 11/30/2022

Waste	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	748	748
Total	4.97	5.00	44.8	0.11	0.09	3.43	3.52	0.08	0.61	18.4	10,980	10,998	2.29	0.47	791	11,988
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.45	5.27	37.1	0.10	0.08	3.43	3.51	0.08	0.61	—	10,060	10,060	0.44	0.49	1.12	10,217
Area	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	<0.005	0.09	0.07	<0.005	0.01	—	0.01	0.01	—	—	254	254	0.02	<0.005	—	255
Water	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	<0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	748	748
Total	4.59	5.36	37.1	0.10	0.09	3.43	3.52	0.08	0.61	18.4	10,323	10,341	2.30	0.49	749	11,294
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	2.71	19.5	0.04	0.04	1.50	1.54	0.03	0.27	—	4,511	4,511	0.26	0.24	8.18	4,598
Area	0.16	<0.005	0.15	<0.005	<0.005	—	<0.005	<0.005	—	—	0.63	0.63	<0.005	<0.005	—	0.63
Energy	<0.005	0.09	0.07	<0.005	0.01	—	0.01	0.01	—	—	254	254	0.02	<0.005	—	255
Water	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	<0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	748	748
Total	3.32	2.80	19.8	0.04	0.04	1.50	1.54	0.04	0.27	18.4	4,774	4,792	2.12	0.25	756	5,675
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.58	0.49	3.57	0.01	0.01	0.27	0.28	0.01	0.05	—	747	747	0.04	0.04	1.35	761
Area	0.03	<0.005	0.03	<0.005	<0.005	—	<0.005	<0.005	—	—	0.10	0.10	<0.005	<0.005	—	0.10
Energy	<0.005	0.02	0.01	<0.005	<0.005	—	<0.005	<0.005	—	—	42.1	42.1	<0.005	<0.005	—	42.2
Water	—	—	—	—	—	—	—	—	—	0.25	1.32	1.57	0.03	<0.005	—	2.41
Waste	—	—	—	—	—	—	—	—	—	2.80	0.00	2.80	0.28	0.00	—	9.78
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	124	124

Total	0.61	0.51	3.61	0.01	0.01	0.01	0.01	0.05	0.06	3.05	790	793	0.35	0.04	125	940
-------	------	------	------	------	------	------	------	------	------	------	-----	-----	------	------	-----	-----

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	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	1.54	15.1	13.7	0.02	0.72	—	0.72	0.66	—	0.66	—	2,063	2,063	0.08	0.02	—	2,070
Dust From Material Movement	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Bedford Court Detailed Report, 11/30/2022

Off-Road Equipment	1.19	9.81	10.2	0.02	0.41	—	0.41	—	0.38	—	1,801	1,801	0.01	—	1,807
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.19	9.81	10.2	0.02	0.41	—	0.41	—	0.38	—	1,801	1,801	0.01	—	1,807
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	5.37	5.58	0.01	0.22	—	0.22	—	0.21	—	987	987	0.01	—	990
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.98	1.02	< 0.005	0.04	—	0.04	—	0.04	—	163	163	< 0.005	—	164
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	—	26.3	26.3	< 0.005	0.11	26.7
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.4	26.4	< 0.005	0.07	27.6
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	—	24.2	24.2	< 0.005	< 0.005	24.5

Bedford Court Detailed Report, 11/30/2022

Off-Road Equipment	0.02	0.14	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	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	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	< 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	0.06	0.08	0.86	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	169	169	0.01	0.01	0.02	171
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	0.02	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	4.68	4.68	< 0.005	< 0.005	0.01	4.75
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	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
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

3.8. Paving (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	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	0.55	5.09	6.53	0.01	0.25	—	0.25	0.23	—	0.23	—	992	992	0.04	0.01	—	995
Paving	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.14	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant; with Drive Thru	4.39	4.50	40.8	0.10	0.07	0.52	0.60	0.07	0.16	0.23	—	9,826	9,826	0.39	0.43	39.7	10,004
Automobile Care Center	0.40	0.41	3.69	0.01	0.01	0.05	0.05	0.01	0.01	0.02	—	890	890	0.04	0.04	3.60	906
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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	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	4.79	4.91	44.5	0.10	0.08	0.57	0.65	0.08	0.18	0.25	—	10,717	10,717	0.42	0.47	43.3	10,910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant; with Drive Thru	4.08	4.83	34.0	0.09	0.07	0.52	0.60	0.07	0.16	0.23	—	9,225	9,225	0.40	0.44	1.03	9,368
Automobile Care Center	0.37	0.44	3.08	0.01	0.01	0.05	0.05	0.01	0.01	0.02	—	836	836	0.04	0.04	0.09	849
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

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	4.45	5.27	37.1	0.10	0.08	0.57	0.65	0.18	0.25	—	10,060	0.44	0.49	1.12	10,217	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.52	0.44	3.17	0.01	0.01	0.04	0.05	0.01	0.02	—	661	0.04	0.04	1.20	674	—	—	—	—	—	—	—
Automobile Care Center	0.06	0.05	0.39	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	86.1	< 0.005	< 0.005	0.16	87.7	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	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	0.58	0.49	3.57	0.01	0.01	0.05	0.05	0.01	0.02	—	747	0.04	0.04	1.35	761	—	—	—	—	—	—	—

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	4.39	4.50	40.8	0.10	0.07	0.52	0.60	0.07	0.16	0.23	—	9,826	9,826	0.39	0.43	39.7	10,004
Automobile Care Center	0.40	0.41	3.69	0.01	0.01	0.05	0.05	0.01	0.01	0.02	—	890	890	0.04	0.04	3.60	906

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	0.89	4.60	5.49	0.09	< 0.005	—	8.43
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.65	3.36	4.00	0.07	< 0.005	—	6.15
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	< 0.005	—	14.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	0.89	4.60	5.49	0.09	< 0.005	—	8.43
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.65	3.36	4.00	0.07	< 0.005	—	6.15
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.54	7.96	9.50	0.16	< 0.005	—	14.6

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	9.49	7.40	0.00	9.49	0.95	0.00	—	33.2
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	7.40	0.00	7.40	0.74	0.00	—	25.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	16.9	0.00	16.9	1.69	0.00	—	59.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	9.49	0.00	9.49	0.95	0.00	—	33.2
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	7.40	0.00	7.40	0.74	0.00	—	25.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	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	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	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
Site Preparation	Site Preparation	2/11/2023	2/3/2023	5.00	2.00	—
Grading	Grading	2/4/2023	2/9/2023	5.00	4.00	—
Building Construction	Building Construction	2/10/2023	11/17/2023	5.00	200	—
Paving	Paving	11/18/2023	12/2/2023	5.00	10.0	—
Architectural Coating	Architectural Coating	12/3/2023	12/17/2023	5.00	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
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	156	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.79	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.84	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	—	HHDT
Paving	—	—	—	—	—
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2	
Paving	Vendor	—	10.2	HHDT,MHDT	
Paving	Hauling	0.00	20.0	HHDT	
Paving	Onsite truck	—	—	HHDT	
Architectural Coating	—	—	—	—	
Architectural Coating	Worker	0.36	18.5	LDA,LDT1,LDT2	
Architectural Coating	Vendor	—	10.2	HHDT,MHDT	
Architectural Coating	Hauling	0.00	20.0	HHDT	
Architectural Coating	Onsite truck	—	—	HHDT	

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	156	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.79	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.84	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.36	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

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	0.00	0.00	7,686	2,562	4,623

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 (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1.88	0.00	—

Grading	—	5,000	4.00	0.00	—
Paving	0.00	0.00	0.00	0.00	1.77

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Fast Food Restaurant with Drive Thru	0.00	0%
Automobile Care Center	0.00	0%
Parking Lot	0.37	100%
Other Asphalt Surfaces	1.40	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	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
Fast Food Restaurant with Drive Thru	720	941	722	274,354	2,674	11,318	8,681	1,739,848
Automobile Care Center	85.3	85.3	42.7	28,913	569	1,025	514	228,516
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	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
Fast Food Restaurant with Drive Thru	720	941	722	274,354	2,674	11,318	8,681	1,739,848
Automobile Care Center	85.3	85.3	42.7	28,913	569	1,025	514	228,516
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	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

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
0	0.00	7,686	2,562	4,623

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)
Fast Food Restaurant with Drive Thru	53,656	532	0.0330	0.0040	174,282
Automobile Care Center	34,410	532	0.0330	0.0040	154,449
Parking Lot	14,081	532	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	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)
Fast Food Restaurant with Drive Thru	53,656	532	0.0330	0.0040	174,282
Automobile Care Center	34,410	532	0.0330	0.0040	154,449
Parking Lot	14,081	532	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	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)
Fast Food Restaurant with Drive Thru	463,800	0.00
Automobile Care Center	338,316	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Fast Food Restaurant with Drive Thru	463,800	0.00
Automobile Care Center	338,316	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Fast Food Restaurant with Drive Thru	17.6	0.00
Automobile Care Center	13.7	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Fast Food Restaurant with Drive Thru	17.6	0.00
Automobile Care Center	13.7	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Year	Horsepower	Load Factor
----------------	-----------	----------------	----------------	------------	-------------

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
----------------	-----------	--------	--------------------------	------------------------------	------------------------------

5.17. User Defined

Equipment Type	Fuel Type
----------------	-----------

—

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)
-----------	--------	------------------------------	------------------------------

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.1	annual days of extreme heat
Extreme Precipitation	4.75	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	27.6	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft. Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
 The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
 The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
 The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
 The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
-----------	---------------------------------

Exposure Indicators	—
AQ-Ozone	67.0
AQ-PM	19.1
AQ-DPM	28.0
Drinking Water	72.3
Lead Risk Housing	12.0
Pesticides	62.1
Toxic Releases	9.00
Traffic	87.7
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	14.3
Haz Waste Facilities/Generators	30.2
Impaired Water Bodies	93.4
Solid Waste	52.9
Sensitive Population	—
Asthma	23.0
Cardio-vascular	74.6
Low Birth Weights	46.8
Socioeconomic Factor Indicators	—
Education	44.9
Housing	18.5
Linguistic	15.6
Poverty	28.9
Unemployment	48.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	75.79879379
Employed	36.37880149
Median HI	69.49826768
Education	—
Bachelor's or higher	53.18875914
High school enrollment	0.692929552
Preschool enrollment	1.873476197
Transportation	—
Auto Access	96.70216861
Active commuting	32.76016938
Social	—
2-parent households	30.24509175
Voting	48.45374054
Neighborhood	—
Alcohol availability	75.95277813
Park access	35.1340947
Retail density	5.017323239
Supermarket access	2.399589375
Tree canopy	35.62171179
Housing	—
Homeownership	68.304889
Housing habitability	80.09752342
Low-inc homeowner severe housing cost burden	52.0082125
Low-inc renter severe housing cost burden	76.13242654
Uncrowded housing	58.74502759

Health Outcomes	—
Insured adults	40.74169126
Arthritis	45.8
Asthma ER Admissions	88.0
High Blood Pressure	46.3
Cancer (excluding skin)	40.8
Asthma	43.1
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	50.7
Diagnosed Diabetes	76.6
Life Expectancy at Birth	37.5
Cognitively Disabled	48.3
Physically Disabled	60.6
Heart Attack ER Admissions	47.9
Mental Health Not Good	49.5
Chronic Kidney Disease	73.0
Obesity	41.1
Pedestrian Injuries	19.6
Physical Health Not Good	58.2
Stroke	75.8
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	41.5
No Leisure Time for Physical Activity	58.0
Climate Change Exposures	—
Wildfire Risk	31.0
SLR Inundation Area	0.0

Children	71.1
Elderly	70.0
English Speaking	91.9
Foreign-born	30.8
Outdoor Workers	24.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	82.3
Traffic Density	76.2
Traffic Access	23.0
Other Indices	—
Hardship	39.5
Other Decision Support	—
2016 Voting	62.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	41.0
Healthy Places Index Score for Project Location (b)	31.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Healthy Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition required

Appendix B:

EMFAC2021 Output

Source: EMFAC2017 (v1.0.3) Emissions Inventory

Region Type: Air District

Region: South Coast AQMD

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Yr	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total Fuel Consumption	VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coas	2023	HHDT	Aggregate	Aggregate	Gasoline	75.10442936	8265.097	1502.689	1.936286145	1936.286145	1913466.474	8265.097	13656273.03	7.14	HHD	
South Coas	2023	HHDT	Aggregate	Aggregate	Diesel	1098.18.6753	13648008	1133618	1911.530188	1911.530188	8020635.698	2.53E+08	13648008	31.82	LDA	
South Coas	2023	LDA	Aggregate	Aggregate	Gasoline	6635002.295	2.53E+08	31352477	7971.24403	7971.24403	2469816	2469816	2469816	27.16	LDT1	
South Coas	2023	LDA	Aggregate	Aggregate	Diesel	62492.97958	2469816	297086.6	49.3916685	49.3916685	0	0	6237106	27.16	LDT1	
South Coas	2023	LDA	Aggregate	Aggregate	Electricity	150700.3971	6237106	751566	0	0	1024279.466	278129.96	27821405.09	27.16	LDT1	
South Coas	2023	LDT1	Aggregate	Aggregate	Gasoline	758467.6481	278129.96	3504563	1023.913006	1023.913006	303507.5	303507.5	303507.5	25.60	LDT2	
South Coas	2023	LDT1	Aggregate	Aggregate	Diesel	360.7799144	8408.618	1256.88	0.366459477	366.4594769	3356536.438	852724.16	85922778.34	25.60	LDT2	
South Coas	2023	LDT1	Aggregate	Aggregate	Electricity	7122.93373	303507.5	35798.19	0	0	17738.12611	17738.12611	17738.12611	25.60	LDT2	
South Coas	2023	LDT2	Aggregate	Aggregate	Gasoline	2285.150.139	852724.16	10723315	3338.798312	3338.798312	3356536.438	852724.16	85922778.34	25.60	LDT2	
South Coas	2023	LDT2	Aggregate	Aggregate	Diesel	15594.68309	650362.8	76635.83	17.73812611	17.73812611	650362.8	650362.8	650362.8	25.60	LDT2	
South Coas	2023	LDT2	Aggregate	Aggregate	Electricity	28809.63735	917592.8	145405.4	0	0	917592.8	917592.8	917592.8	25.60	LDT2	
South Coas	2023	LHDT1	Aggregate	Aggregate	Gasoline	174910.3847	6216643	2605904	583.3851736	583.3851736	811563.1022	6216643	11211395.79	13.81	LHDT1	
South Coas	2023	LHDT1	Aggregate	Aggregate	Diesel	125545.0822	4994753	15791.99	228.1779285	228.1779285	4994753	4994753	4994753	13.81	LHDT1	
South Coas	2023	LHDT2	Aggregate	Aggregate	Gasoline	30102.75324	1034569	448486.2	111.5753864	111.5753864	209423.5025	1034569	2969599.008	14.18	LHDT2	
South Coas	2023	LHDT2	Aggregate	Aggregate	Diesel	50003.13116	1935030	628976.5	97.84811618	97.84811618	1935030	1935030	1935030	14.18	LHDT2	
South Coas	2023	MCY	Aggregate	Aggregate	Gasoline	305044.5141	2104624	61008.9	57.849018	57.849018	57849.018	2104624	2104623.657	36.38	MCY	
South Coas	2023	MDV	Aggregate	Aggregate	Gasoline	1589862.703	556841.88	7354860	2693.883526	2693.883526	2744536.341	556841.88	57109879.73	20.81	MDV	
South Coas	2023	MDV	Aggregate	Aggregate	Diesel	36128.1019	1425691	176566.9	50.65281491	50.65281491	1425691	1425691	1425691	20.81	MDV	
South Coas	2023	MDV	Aggregate	Aggregate	Electricity	16376.67653	537591.7	83475.95	0	0	537591.7	537591.7	537591.7	20.81	MDV	
South Coas	2023	MH	Aggregate	Aggregate	Gasoline	34679.50542	330042.9	3469.338	63.26295123	63.26295123	74893.26955	330042.9	454344.9436	6.07	MH	
South Coas	2023	MH	Aggregate	Aggregate	Diesel	13122.69387	124302	1312.269	11.63031832	11.63031832	124302	124302	124302	6.07	MH	
South Coas	2023	MHDT	Aggregate	Aggregate	Gasoline	25624.3151	1363694	512691.13	265.2060557	265.2060557	989975.6425	1363694	9484317.768	9.58	MHDT	
South Coas	2023	MHDT	Aggregate	Aggregate	Diesel	122124.488	8120623	1221858	724.7695868	724.7695868	8120623	8120623	8120623	9.58	MHDT	
South Coas	2023	OBUS	Aggregate	Aggregate	Gasoline	5955.291639	245774	119153.5	48.0750689	48.0750689	86265.88761	245774	579743.8353	6.72	OBUS	
South Coas	2023	OBUS	Aggregate	Aggregate	Diesel	4286.940093	333963.8	41558.29	38.18838072	38.18838072	333963.8	333963.8	333963.8	6.72	OBUS	
South Coas	2023	SBUS	Aggregate	Aggregate	Gasoline	2783.643068	112189.6	11134.57	12.19474692	12.19474692	39638.85935	112189.6	323043.5203	8.15	SBUS	
South Coas	2023	SBUS	Aggregate	Aggregate	Diesel	6671.825716	210853.9	76991.94	27.44411242	27.44411242	17624.16327	210853.9	91199.2533	8.15	SBUS	
South Coas	2023	UBUS	Aggregate	Aggregate	Gasoline	957.7686184	89782.63	3831.074	17.62416327	17.62416327	17863.66378	89782.63	91199.2533	5.11	UBUS	
South Coas	2023	UBUS	Aggregate	Aggregate	Diesel	13.00046095	1416.622	52.00184	0.239500509	0.239500509	1416.622	1416.622	1416.622	5.11	UBUS	
South Coas	2023	UBUS	Aggregate	Aggregate	Electricity	16.11693886	1320.163	64.46776	0	0	1320.163	1320.163	1320.163	5.11	UBUS	

Appendix B

Biological Resources Assessment



January 4, 2023

Updated February 2024

CATALYST COMMERCIAL GROUP

Attention: *Brandon Humann*

38605 Calistoga Drive, Suite150

Murrieta, California 92563

SUBJECT: Biological Resources Assessment for the Proposed Bedford Court Project Located within Assessor Parcel Number (APN) 922-210-042 in the City of Temecula, Riverside County, California.

Introduction

This report contains the findings of ELMT Consulting’s (ELMT) biological resources assessment, including a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency analysis for the proposed Bedford Court Project (project site or site) located in the City of Temecula, Riverside County, California. The field investigation was conducted by biologist Angela Johnson on October 13, 2022, to document baseline conditions and assess the potential for special-status¹ plant and wildlife species to occur within the project site that could pose a constraint to implementation of the proposed project. Special attention was given to the suitability of the on-site habitat to support burrowing owl (*Athene cunicularia*) and several other special-status species identified by the California Department of Fish and Wildlife’s (CDFW) California Natural Diversity Database (CNDDDB) and other electronic databases as potentially occurring on or within the general vicinity of the project site. Additionally, the report also addresses resources protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC), federal Clean Water Act (CWA) regulated by the United States Army Corps of Engineers (Corps) and Regional Water Quality Control Board (Regional Board) respectively, and Section 1602 of the FGC administered by CDFW.

In addition, the Western Riverside County Regional Conservation Authority (RCA) MSHCP Information Map was queried to determine if the MSHCP identifies any potential survey requirements for the project. The project site was reviewed against the MSHCP to determine if the site is located within any MSHCP areas including Criteria Cells (core habitat and wildlife movement corridors) or areas proposed for conservation. Based on the RCA MSHCP Information Map query and review of the MSHCP, it was determined that the project site is located within the Southwest Area Plan of the MSHCP, within Criteria Cell 7356 that contributes to the assembly of Proposed Linkage 10 and Proposed Constrained Linkage 14 along Temecula Creek. Further, the project site is not located within any designated species survey areas.

¹ As used in this report, “special-status” refers to plant and wildlife species that are federally and State listed, proposed, or candidates; plant species that have been designated with a California Native Plant Society Rare Plant Rank; wildlife species that are designated by the CDFW as fully protected, species of special concern, or watch list species; and specially protected natural vegetation communities as designated by the CDFW.

Project Location

The project site is generally located east of Interstate 15, south and west of State Route 79, and north of State Route 76 in the City of Temecula, Riverside County, California. The site is depicted on the Temecula quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in an unsectioned area of Township 8 South, Range 3 West. Specifically, the project site is immediately bordered to the north and east by existing commercial development with State Route 79 beyond; to the south by residential development; and to the west by Interstate 15 within Assessor's Parcel Number 922-210-042. Refer to Exhibits 1-3 in Attachment A.

Project Description

The project proposes to construct an express carwash on the western portion of the site, and a coffee drive-thru and dining patio on the eastern portion of the site. The express carwash will consist of approximately 3,600 square feet of space and include the construction of a 30-car queue, the structure to house the components of the car wash equipment, 20 vacuum bays, and 5 parking stalls. The construction of the coffee drive-thru will consist of the building of the coffee house with an adjacent outdoor dining patio, the drive-thru queue, and seven parking stalls. The construction for the coffee drive-thru and dining patio will account for approximately 950 square feet of space.

The total project site is approximately 1.88 acres in size. Of the 1.88 acres, approximately 1.38 acres (60,000 square feet) will be impacted from site development as noted above and 0.49 acres will be impacted from landscaping along the perimeter of the project site. Additionally, the northwest corner of the project site (approximately 0.01 acre), where the existing storm drain headwall is located, will not be impacted. Refer to Exhibit 3 for a depiction of the proposed project areas.

The proposed project does not propose any temporary impacts or off-site improvements. Staging for the project will occur on the 1.88-acre site. The site's drainage patterns will mirror the existing pattern where drainage will be discharged to the existing underground storm drain and headwall located on the north western portion of the project site. Since the proposed project is primarily bordered by existing development, no weed abatement/fuel modification zones are proposed as part of the project.

Methodology

Literature Review

The first step in determining if a project is consistent with the above listed sections of the MSHCP is to conduct a literature review and records search for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project were determined through a query of the CDFW's CNDDDB Rarefind 5, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, United States Fish and Wildlife Service (USFWS) species listings, and species covered within the MSHCP and associated technical documents.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note

the extent of any disturbances that have occurred on the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Environmental Protection Agency (EPA) Water Program “My Waters” data layers
- Google Earth Pro historic aerial imagery (1985-2022);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey²;
- USFWS Critical Habitat designations for Threatened and Endangered Species;
- USFWS National Wetlands Inventory (NWI);
- Stephen’s Kangaroo Rat Habitat Conservation Plan; and
- Western Riverside County Regional Conservation Authority (RCA) MSHCP Information Map.

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the project site. The CNDDDB database was used, in conjunction with ArcGIS software, to locate the nearest recorded occurrences of special-status species and determine the distance from the project.

Field Investigation

Following the literature review, biologist Angela Johnson inventoried and evaluated the condition of the habitat within the project site on October 13, 2022. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. In addition, aerial photography was reviewed prior to the site investigation to locate potential natural corridors and linkages that may support the movement of wildlife through the area. These areas identified on aerial photography were then walked during the field survey.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Plant species observed during the field survey were identified by visual characteristics and morphology in the field. Unusual and less familiar plant species were photographed during the field survey and identified in the laboratory using taxonomical guides. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

Soil Series Assessment

On-site and adjoining soils were researched prior to the field survey using the USDA NRCS Soil Survey for Western Riverside Area, California. In addition, a review of the local geological conditions and

² A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

historical aerial photographs was conducted to assess the ecological changes that the project site has undergone.

Plant Communities

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were delineated on an aerial photograph, classified in accordance with those described in the MSHCP, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community in acres.

Plants

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less-familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

Wildlife

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of wildlife species during the survey included The Sibley Field Guide to the Birds of Western North America (Sibley 2003), A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are fairly well-standardized, scientific names are provided immediately following common names in this report (first reference only).

Jurisdictional Drainages and Wetlands

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the United States Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program “My Waters” data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the project site.

Topography and Soils

The project site is relatively flat with no areas of topographic relief. On-site elevation ranges from 1,014 to 1,025 feet above mean sea level. Based on the NRCS USDA Web Soil Survey, the project site is underlain by Ramona and Buren loams (5 to 15 percent slopes, eroded). Refer to Exhibit 4, *Soils*, in Attachment A. Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., grading, routine weed abatement, illegal dumping, staging and stockpiling activities, and surrounding development).

Historic aerials show these activities have been ongoing since at least 1978.

Existing Site Condition

The project site occurs in an area that historically supported vacant, undeveloped land, with the exception of existing development of State Route 79 prior to 1938. At present, the site is bounded to the north and east by commercial development, with State Route 79 beyond; to the south by residential development; and to the west by Interstate 15. The project site itself supports undeveloped, vacant land. The site has approximately 120 linear feet of street frontage along the cul-de-sac of Bedford Court, which lies along the northeast of the property line for the Project. The site is approximately 190 feet west of State Route 79, and 69 feet east of the northbound offramp for Interstate 15.

Vegetation

Due to existing land uses, no native plant communities or natural communities of special concern were observed on the project site. The site consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances including illegal dumping, weed abatement, grading, stockpiling activities, and surrounding development. These disturbances have eliminated the natural plant communities that were once present on and surrounding the project site. Refer to Attachment C, *Site Photographs*, for representative site photographs. No native plant communities will be impacted from implementation of the proposed project.

The project site supports one (1) land cover type that would be classified as disturbed (refer to Exhibit 5, *Vegetation*). Disturbed areas occur throughout the site but are heavily concentrated at the center of the site and along the area of the northeast boundary that is bounded by the cul-de-sac of Bedford Court. The more-disturbed center area of the site is mostly barren and supports little-to-no vegetation. Less disturbed areas support weedy, early-successional, and invasive plant species such as ripgut brome (*Bromus diandrus*), puncturevine (*Tribulus terrestris*), Mediterranean mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), stinket (*Oncosiphon pilulifer*), filaree (*Erodium cicutarium*), and common cryptantha (*Cryptantha intermedia*), and telegraph weed (*Heterotheca grandiflora*).

It should be noted that a small area, just outside the northwest corner of the project site, west of the project site along the northbound Interstate 15 offramp to State Route 79 supports riparian vegetation concentrated around an existing storm drain outlet. The observed riparian vegetation occurs offsite.

Wildlife

Plant communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed or are expected to occur within the project site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions in which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation.

Fish

The MSHCP does not identify any covered or special-status fish species as potentially occurring within the project site. Further, no fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs)

that would provide suitable habitat for fish were observed on or within the vicinity of the site. Therefore, no fish are expected to occur and are presumed absent.

Amphibians

The MSHCP does not identify any covered or special-status amphibian species as potentially occurring within the project site. Further, no amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on or within the vicinity of the site. Therefore, no amphibians are expected to occur.

Reptiles

The MSHCP does not identify any covered or special-status reptilian species as potentially occurring within the project site. The site provides a limited amount of habitat for reptile species adapted to a high degree of human disturbance. No reptilian species were observed during the field investigation. Common reptile species that could potentially occur onsite include common side-blotched lizard (*Uta stansburiana elegans*), western fence lizard (*Sceloporus occidentalis*), Great Basin fence lizard (*Sceloporus occidentalis longipes*), and San Diego alligator lizard (*Elgaria multicarinata webbia*).

Birds

The project site provides limited foraging habitat for bird species adapted to a high degree of human disturbance. Bird species detected during the field survey include Say's phoebe (*Sayornis saya*), Anna's hummingbird (*Calypte anna*), red-shouldered hawk (*Buteo lineatus*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), American crow (*Corvus brachyrhynchos*), and chipping sparrow (*Spizella passerina*).

Mammals

The MSHCP does not identify any covered or special-status mammalian species as potentially occurring within the project site. The site provides limited foraging and cover habitat for mammalian species adapted to a high degree of human disturbance. No mammalian species were observed on the project site. Common mammalian species that could be expected to occur include opossum (*Didelphis virginiana*), ground squirrel (*Otospermophilus beecheyi*), and raccoon (*Procyon lotor*).

Nesting Birds and Raptors

No active nests or birds displaying nesting behavior were observed during the field survey, which was conducted outside of nesting season. Although subjected to routine disturbance, the ornamental vegetation found off-site along site boundaries has the potential to provide suitable nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that could occur in the area that area adapted to high degrees of anthropogenic disturbance. Additionally, the disturbed portions of the site have to potential to support ground-nesting birds such as killdeer (*Charadrius vociferus*).

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation

removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

Migratory Corridors and Linkages

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

According to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Information Map, the project site has been identified as occurring within criteria cell 7356, contributing to the assembly of Proposed Linkage 10 and Proposed Constrained Linkage 14 along Temecula Creek. The project site itself, along with adjacent properties, lie outside of the boundaries of these proposed linkages. The nearest open space identified by the MSHCP occurs approximately 339 feet to the west in association with Murrieta Creek. This open space lies adjacent to Constrained Linkage 14 of Murrieta Creek and Santa Margarita Ecological Preserve which occurs approximately 1,280 feet southwest of the project site. Further, existing development bordering the project site along within Interstate 15 and State Route 79 precludes wildlife movement opportunities through the project site and immediately surrounding area. As such, implementation of the proposed project is not expected to impact wildlife movement opportunities. Therefore, impacts to wildlife corridors or linkages are not expected to occur.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into “waters of the United States” pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and bank under Fish and Wildlife Code Sections 1600 et seq., and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

According to the NWI, no water features have been mapped onsite. Several riverine and freshwater forested/shrub wetland features have been mapped in the area corresponding to Murrieta Creek and Temecula Creek, outside of the project footprint.

A storm drain outlet with a concrete headwall is located on the northwest corner of the project site. The storm drain outlet, that receives flows from an underground public storm drain, flows in an east to west direction towards the northbound Interstate 15 offramp to State Route 79, and into another culvert that flows under Interstate 15. The earthen bed of the drainage between the storm drain outlet just outside the northeast corner of the project site and the culvert under the offramp is approximately 60 feet long and supports riparian plant species (i.e., arrow willow) with landscaped plants on its banks. This vegetation is restricted to the storm drain to the west and is isolated from nearby linkages by Interstate 15 and other surrounding development. Flows from the culvert under the northbound offramp appear to flow in a

northeast to southwest direction under Interstate 15 and outlet on the west side of the southbound onramp into a drainage feature that eventually flows into Murrieta Creek.

The storm drain outlet and headwall on the northeast corner of the project site has a direct connection into Murrieta Creek (approximately 950 feet to the west), it will likely be considered jurisdictional by the Corps, Regional Board, and CDFW. If any impacts to this storm drain outlet or headwall occur, impacts will need to be calculated and regulatory approvals will need to be prepared and processed with the Corps, Regional Board, and CDFW. Based on the proposed site plan, the existing storm drain outlet and headwall will not be impacted from project implementation. The existing storm drain and headwall will remain in place.

A field survey was conducted on 2/14/24, about a week after the rain events the week of 2/5/24, to document the potential drainage on the northern boundary of the project site extending off Bedford Court. Evidence of sheet flow was observed extending from the middle of the project site to the northwest corner of the project site. The sheet flow of water only occurs during and immediately following storm events and follows onsite topography that was created when the site was rough graded. This swale/sheet flow area primarily supports dirt/disturbed areas with minimal non-native grasses/ruderal vegetation at the western end. This swale/sheet flow area would have been created following the mass grading of the site. This feature would not have replaced an existing blueline stream or existing watercourse, but would have been artificially created following the mass grading of the site. This swale/sheet flow area starts in the middle of the project site and terminates at the northwest corner of the site, and therefore, is not expected to fall under the regulatory authority of the Corps, Regional Board, or CDFW.

Special-Status Biological Resources

The CNDDDB was queried for reported locations of special-status plant and wildlife species as well as natural communities of special concern in the Temecula USGS 7.5-minute quadrangle. Due to the proximity of the project site to quadrangle boundaries, the Pechanga quadrangle was also queried. A search of published records within these quadrangles was conducted using the CNDDDB Rarefind 5 online software and the CDFW BIOS database and the CNPS Inventory of Rare and Endangered Plants of California that supplied information regarding the distribution and habitats of vascular plants in the vicinity of the project site. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified forty-eight (48) special-status plant species, thirty-eight (38) special-status wildlife species, and one (1) special-status plant community as having potential to occur within the Temecula and Pechanga quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity are presented in *Table D-1: Potentially Occurring Special-Status Biological Resources*, provided in Attachment D. Refer to Table D-1 for a determination regarding the potential occurrence of special-status plant and wildlife species within the project site.

Special-Status Plants

According to the CNDDDB and CNPS, forty-eight (48) special-status plant species have been recorded in

the Temecula and Pechanga quadrangles (refer to Attachment D). No special-status plants were observed on the project site during the field investigation. The project site has been subject to anthropogenic disturbances from surrounding development. These disturbances have reduced the suitability of the habitat to support special-status plant species known to occur in the general vicinity of the project site. Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and all are presumed to be absent from the project site. No focused surveys are recommended.

Special-Status Wildlife

According to the CNDDDB, thirty-eight (38) special-status wildlife species have been reported in the Temecula and Pechanga quadrangles (refer to Attachment D). No special-status wildlife species were observed on the project site during the field investigation. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site has a moderate potential to support Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), and California horned lark (*Eremophila alpestris actia*). It was further determined that the project site does not have potential to support any of the other special-status wildlife species known to occur in the vicinity of the site and all are presumed absent.

None of the aforementioned special-status wildlife species are state or federally listed as threatened or endangered. In order to ensure impacts to these avian species do not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction nesting bird clearance survey, impacts to special-status avian species will be less than significant and no mitigation will be required.

Special-Status Plant Communities

The CNDDDB lists one (1) special-status habitat as being identified within the Temecula and Pechanga quadrangles: Southern Sycamore Alder Riparian Woodland. No special-status plant communities were observed during the field investigation. Therefore, no special-status plant communities will be impacted by implementation of the proposed project.

Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If there is a federal nexus, then the

Riparian/Riverine Areas and Vernal Pools

The MSHCP requires that an assessment be completed if impacts to riparian/riverine areas and vernal pools could occur from construction of the proposed project. According to the MSHCP, the documentation for the assessment shall include mapping and a description of the functions and values of the mapped areas with respect to the species listed in Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*.

Riparian/Riverine Areas

As identified in Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, riparian/riverine areas are defined as areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to a number of listed or special-status water-dependent fish, amphibian, avian, and plant species. If impacts to riparian/riverine habitat cannot be avoided, a Determination of Biologically Equivalent or Superior Preservation (DBESP) must be developed to address the replacement of lost functions of habitats in regard to the listed species. This assessment is independent from considerations given to “waters of the U.S.” and “waters of the State” under the CWA and the California Fish and Game Code.

As previously noted, a storm drain outlet with a concrete headwall is located on the northwest corner of the project site, outside of the proposed project footprint. The storm drain outlet and headwall on northeast corner of the project site has a direct connection into Murrieta Creek (approximately 950 feet to the west) and supports an isolated stand of riparian vegetation immediately west of the project site. Therefore, the storm drain outlet and headwall will likely qualify as riparian/riverine habitat under the MSHCP.

Based on the proposed site plan, the existing storm drain outlet and headwall will not be impacted from project implementation. The existing storm drain and headwall will remain in place. Stormwater from the project will connect into the existing underground storm drain system on the northern periphery of the property, after being treated (see *Drainage* section below). Since the onsite stormwater will connect directly into the underground public storm drain, and will not impact the existing storm drain outlet or headwall. No impacts to riparian/riverine habitat will occur, and a DBESP will not be required.

As noted above, a field survey was conducted on 2/14/24, about a week after the rain events the week of 2/5/24, to document the potential drainage on the northern boundary of the project site extending off Bedford Court. Evidence of sheet flow was observed extending from the middle of the project site to the northwest corner of the project site. The sheet flow of water only occurs during and immediately following storm events and follows onsite topography that was created when the site was rough graded. This swale/sheet flow area primarily supports dirt/disturbed areas with minimal non-native grasses/ruderal vegetation at the western end and does not provide habitat for any of the Section 6.1.2 listed species.

This swale/sheet flow area would have been created following the mass grading of the site. This feature would not have replaced an existing blueline stream or existing watercourse, but would have been artificially created following the mass grading of the site. Per Section 6.1.2 of the MSHCP “With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human

actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above (definition of riparian/riverine) which are artificially created are not included in these definitions.” As a result, the sheet flow of water across the project site would not be considered a drainage or qualify as riparian/riverine habitat under the MSHCP. No impacts to riparian/riverine resources would occur and a DBESP would not be required.

Vernal Pools

One of the factors for determining the suitability of the habitat for fairy shrimp would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. These astatic pools are typically characterized as vernal pools. More specifically, vernal pools are seasonal wetlands that occur in depression areas without a continual source of water. They have wetland indicators of all 3 parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology is made on a case-by-case basis. Such determinations should be considered the length of time the areas exhibit upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. The seasonal hydrology of vernal pools provides for a unique environment, which supports plants and invertebrates specifically adapted to a regime of winter inundation, followed by an extended period when the pool soils are dry.

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when rains decrease and the weather warms, the water evaporates and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures. Vernal pools provide unusual "flood and drought" habitat conditions to which certain plant and wildlife species have specifically adapted as well as invertebrate species such as fairy shrimp.

The MSHCP lists two general classes of soils known to be associated with listed and special-status plant species; clay soils and Traver-Domino Willow association soils. The specific clay soils known to be associated with listed and special-status species within the MSHCP plan area include Bosanko, Auld, Altamont, and Porterville series soils, whereas Traver-Domino Willows association includes saline-alkali soils largely located along floodplain areas of the San Jacinto River and Salt Creek. Without the appropriate soils to create the impermeable restrictive layer, none of the special-status plant or wildlife species associated with vernal pools can occur on the project site. None of these soils have been documented within the project site.

A review of recent and historic aerial photographs (1938-2022) of the project site did not provide visual evidence of vernal pool conditions within the project site. The project site was rough graded in 1996 when the surrounding developments were created. Since 1996 the project site has been subject to routine anthropogenic disturbances that have heavily compacted the soils onsite and has been routinely used for

vehicle storage with a thin layer of loose gravel. A review of aerial imagery on Google Earth depicts areas of moist/wet soil in January 2020, December 2018, February 2018, and March 2016. However, these moist/wet soils were observed in the areas that are heavily compacted from existing anthropogenic disturbances, and do not constitute a vernal pool. Further, historic aerials depict a drainage feature in his area between 1398 and 1978), which would further reduce the likelihood of vernal pool habitat occurring onsite, as ephemeral streams do not support vernal pool habitat or conditions.

Further, the drainage patterns currently occurring on the project site do not follow hydrologic regimes needed to support for vernal pools. From this review of historic aerial photographs and observations during the field investigations, it can be concluded that there is no indication of vernal pools or suitable fairy shrimp habitat occurring within the proposed project site. Therefore, the project is consistent with Section 6.1.2 of the MSHCP.

Fairy Shrimp Habitat

Riverside fairy shrimp (*Streptocephalus woottoni*)

Riverside fairy shrimp are restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. They prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and may persist through May. Known habitat occurs within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation. In Riverside County, Riverside fairy shrimp have been found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils.

The project site is underlain by Ramona and Buren loams. The aforementioned soils that Riverside fairy shrimp are typically associated with in Riverside County do not occur onsite. Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., grading, weed abatement, stockpiling, and surrounding development). Due to the lack of soils associated with Riverside fairy shrimp, onsite anthropogenic disturbances, and no indicators of water ponding or astatic water conditions, the site was determined not to provide suitable habitat for Riverside fairy shrimp.

Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*)

Santa Rosa Plateau fairy shrimp are restricted to seasonal southern basalt flow vernal pools with cool clear to milky waters that are moderately predictable and remain filled for extended periods of time and are known only from vernal pool on the Santa Rosa Plateau. Since the project site is not located within the known area where Santa Rosa Plateau fairy shrimp have been documented, and no indicators of water ponding or astatic water conditions, the site was determined not to provide suitable habitat for Santa Rosa Plateau fairy shrimp.

Vernal pool fairy shrimp (*Branchinecta lynchi*)

Vernal pool fairy shrimp are restricted to seasonal vernal pools (vernal pools and alkali vernal pools) and prefer cool-water pools that have low to moderate dissolved solids, are unpredictable, and often short lived. The vernal pool fairy shrimp is known from four locations in Western Riverside County MSHCP Plan Area:

Skunk Hollow, the Santa Rosa Plateau, Salt Creek, and the vicinity of the Pechanga Indian Reservation. Since the project site is not located within or adjacent to the four known populations, and no indicators of water ponding or astatic water conditions, the site was determined not to provide suitable habitat for vernal pool fairy shrimp.

Narrow Endemic Plant Species

Section 6.1.3 of the MSHCP, *Protection of Narrow Endemic Plant Species*, states that the MSHCP database does not provide sufficient detail to determine the extent of the presence/distribution of Narrow Endemic Plant Species within the MSHCP Plan Area. Additional surveys may be needed to gather information to determine the presence/absence of these species to ensure that appropriate conservation of these species occurs. Based on the RCA MSHCP Information Map query and review of the MSHCP, it was determined that the project site is not located within the designated survey area for Narrow Endemic Plant Species. Through the field investigation, it was determined that the project site does not provide suitable habitat for any of the Narrow Endemic Plant Species listed under Section 6.1.3 of the MSHCP, and, therefore, the project is consistent with Section 6.1.3 of the MSHCP. No additional surveys or analysis is required.

Urban/Wildlands Interface Guidelines

Section 6.1.4 of the MSHCP, *Guidelines Pertaining to Urban/Wildlands Interface*, is intended to address indirect effects associated with development in proximity to MSHCP Conservation Areas. The Urban/Wildlife Interface Guidelines are intended to ensure that indirect project-related impacts to the MSHCP Conservation Area, including drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized.

The project site is located within Criteria Cell 7356 that contributes to the assembly of Proposed Linkage 10 and Proposed Constrained Linkage 14 in association with Murrieta Creek and Santa Margarita Ecological Reserve (refer to Exhibit 7, *MSHCP Criteria Area*, in Attachment A). As a result, the Urban/Wildlife Interface Guidelines, as discussed below, will be incorporated into the project to ensure that Project-related impacts, including drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized to the fullest extent possible.

Drainage

The project's drainage patterns will mirror the existing pattern where drainage will be discharged to the existing underground, public, storm drain and headwall located on the northern perimeter of the property. The project site has been separated into two drainage areas, Drainage Area A and B as described below:

- Drainage area A consists of approximately 1.2 acres on the western side of the site and consists of the proposed car wash and associated vacuum parking stalls and driveways. The water quality runoff from drainage area A will be treated in a Modular Wetland System (MWS) prior to discharging to the storm drain system. Runoff exceeding the BMP's treatment design capacity will bypass the system via an internal weir and enter an underground detention system.
- Drainage area B consists of approximately 0.68 acres on the eastern side of the site and consists of a proposed building and associated parking stalls and driveways. The water quality runoff from drainage B will be treated in a MWS flow thru BMP prior to discharging to the storm drain system.

Runoff exceeding the City's treatment design standards will bypass the system and enter the underground detention system.

The MWS will be located on the north side of the site at the exit drive aisle of the proposed car wash. Runoff entering the MWS will be pre-treated via a filter cartridge before being treated in the proprietary wetland media bed which is in an underground vault. Treated runoff will be collected in perforated vertical underdrains which then discharge to the proposed detention system and storm drain system which eventually discharges to the existing RCP pipe along the north side of the property. The system has a pre-treatment chamber that removes sediment and hydrocarbons with a filter. Stormwater is then treated in the proprietary soil media. The MWS systems are vegetated (planter style) and non-vegetated (vault style). Biological activity in the systems is supported by plants (only in vegetated MWS), and schmutzdecke.

These measures will assure that the project stormwater leaving the site complies with all applicable water quality standards.

Toxics

According to the MSHCP, measures shall be incorporated to ensure that application of chemicals does not result in discharge to the MSHCP Conservation Area. During the construction of the project, construction activities have the potential to cause release of toxics that could indirectly impact the MSHCP Conservation Area. To address these potential short-term impacts, the project is required to stage construction operations as far away from the MSHCP Conservation Area to the maximum extent feasible.

Lighting

The proposed project is not anticipated to significantly increase lighting and glare. However, light sources should be designed with internal baffles to direct the lighting towards the ground and the developed areas and have a zero-side angle cut off to the horizon.

Noise

The project site should have a physical separation or barrier included in its design between the proposed development and the Conservation Area to buffer noise impacts. A barrier would significantly lessen any noise exposure to any MSHCP-covered species. Construction-related noise will be mitigated to be consistent with the City's Noise Ordinances by limiting construction activities to daytime hours and requiring construction equipment to be tuned and equipped with mufflers. Under the MSHCP, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.

Invasive Plant Species

Plant species acceptable for the Project's landscaping must not be considered an invasive species pursuant to Table 6-2 of the MSHCP. To ensure this, the final landscape plans must be reviewed and verified by the City for consistency with the plant species list in Table 6-2 of the MSHCP. Allowable use of invasive species on a project site is based on the proximity of the plantings to the Conservation Area, the sensitivity of resources in the Conservation Area to invasion, and barriers to plant and seed dispersal. The use of invasive, non-native plant species listed in Table 6-2 of the MSHCP will be avoided when planning

landscaping for the project site. However, the City will make the final decision on the suitability of this species for the Project's landscape plan.

Barriers

Barriers would restrict direct access to the MSHCP Conservation Area from the project site by unauthorized public access or domestic animals. Under the MSHCP, suitable barriers include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms. The barriers would and should be placed within the boundaries of the development and will be outside of the confines of the open space/MSHCP Conservation Area.

Grading/Land Development

Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area. No manufactured slopes are anticipated to be constructed within the MSHCP Conservation Area. Should manufactured slopes be necessary, they will be kept within the boundaries of the development footprint and not encroach into the MSHCP Conservation Area.

Vegetation Mapping

Section 6.3.1 of the MSHCP, *Vegetation Mapping*, requires vegetation mapping within project sites that meet certain criteria in order to assess whether conservation is required. Of the criteria listed within this section of the MSHCP, the project site falls under the following:

For public and private projects determined to be subject to the MSHCP Criteria described in Section 3.0 (of the MSHCP) and the local implementation measures described in Section 6.1, project-level vegetation mapping may be required to demonstrate consistency with Criteria subject to a project-by-project determination by the Permittee.

In accordance with the vegetation baseline 1994 vegetation map, the project site was mapped as supporting Residential/Urban/Exotic land. As described in this report, the project site supports one (1) land cover type that would be classified as disturbed. The site consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances including illegal dumping, weed abatement, grading, stockpiling activities, and surrounding development. As a result, the project site does not have the potential to provide suitable habitat for MSHCP listed species or provide suitable habitat for the Reserve Assembly within Criteria Cell 7356.

Additional Survey Needs and Procedures

In accordance with Section 6.3.2 of the MSHCP, *Additional Survey Needs and Procedures*, additional surveys may be needed for certain species in order to achieve coverage for these species. The query of the RCA MSHCP Information Map and review of the MSHCP determined that the project site is located within the designated survey area for burrowing owl as depicted in Figure 6-4 within Section 6.3.2 of the MSHCP. No other special-status wildlife species surveys were identified.

Burrowing Owl

Burrowing owl is currently designated as a California Species of Special Concern. The burrowing owl is a

grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with level to gently-sloping areas characterized by open vegetation and bare ground. The western burrowing owl (*A.c. hypugaea*), which occurs throughout the western United States including California, rarely digs its own burrows and is instead dependent upon the presence of burrowing mammals (i.e., California ground squirrels, coyotes, and badgers) whose burrows are often used for roosting and nesting. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage and watch for predators. In California, the burrowing owl breeding season extends from the beginning of February through the end of August.

Under the MSHCP burrowing owl is considered an adequately conserved covered species that may still require focused surveys in certain areas as designated in Figure 6-4 of the MSHCP. The project site does not occur within the MSHCP burrowing owl survey area. However, out of an abundance of caution, the project site was searched for signs of burrowing owl. Despite a systematic search of the project site, no burrowing owls or sign (i.e., pellets, feathers, castings, or whitewash) were observed during the field investigation. The majority of the project site is unvegetated, which allows for minimal line-of-sight observation favored by burrowing owls. However, there were no suitable burrows observed on site (>4 inches in diameter), and the presence of red-shouldered hawk precludes the establishment of burrowing owl within the project site. Based on this information, and as a result of current and historic on-site disturbances, and surrounding development, it was determined that burrowing owls do not have potential to occur on-site, and no focused surveys are recommended. A pre-construction burrowing owl clearance survey shall be conducted prior to ground disturbing activities to ensure burrowing owl remain absent from the project site.

Fuels Management

Section 6.4 of the MSHCP, *Fuels Management*, focuses on hazard reduction for humans and their property. It requires fuels management practices to be compatible with public safety as well as the conservation of biological resources. A project must comply with MSHCP fuels management requirements in order to be in compliance. The following are four scenarios related to brush management adjacent to the MSHCP Conservation Area.

- Where existing reserves occur adjacent to existing developed areas, the brush management zone may encroach into the MSHCP Conservation Area.
- Where Reserve Assembly proceeds adjacent to existing developed areas, MSHCP Conservation Area boundaries should be established to avoid such encroachment wherever possible. When acquiring lands, the Permittee shall evaluate fire management issues.
- In accordance with existing policies, new Development that is planned adjacent to the MSHCP Conservation Area or other undeveloped areas, brush management shall be incorporated in the Development boundaries and shall not encroach into the MSHCP Conservation Area.

- Where the Reserve Manager(s) determines that brush management is desirable within the MSHCP Conservation Area, such brush management may occur.

The project site is surrounded by existing development and is separated from Murrieta Creek by Interstate 15 and Temecula Creek by existing residential development. Therefore, fuel management activities associated within the proposed project will not encroach into the MSHCP Conservation Area and no additional analysis is required.

Habitat Evaluation and Acquisition Negotiation Strategy (Section 6.1.1 of the MSHCP)

Proposed development within a Criteria Cell is subject to review under the HANS process under Section 6.1.1 of the MSHCP. A HANS analysis will need to be prepared to ensure that the proposed project is not located within the portion of the Criteria Cell proposed for conservation. If it is determined by the Western Riverside County RCA and/or the Joint Project Review, the County, Cities, or various State and Federal Agencies that all or part of the property is needed for inclusion in the MSHCP Conservation Area, the property owner will enter into negotiations with such agencies to determine the extent of development allowed within the project site that will not significantly impact the function of the conservation areas in question.

Criteria Cell 7356

The project site lies within Criteria Cell 7356 of the Southwest Area Plan – Subunit -Murrieta Creek. Conservation within this Cell will contribute to assembly of Proposed Linkage 10 of the existing Constrained Linkage 14. Conservation within this Cell will focus on chaparral and coastal sage scrub habitat, and on riparian scrub woodland and forest habitat along Temecula creek. Areas conserved within this cell will be connected to chaparral and coastal sages scrub habitat proposed for conservation in Cell #7355 to the west, and to riparian scrub, woodland, and forest habitat proposed for conservation in Cell #7357 to the east. Conservation within this cell will range from 50 to 60 percent of the cell focusing in the western and southeastern portions of the cell.

Proposed Linkage 10

Proposed Linkage 10 consists of an upland connection in the southwest region of the Plan Area extending from Existing Core F (Santa Rosa Plateau Ecological Reserve) in the north to Existing Core G (Santa Margarita Ecological Reserve) in the south. Private lands compose the entirety of the Linkage, which consists of upland Habitat complementary to the riparian Linkage provided between these two Cores by Proposed Constrained Linkage 13 (Murrieta Creek). This Linkage, which is only somewhat constrained by existing urban Development, provides for movement between these two Cores for species such as bobcat and mountain lion. Although the Linkage is somewhat lengthy at 5.5 miles, it is also nearly a mile wide and thus provides Live-In Habitat for many species. Surrounding planned land uses are approximately evenly divided between Rural Mountainous and city (Murrieta, Temecula). In areas of the Linkage bordering Cities, treatment of edge conditions will be necessary to maintain the proper Habitat and movement functions of the Linkage.

Proposed Linkage 14

Proposed Constrained Linkage 14 consists of portions of Pechanga and Temecula Creeks, located in the southwestern region of the Plan Area. This Constrained Linkage connects Existing Core G (Santa Margarita

Ecological Reserve) and Proposed Linkage 10 in the west to Existing Linkage A in the south. This Linkage bifurcates and may be used to move directly to the east, along Temecula Creek, or to the southeast, along Pechanga Creek to Existing Linkage A. This Linkage is constrained along most of its length by existing urban Development and the planned land uses surrounding the Linkage consist almost entirely of city (Temecula). I-15 also intersects the Linkage at its western terminus. Therefore, high quality Live-In riparian Habitat must be maintained, and movement Habitat for bobcat and mountain lion must be provided, as these species are known to use the Linkage for movement. This portion of Pechanga and Temecula Creek may serve as one component of a larger movement corridor for mountain lions traveling between the Santa Ana Mountains and the Palomar Mountains. Maintenance of contiguous Habitat with appropriate refugia for resting, such as rockpiles, brushpiles, windfalls, hollow snags and hollow trees, is important for dispersal of juveniles. Maintenance of existing floodplain processes and water quality along the creek is also important for wetland species including California red-legged frog (*Rana draytonii*), arroyo chub (*Gila orcuttii*), mountain lion (*Puma concolor*), and western pond turtle (*Actinemys marmorata*).

Anticipated Impacts

Conservation Within this Cell will range from 50-60% of the Cell focusing in the western and southeastern portions of the Cell. The project site is located on the northeastern portion of Criteria Cell 7356, is surrounded by existing development, and is separated from Murrieta Creek by Interstate 15 and Temecula Creek by existing residential development. While Criteria Cell 7356 cannot achieve the low-range goal, because the location of the proposed project site is outside of the areas described for conservation, and because the proposed project site would not functionally contribute to Proposed Linkage 10 or Proposed Constrained Linkage 14, development of the proposed project would not impede the conservation goals for Proposed Linkage 10 or Proposed Constrained Linkage 14.

Stephen's Kangaroo Rat Habitat Conservation Plan

Separate from the consistency review against the policies of the MSHCP, Riverside County established a boundary in 1996 for protecting the Stephens' kangaroo rat (*Dipodomys stephensi*), a federally endangered and state threatened species. The Stephens' kangaroo rat is protected under the Stephens' Kangaroo Rat Habitat Conservation Plan (County Ordinance No. 663.10; SKR HCP). As described in the MSHCP Implementation Agreement, a Section 10(a) Permit, and California Fish and Game Code Section 2081 Management Authorization were issued to the Riverside County Habitat Conservation Agency (RCHCA) for the Long-Term SKR HCP and was approved by the USFWS and CDFW in August 1990 (RCHCA 1996). Relevant terms of the SKR HCP have been incorporated into the MSHCP and its Implementation Agreement. The SKR HCP will continue to be implemented as a separate HCP; however, to provide the greatest conservation for the largest number of Covered Species, the Core Reserves established by the SKR HCP are managed as part of the MSHCP Conservation Area consistent with the SKR HCP. Actions shall not be taken as part of the implementation of the SKR HCP that will significantly affect other Covered Species. Take of Stephens' kangaroo rat outside of the boundaries but within the MSHCP area is authorized under the MSHCP and the associated permits.

The project site is located within the Mitigation Fee Area of the SKR HCP. Therefore, the applicant will be required to pay the SKR HCP Mitigation Fee prior to development of the project site.

Conclusion

Based on the literature review and field survey, implementation of the project will have no significant impacts on federally, State, or MSHCP listed species known to occur in the general vicinity of the project site. Additionally, the project will have no effect on designated Critical Habitat because none exists within the area. No further surveys are recommended.

The storm drain will likely be considered jurisdictional by the Corps, Regional Board, and CDFW, and qualify as riparian/riverine habitat under the MSHCP. If any impacts to this storm drain occur, impacts will need to be calculated and regulatory approvals will need to be prepared and processed with the Corps, Regional Board, and CDFW, and a DBESP will need to be prepared and processed to ensure compliance with the MSHCP. The storm drain will be avoided and no impacts will occur to this feature.

With completion of the recommendations provided below and payment of the SKR HCP mitigation fee and MSHCP mitigation fee, and completion of a HANS review with the RCA to ensure the project is located outside of the conservation area for Criteria Cell 7356, development of the project will be fully consistent with the Western Riverside County MSHCP.

Recommendations

Migratory Bird Treaty Act and Fish and Game Code Compliance

Vegetation within and surrounding the project site has the potential to provide refuge cover from predators, perching sites and favorable conditions for avian nesting that could be impacted by construction activities associated with the project. Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, a nesting bird clearance survey should be conducted prior to any ground disturbance or vegetation removal activities that may disrupt the birds during the nesting season. Consequently, if avian nesting behaviors are disrupted, such as nest abandonment and/or loss of reproductive effort, it is considered “take” and is potentially punishable by fines and/or imprisonment.

If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a no-disturbance buffer. The size of the no-disturbance buffer will be determined by the wildlife biologist and will depend on the level of noise and/or surrounding anthropogenic disturbances, line of sight between the nest and the construction activity, type and duration of construction activity, ambient noise, species habituation, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the

buffer area can occur.

Burrowing Owl Pre-Construction Clearance Survey

A 30-day pre-construction burrowing owl survey shall be conducted prior to any ground disturbing activities to avoid direct take of burrowing owls, in accordance Objectives 6 of the Species Account for the Burrowing Owl included in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Please do not hesitate to contact Tom McGill at (951) 285-6014 or tmcgill@elmtconsulting.com or Travis McGill at (909) 816-1646 or travismcgill@elmtconsulting.com should you have any questions.

Sincerely,



Thomas J. McGill, Ph.D.
Managing Director



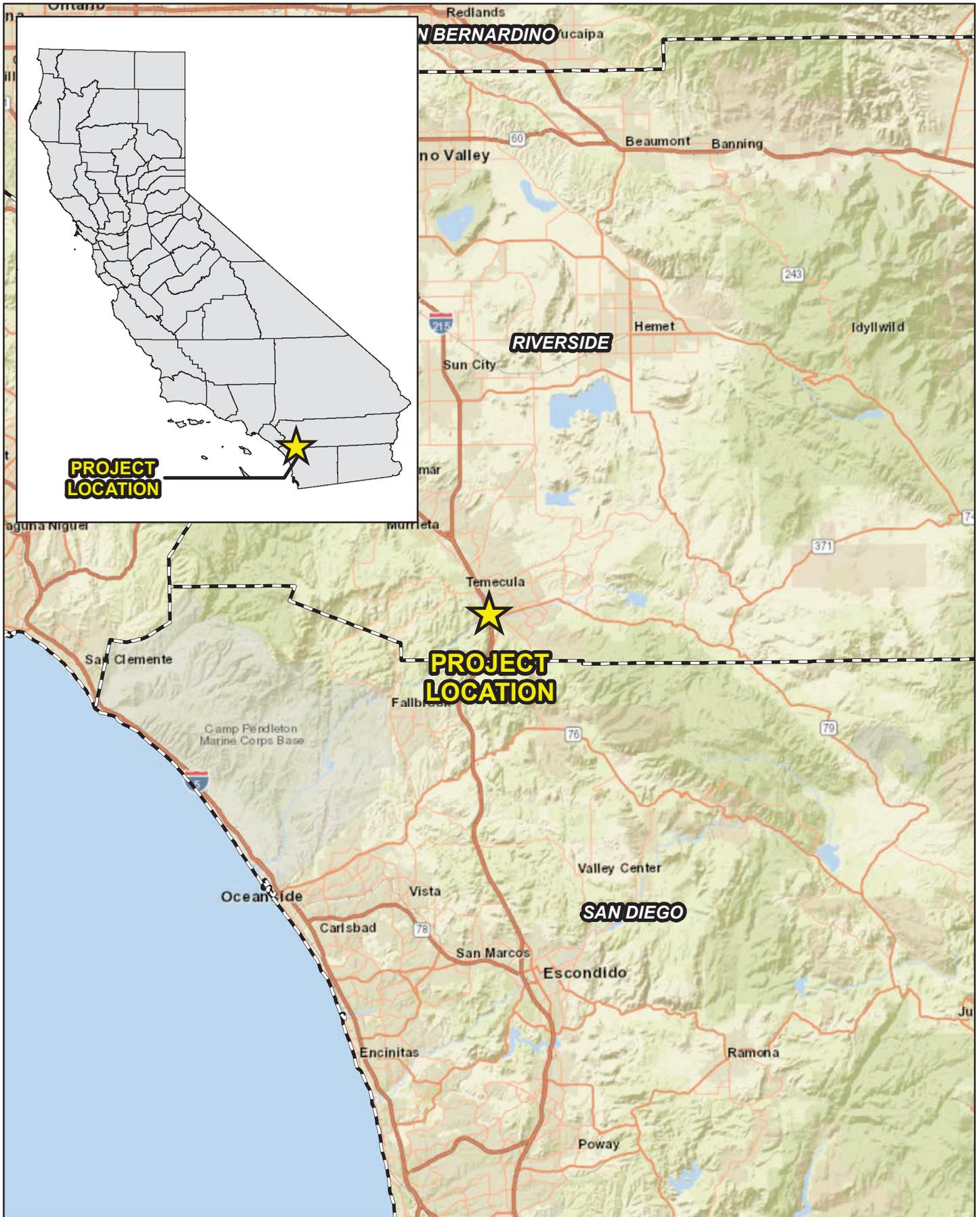
Travis J. McGill
Director

Attachments:

- A. *Project Exhibits*
- B. *Site Plan*
- C. *Site Photographs*
- D. *Potentially Occurring Special-Status Biological Resources*
- E. *Regulations*

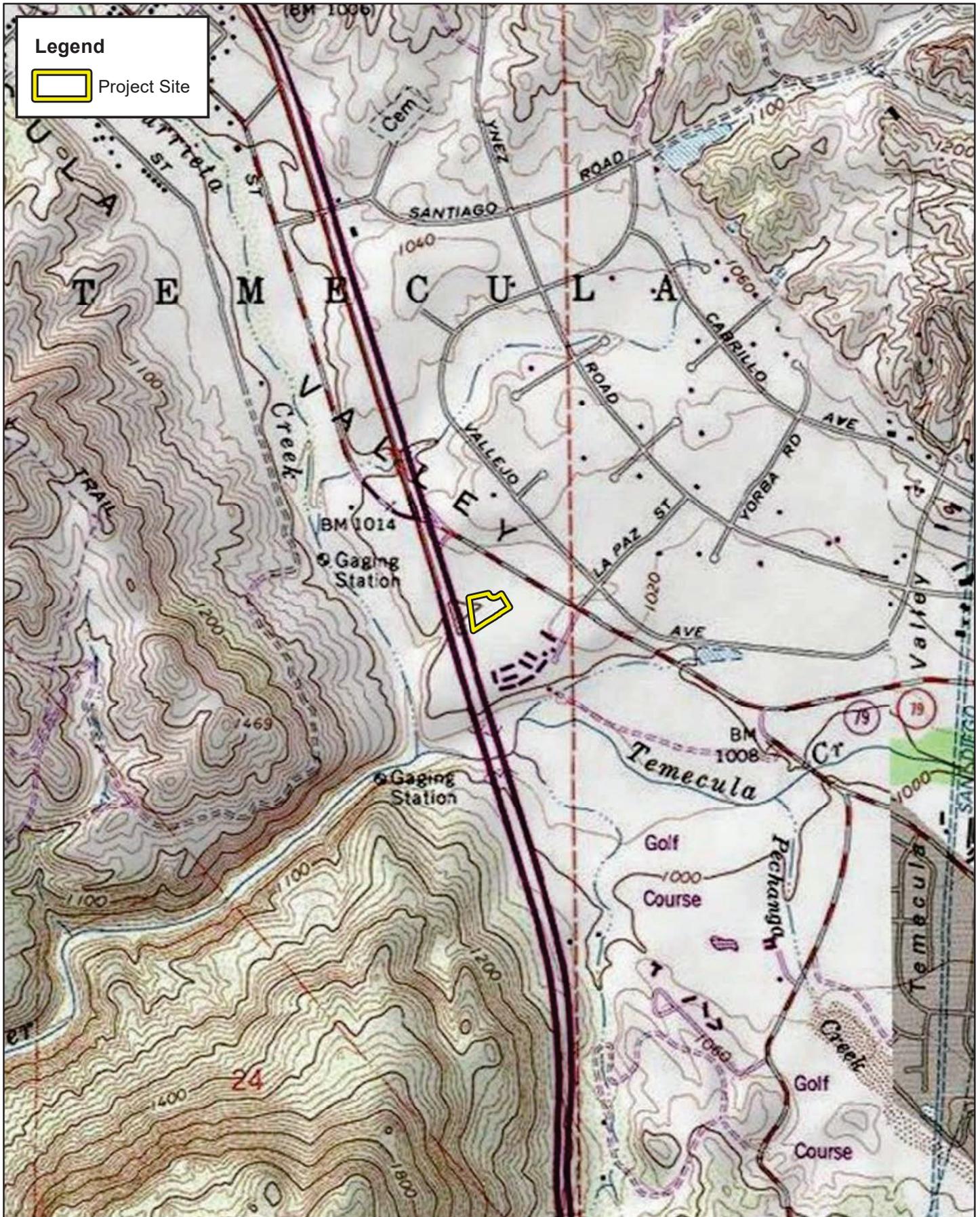
Attachment A

Project Exhibits



Source: World Street Map, Riverside County

BEDFORD COURT
 BIOLOGICAL RESOURCES ASSESSMENT
Regional Vicinity



Legend

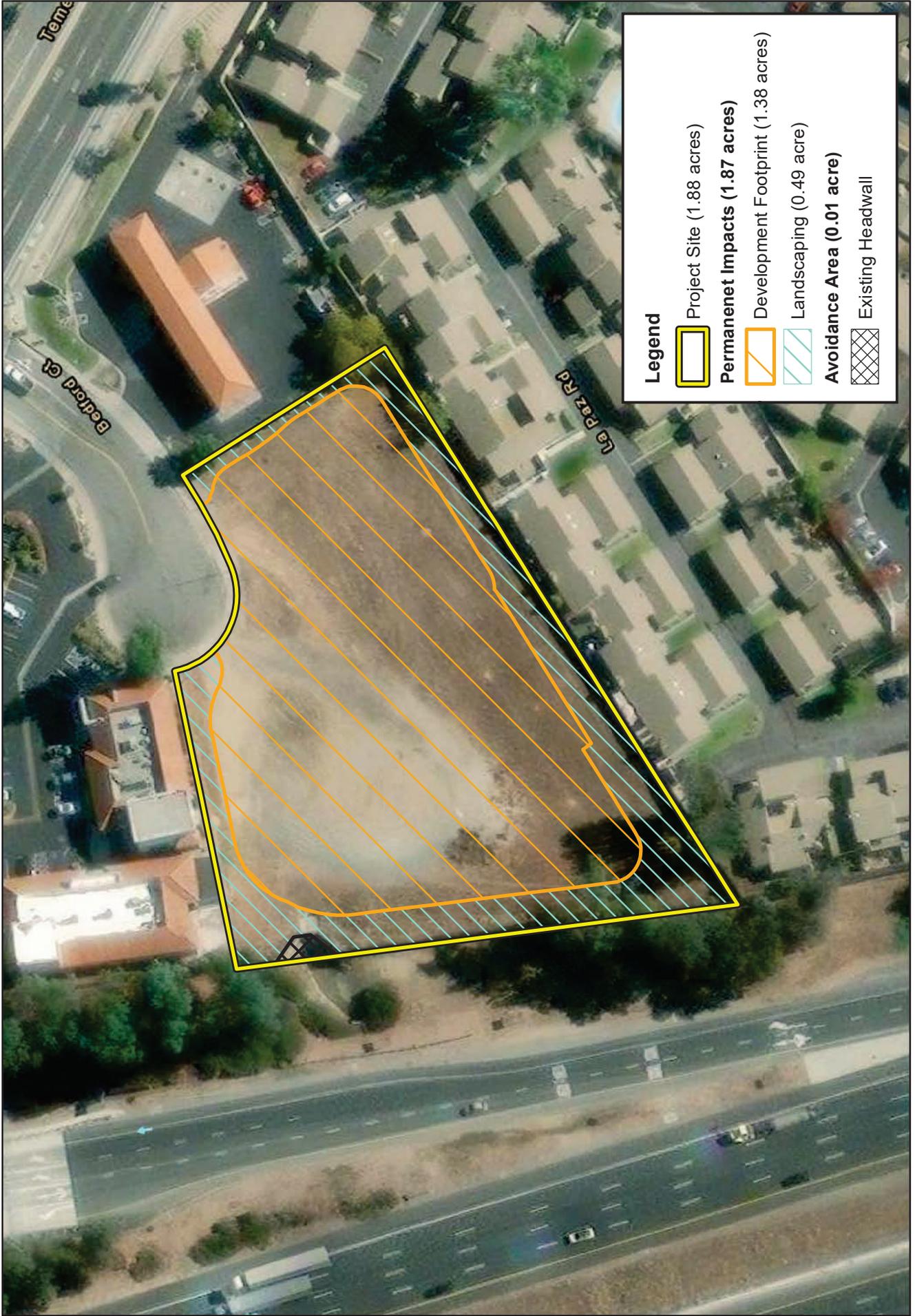
 Project Site



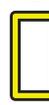
Source: USA Topographic Map, Riverside County

BEDFORD COURT
BIOLOGICAL RESOURCES ASSESSMENT

Site Vicinity



Legend

-  Project Site (1.88 acres)
-  Permanent Impacts (1.87 acres)
-  Development Footprint (1.38 acres)
-  Landscaping (0.49 acre)
-  Avoidance Area (0.01 acre)
-  Existing Headwall



Source: ESRI Aerial Imagery, Riverside County



BEDFORD COURT
 BIOLOGICAL RESOURCES ASSESSMENT
Soils

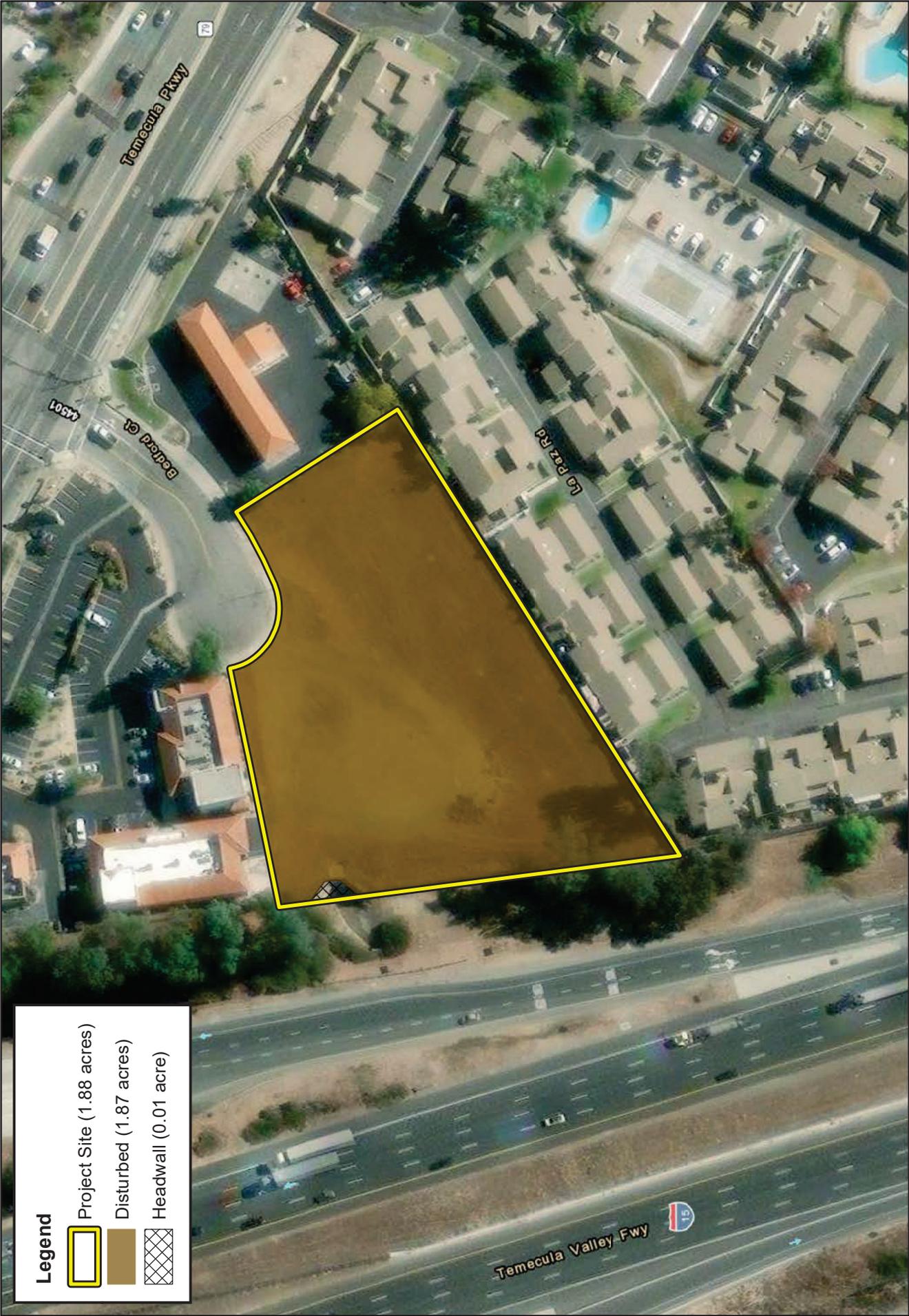
500
 Feet



125
 250



Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Riverside County

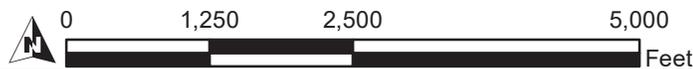
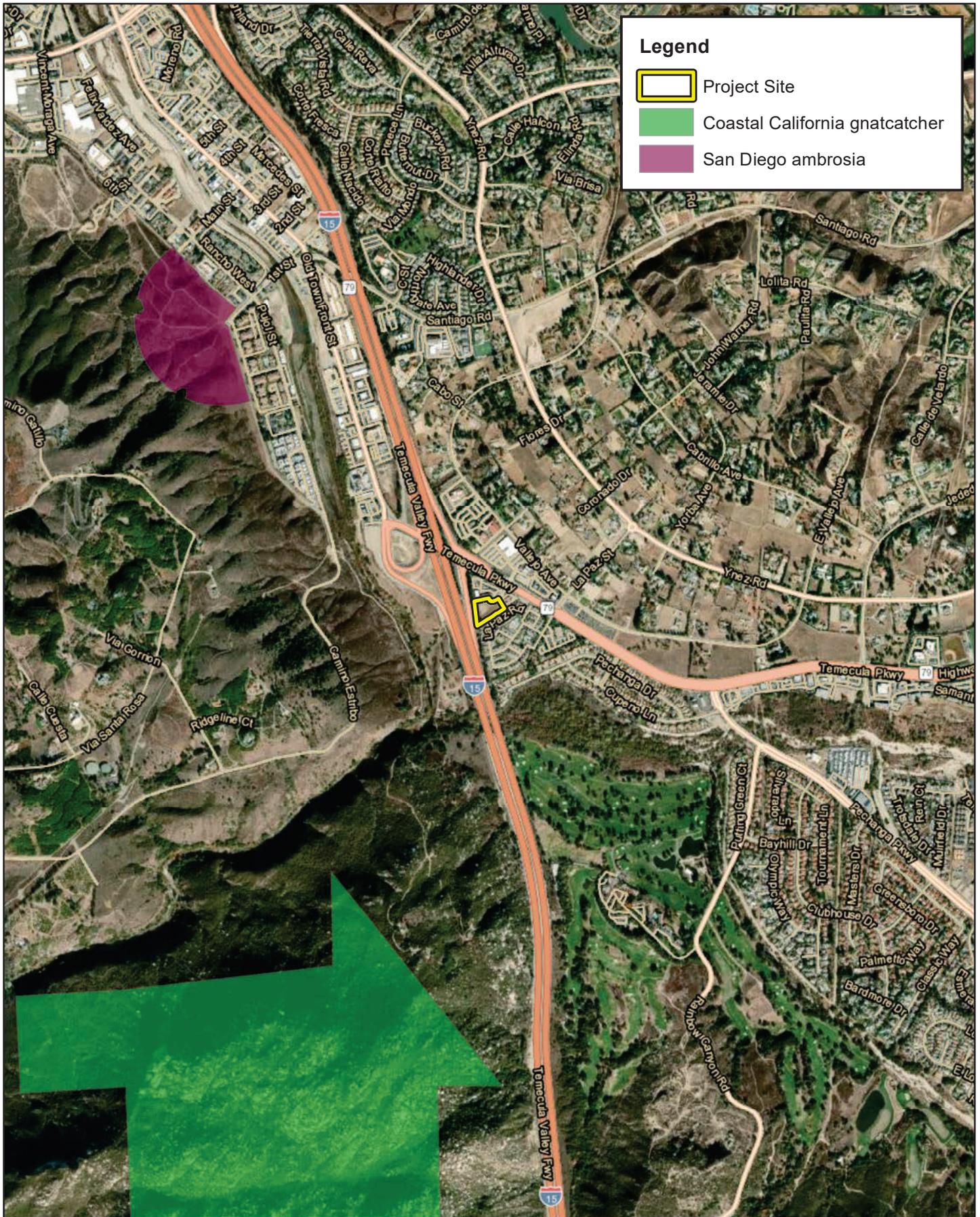


Legend

-  Project Site (1.88 acres)
-  Disturbed (1.87 acres)
-  Headwall (0.01 acre)



Source: ESRI Aerial Imagery, Riverside County



Source: ESRI Aerial Imagery, USFWS Critical Habitat, Riverside County

BEDFORD COURT
BIOLOGICAL RESOURCES ASSESSMENT

Critical Habitat

Exhibit 6



Legend

-  Project Site
-  Criteria Cells
-  PQP Conserved Lands

BEDFORD COURT
 BIOLOGICAL RESOURCES ASSESSMENT
MSHCP Criteria Area



Source: ESRI Aerial Imagery, Riverside County

Attachment B

Site Plan



A PROJECT FOR:
CATALYST
 CATALYST COMMERCIAL GROUP
 3845 CALIFORNIA STREET, SUITE 100
 RIVERVIEW, CA 92513
 Telephone: (951) 346-1000

Kimley-Horn
 © 2023 KIMLEY-HORN AND ASSOCIATES, INC.
 3865 LEMON STREET, SUITE 400,
 RIVERSIDE, CA 92501
 PHONE: 951-543-9868
 WWW.KIMLEY-HORN.COM



2/9/2023

BEDFORD COURT
 TEMECULA, CA 92592

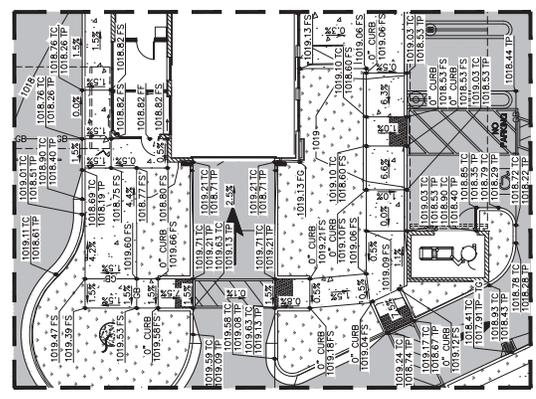
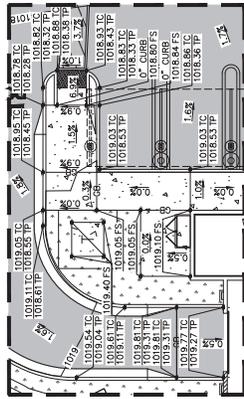
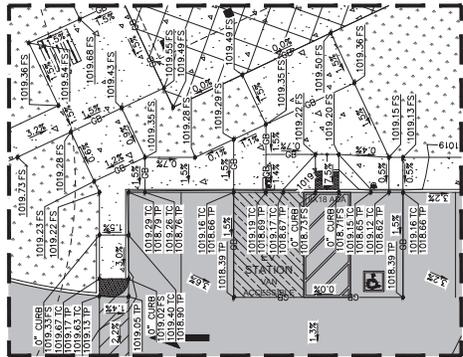
ISSUES / REVISIONS	No.	DATE	DESCRIPTION
	1	02/03/2023	1ST SUBMITTAL

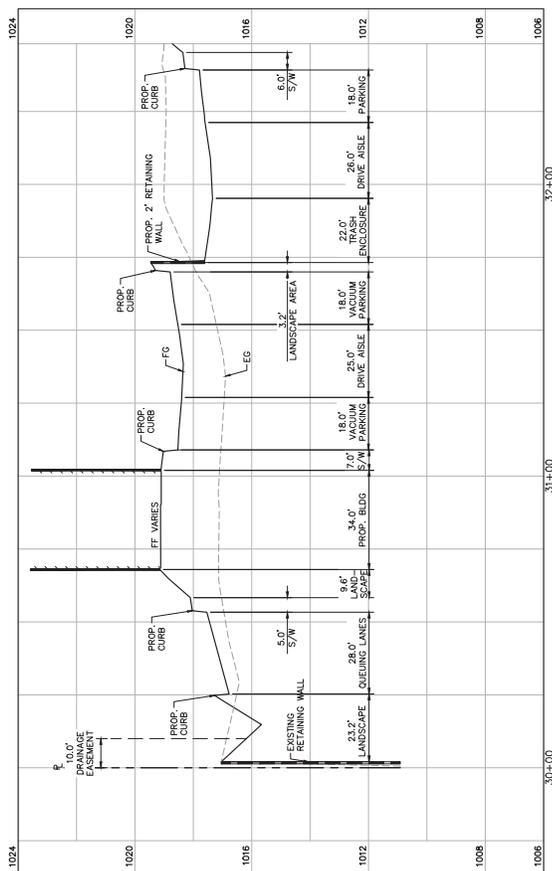
AS INSTRUMENTS OF SERVICE, ALL RECORDS, DEEDS, AND
 RECORDS OF THE COUNTY OF RIVERSIDE, CALIFORNIA, SHALL
 REMAIN THE PROPERTY OF KIMLEY-HORN AND ASSOCIATES, INC.
 AND SHALL NOT BE REPRODUCED, COPIED, OR USED
 IN CONNECTION WITH ANY WORK OF PROJECT OTHER THAN
 THAT AUTHORIZED BY KIMLEY-HORN AND ASSOCIATES, INC.
 PROJECT AND LOCALIZED WITH THE WRITTEN CONSENT
 OF KIMLEY-HORN AND ASSOCIATES, INC. ANY UNAUTHORIZED
 REPRODUCTION SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF
 VIOLATION OF THESE RESTRICTIONS.

JOB NUMBER:
 DRAWN BY: JY
 CHECKED BY: LA
 DATE: 02/03/2023
 SHEET DESCRIPTION:

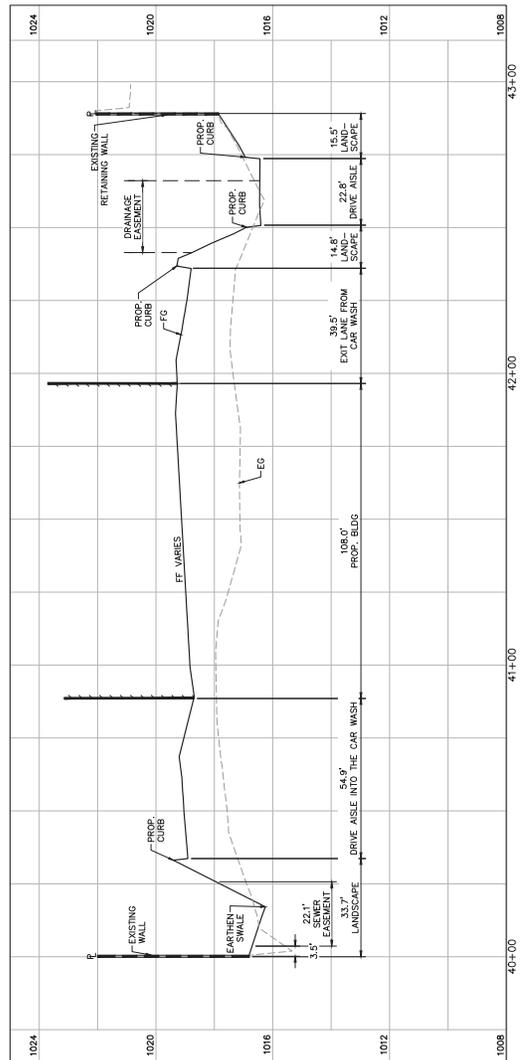
SHEET TITLE
**PRELIMINARY GRADING
 DETAILS**

SHEET NUMBER:
C2
 BASED ON SCHEME SP-03





SECTION C-C
 HORIZONTAL SCALE 1"=20'
 VERTICAL SCALE 1"=2'



SECTION D-D
 HORIZONTAL SCALE 1"=20'
 VERTICAL SCALE 1"=2'



A PROJECT FOR:
CATALYST
 CATALYST COMMERCIAL GROUP
 3880 CALIFORNIA AVENUE, SUITE 150
 RIVERSIDE, CA 92503
 Telephone: (951) 548-3000

Kimley-Horn
 © 2023 KIMLEY-HORN AND ASSOCIATES, INC.
 3880 CALIFORNIA AVENUE, SUITE 400,
 RIVERSIDE, CA 92503
 PHONE: 951-544-9868
 WWW.KIMLEY-HORN.COM



BEDFORD COURT
 TEMECULA, CA 92592

ISSUES / REVISIONS	No.	DATE	DESCRIPTION
	1	02/03/2023	1ST SUBMITTAL

AS INSTRUMENTS OF SERVICE, ALL PERSONS, DEAS, AND OTHERS SHALL BE DEEMED TO HAVE RECEIVED NOTICE OF THE PUBLIC HEARING AND TO HAVE BEEN ADVISED OF THE RIGHT TO PARTICIPATE IN THE HEARING AND TO BE HEARD. THE PUBLIC HEARING WAS CONDUCTED ON 02/03/2023 AT 10:00 AM AT THE OFFICE OF THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT, 100 WEST G STREET, TEMECULA, CA 92592. THE PUBLIC HEARING WAS OPEN TO THE PUBLIC AND ALL INTERESTED PARTIES WERE ADVISED OF THE HEARING AND TO BE HEARD. THE PUBLIC HEARING WAS CONDUCTED IN ACCORDANCE WITH THE WRITTEN CONSENT OF THE BOARD OF SUPERVISORS. THE BOARD OF SUPERVISORS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF THE FACTS AND FINDINGS OF FACTS IN THE EVENT OF ANY APPEAL OR LITIGATION.

JOB NUMBER:
 DRAWN BY: JY
 CHECKED BY: LA
 DATE: 02/03/2023
 SHEET DESCRIPTION:

SHEET TITLE
PRELIMINARY SECTIONS

SHEET NUMBER:
C4
 BASED ON SCHEME SP-03



1201 W. De Anza Boulevard, Suite 100
 San Jose, CA 95128
 Tel: 408.434.1100
 www.mma-arch.com



CATALYST COMMERCIAL GROUP
 3800 CALIFORNIA STREET, SUITE 400
 TEMECULA, CA 92592
 PHONE: (951) 545-9868
 WWW.CATALYST-CG.COM

Kimley-Horn
 © 2023 KIMLEY-HORN AND ASSOCIATES, INC.
 3865 LEMON STREET, SUITE 400,
 RIVERSIDE, CA 92501
 PHONE: 951-543-9868
 WWW.KIMLEY-HORN.COM



2/23/2023

BEDFORD COURT
 TEMECULA, CA 92592

ISSUES / REVISIONS	No.	DATE	DESCRIPTION
	1	02/03/2023	1ST SUBMITTAL

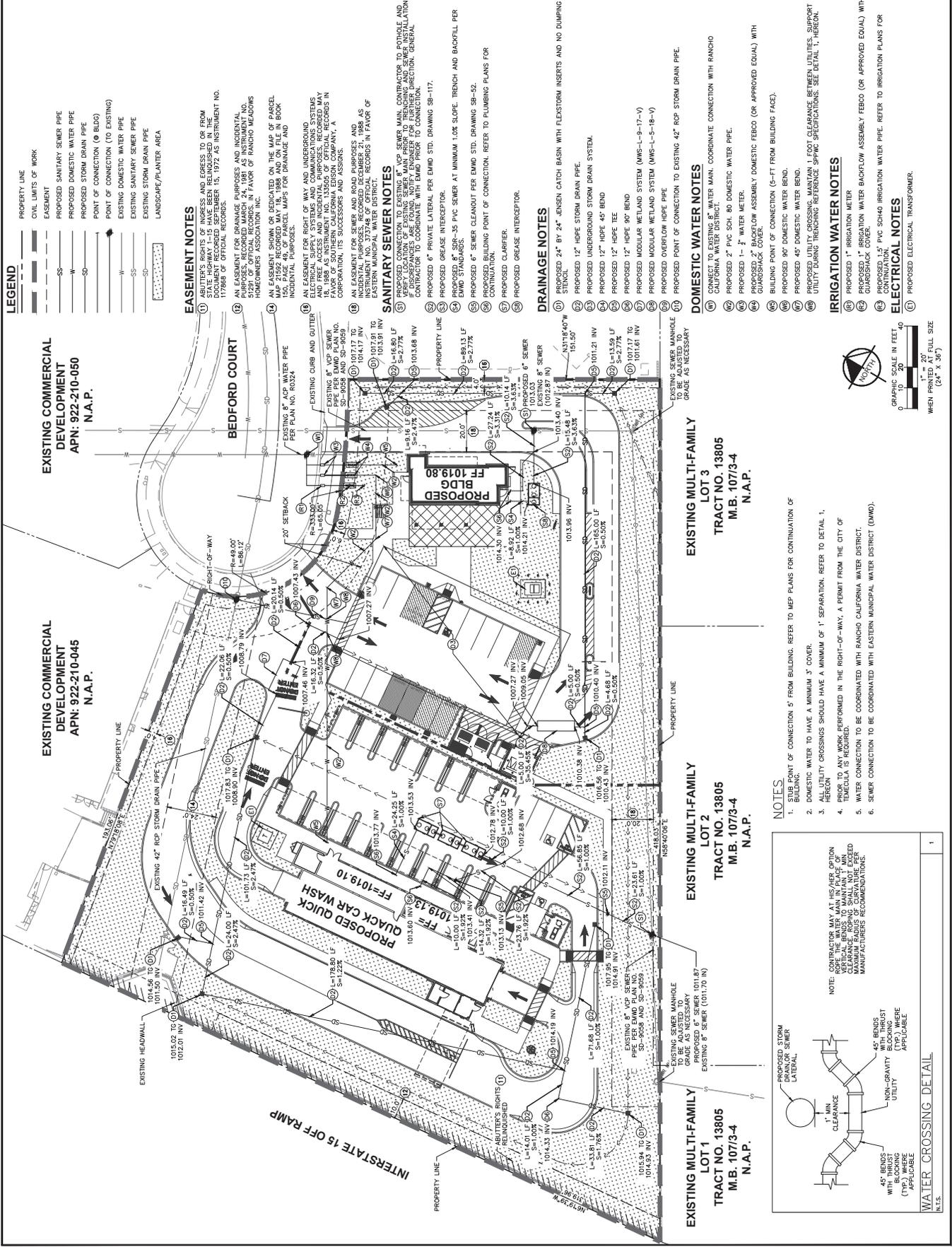
AS INSTRUMENTS OF SERVICE, ALL RECORDS, DEEDS, AND EASEMENTS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE THE ACCURACY OF THE INFORMATION PROVIDED IN CONNECTION WITH ANY WORK OF PROJECT OTHER THAN THAT SPECIFICALLY IDENTIFIED IN THE INSTRUMENTS OF SERVICE. THE ENGINEER SHALL CONDUCT A VISUAL GENERAL VERIFICATION OF THE INSTRUMENTS OF SERVICE AND SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF THE ACCURACY OF THESE INSTRUMENTS.

JOB NUMBER:
 DRAWN BY: JY
 CHECKED BY: LLA
 DATE: 02/03/2023
 SHEET DESCRIPTION:

SHEET TITLE
PRELIMINARY UTILITY PLAN

SHEET NUMBER:
C5

BASED ON SCHEME SP-03



LEGEND

—	PROPERTY LINE
—	CIVIL LIMITS OF WORK
—	EASEMENT
—	PROPOSED SANITARY SEWER PIPE
—	PROPOSED DOMESTIC WATER PIPE
—	PROPOSED STORM DRAIN PIPE
—	POINT OF CONNECTION (TO EXISTING)
—	EXISTING DOMESTIC WATER PIPE
—	EXISTING SANITARY SEWER PIPE
—	EXISTING STORM DRAIN PIPE
—	LANDSCAPE/PLANTER AREA

EASEMENT NOTES

- ABUTTER'S RIGHTS OF INGRESS AND EGRESS TO OR FROM STATE HIGHWAY 15 HAVE BEEN REINFORCED IN THE INSTRUMENT NO. 177668 OF OFFICIAL RECORDS.
- AN EASEMENT FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED MARCH 24, 1981 AS INSTRUMENT NO. 1588 AS INSTRUMENT NO. 132506 OF OFFICIAL RECORDS IN FAVOR OF RANCHO HERONS HOMEOWNERS ASSOCIATION INC.
- AN EASEMENT SHOWN OR DEDICATED ON THE MAP OF PARCEL MAP 21592 RECORDED MAY 18, 1988 AND ON FILE IN BOOK INCIDENTAL PURPOSES.
- AN EASEMENT FOR RIGHT OF WAY AND UNDERGROUND ELECTRICAL, SUPERVISED SYSTEMS AND COMMUNICATIONS SYSTEMS, RECORDED MARCH 24, 1981 AS INSTRUMENT NO. 1588 AS INSTRUMENT NO. 132506 OF OFFICIAL RECORDS IN FAVOR OF SOUTHERN CALIFORNIA Edison COMPANY, A MEMBER OF SOUTHERN CALIFORNIA GAS AND POWER ASSOCIATION INC.
- AN EASEMENT FOR PRIVATE LATERAL PER EMDM STD. DRAWING SB-17.
- PROPOSED GREASE INTERCEPTOR.
- PROPOSED 6" PVC SEWER AT MINIMUM 1.0% SLOPE, TRENCH AND BACKFILL PER EMDM STANDARDS.
- PROPOSED 8" SEWER CLEANOUT PER EMDM STD. DRAWING SB-52.
- PROPOSED BUILDING POINT OF CONNECTION, REFER TO PLUMBING PLANS FOR CONTINUATION.
- PROPOSED GREASE INTERCEPTOR.

SANITARY SEWER NOTES

- PROPOSED 24" BY 24" JENSEN CATCH BASIN WITH FLEASTORM INSERTS AND NO DUMPING.
- PROPOSED 12" HOPE STORM DRAIN PIPE.
- PROPOSED UNDERGROUND STORM DRAIN SYSTEM.
- PROPOSED 12" HOPE 45° BEND.
- PROPOSED 12" HOPE 90° BEND.
- PROPOSED 12" HOPE 90° BEND.
- PROPOSED MODULAR METLAND SYSTEM (MWS-L-9-17-V).
- PROPOSED MODULAR METLAND SYSTEM (MWS-L-5-18-V).
- PROPOSED OVERFLOW HOPE PIPE.
- PROPOSED POINT OF CONNECTION TO EXISTING 42" RCP STORM DRAIN PIPE.

DRAINAGE NOTES

- CONNECT TO EXISTING 8" WATER MAIN, COORDINATE CONNECTION WITH RANCHO CALIFORNIA WATER DISTRICT.
- PROPOSED 2" PVC SCH. 80 DOMESTIC WATER PIPE.
- PROPOSED 1" WATER METER.
- PROPOSED 2" BACKFLOW ASSEMBLY DOMESTIC WATER (OR APPROVED EQUAL) WITH GUARDSHACK COVER.
- BUILDING POINT OF CONNECTION (5-FT FROM BUILDING FACE).
- PROPOSED 80" DOMESTIC WATER BEND.
- PROPOSED 45" DOMESTIC WATER BEND.
- UTILITY DURING TRENCHING, MAINTAIN 1' FOOT CLEARANCE BETWEEN UTILITIES, SUPPORT UTILITY DURING TRENCHING, REFERENCE SPMVC SPECIFICATIONS. SEE DETAIL 1, HEREON.

IRRIGATION WATER NOTES

- PROPOSED 1" IRRIGATION WATER GUARDSHACK COVER.
- PROPOSED 1.5" PVC SCH40 IRRIGATION WATER PIPE, REFER TO IRRIGATION PLANS FOR CONTINUATION.

ELECTRICAL NOTES

- PROPOSED ELECTRICAL TRANSFORMER.

NOTES

- STUB POINT OF CONNECTION 5' FROM BUILDING, REFER TO MEP PLANS FOR CONTINUATION OF BUILDING.
- DOMESTIC WATER TO HAVE A MINIMUM 3' COVER.
- ALL UTILITY CROSSINGS SHOULD HAVE A MINIMUM OF 1' SEPARATION, REFER TO DETAIL 1, HEREON.
- NO WORK TO BE PERFORMED IN THE RIGHT-OF-WAY, A PERMIT FROM THE CITY OF TEMECULA SHALL BE OBTAINED PRIOR TO ANY WORK PERFORMED IN THE RIGHT-OF-WAY.
- WATER CONNECTION TO BE COORDINATED WITH RANCHO CALIFORNIA WATER DISTRICT.
- SEWER CONNECTION TO BE COORDINATED WITH EASTERN MUNICIPAL WATER DISTRICT (EMWD).



WATER CROSSING DETAIL

48" BENSIS WITH THURSBY BLOOMING (TYP.) WHERE APPLICABLE

NON-GRAVITY UTILITY

GRAPHIC SCALE IN FEET
 0 10 20 40
 1" = 20'
 WHEN PRINTED AT FULL SIZE (24" X 36")

Attachment C

Site Photographs



Photograph 1: From the northeast edge of the project site, looking southwest through the middle of the site.



Photograph 2: From the northwest corner of the project site, looking southeast through the middle of the site.



Photograph 3: From the northwest corner of the project site, looking west at an existing paved storm drain headwall.



Photograph 4: From an offsite area adjacent to the northwest corner of the project site, looking east toward the project site at the existing storm drain headwall.



Photograph 5: From an offsite area adjacent to the northwest corner of the project site, looking west at the storm drain headwall.



Photograph 6: From the southeast corner of the project site, looking northwest through the middle of the site.



Photograph 7: From the southwest corner of the project site, looking northeast through the middle of the site.



Photograph 8: From the southwest corner of the project site, looking east at an existing grated subsurface drainage feature along the southern boundary.



Photograph 9: Looking northwest along the northern boundary of the project site from the cul-de-sac at the end of Bedford Court there the potential drainage was noted in the JPR comments. No evidence of flow was observed following the storm events the week of 2/5/24.



Photograph 10: From the northwest corner of the project site looking west along the northern boundary on 2/14/24.



Photograph 11: From the northwest corner of the project site looking east along the northern portion of the site on 2/14/24.



Photograph 12: Evidence of sheet flow from the middle of the project site to the northwest corner of the project site. The sheet flow of water during and immediately following storm events across this portion of the site follows onsite topography that was created when the site was graded.



Photograph 13: From the northwest corner of the site looking back at the area where water sheet flows from the middle of the site to the northwest corner.



Photograph 14: View of the concrete headwall on the northwest corner of the project site, that will not be impacted from project implementation.

Attachment D

Potentially Occurring Special-Status Biological Resources

Table D-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
SPECIAL-STATUS WILDLIFE SPECIES					
<i>Accipiter cooperii</i> Cooper's hawk	Fed: None CA: WL	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	Yes	No	Moderate. Suitable foraging habitat is present on-site. This species is adapted to urban environments and occurs commonly. The project site does not provide suitable nesting opportunities.
<i>Accipiter striatus</i> sharp-shinned hawk	Fed: None CA: WL	Found in pine, fir and aspen forests. They can be found hunting in forest interior and edges from sea level to near alpine areas. Can also be found in rural, suburban and agricultural areas, where they often hunt at bird feeders. Typically found in southern California in the winter months.	Yes	No	Moderate. Suitable foraging habitat is present on-site. This species does not nest in southern California. This species is adapted to urban environments and occurs commonly.
<i>Aimophila ruficeps</i> <i>canescens</i> southern California rufous-crowned sparrow	Fed: None CA: WL	Typically found between 3,000 and 6,000 feet in elevation. Breed in sparsely vegetated scrubland on hillsides and canyons. Prefers coastal sage scrub dominated by California sagebrush (<i>Artemisia californica</i>), but they can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Anaxyrus californicus</i> arroyo toad	Fed: END CA: SSC	Typically found in sandy and/or gravelly washes and creeks with moderate in-stream vegetation dominated by willows (<i>Salix</i> sp.) and mulefat (<i>Baccharis salicifolia</i>). Will forage along the bases of in-stream vegetation or at the bases of trees, including California sycamore (<i>Platanus racemosa</i>), Fremont cottonwood (<i>Populus fremontii</i>), or oaks (<i>Quercus</i> spp.). Typically breeds in waters that are still or slowly moving, generally around six to eight inches in depth. Burrows along sandy terraces but may in some cases burrow directly in streambeds.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Anniella stebbinsi</i> southern California legless lizard	Fed: None CA: SSC	Occurs in sparsely vegetated habitat types including coastal sand dunes, chaparral, pine-oak woodland, desert scrub, open grassland, and riparian areas. Requires sandy or loose loamy substrates conducive to burrowing.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Aquila chrysaetos</i> golden eagle	Fed: None CA: FP; WL	Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Ardea alba</i> great egret	Fed: None CA: None	Yearlong resident throughout California, except for the high mountains and deserts. Feeds and rests in fresh, and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Ardea herodias</i> great blue heron	Fed: None CA: None	Forages along streams, marshes, lakes, and meadows. Nests colonially in tall trees (typically <i>Eucalyptus</i> sp.), on cliffsides, or in isolated spots in marshes.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Arizona elegans occidentalis</i> California glossy snake	Fed: None CA: None	Inhabits arid scrub, rocky washes, grasslands, and chaparral habitats.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Artemisiospiza belli belli</i> Bell's sparrow	Fed: None CA: WL	Generally prefers semi-open habitats with evenly spaced shrubs 1 – 2 meters in height. Dry chaparral and coastal sage scrub. Less common in tall dense, old chaparral.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Asio flammeus</i> short-eared owl	Fed: None CA: SSC	Suitable habitats include salt- and freshwater marshes, irrigated alfalfa or grain fields, and ungrazed grasslands and old pastures. Tule marsh or tall grasslands with cover 30 to 50 cm in height can support nesting pairs.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Aspidoscelis hyperythra</i> orangethroat whiptail	Fed: None CA: WL	Semi-arid brushy areas typically with loose soil and rocks, including washes, streambanks, rocky hillsides, and coastal chaparral.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Aspidoscelis tigris</i> <i>stejnegeri</i> coastal whiptail	Fed: None CA: SCC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Athene cunicularia</i> burrowing owl	Fed: None CA: SSC	Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon fossorial mammals for burrows, most notable ground squirrels.	Yes (c)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Bombus crotchii</i> Crotch's bumble bee	Fed: None CA: None	Colonial species that lives almost exclusively from coastal California east towards the Sierra-Cascade Crest and can be found uncommonly in western Nevada and south through Baja California. Inhabits grassland and scrub habitats in hotter and drier climates than most other bumblebee species and is only capable of tolerating a narrow range of climatic conditions. Feeds on a variety of annual and perennial plant species, classifying it as a dietary generalist. This species usually nests underground, often in abandoned rodent dens	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Buteo regalis</i> feruginous hawk	Fed: None CA: WL	Occurs primarily in open grasslands and fields, but may be found in sagebrush flats, desert scrub, low foothills, or along the edges of pinyon-juniper woodland. Feeds primarily on small mammals and typically found in agricultural or open fields.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Buteo swainsoni</i> Swainson's hawk	Fed: None CA: THR	Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Calypte costae</i> Costa's hummingbird	Fed: None CA: None	Desert and semi-desert, arid brushy foothills and chaparral. A desert hummingbird that breeds in the Sonoran and Mojave Deserts. Departs desert heat moving into chaparral, scrub, and woodland habitats.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	Fed: None CA: SSC	Occurs in desert and coastal habitats in southern California, Mexico, and northern Baja California, from sea level to at least 1,400 meters. Found in a variety of temperate habitats ranging from chaparral and grasslands to scrub forests and deserts. Requires low growing vegetation or rocky outcroppings, as well as sandy soils for burrowing.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	Fed: END CA: THR	Occur in arid and semi-arid habitats with some grass or brush. Prefer open habitats with less than 50% protective cover. Require soft, well-drained substrate for building burrows and are typically found in areas with sandy soil.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Elanus leucurus</i> white-tailed kite	Fed: None CA: FP	Occurs in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Uses trees with dense canopies for cover.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	Fed: END CA: END	Occurs in riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys, canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or are at least moist.	Yes (a)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Emys marmorata</i> western pond turtle	Fed: None CA: SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet (1,800 m).	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Eremophila alpestris actia</i> California horned lark	Fed: None CA: WL	Generally found in shortgrass prairies, grasslands, disturbed fields, or similar habitat types along the coast or in deserts. Trees are shrubs are usually scarce or absent. Generally rare in montane, coniferous, or chaparral habitats. Forms large flocks outside of the breeding season.	Yes	No	Moderate. Suitable foraging habitat is present on-site. Minimal nesting habitat.
<i>Eumops perotis californicus</i> western mastiff bat	Fed: None CA: SSC	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Gila orcuttii</i> arroyo chub	Fed: None CA: SSC	Warm streams of the Los Angeles Plain, which are typically muddy torrents during the winter, and clear quiet brooks in the summer, possibly drying up in places. They are found both in slow-moving and fast-moving sections, but generally deeper than 40 cm.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Icteria virens</i> yellow-breasted chat	Fed: None CA: SSC	Primarily found in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. Breeding habitat must be dense to provide shade and concealment. It winters south the Central America.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Nycticorax nycticorax</i> black-crowned night heron	Fed: None CA: None	Fairly common, yearlong resident in lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas, and very common locally in large nesting colonies. Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats and rarely, on kelp beds in marine sub tidal habitats. Nests and roosts in dense-foliaged trees and dense emergent wetlands.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Pandion haliaetus</i> osprey	Fed: None CA: WL	Remain close to still or slow-moving bodies of water including oceans, rivers, lakes, mangroves, coastal wetlands, lagoons, reefs, estuaries and marshes. Generally nest in high places, such as trees, power poles, or cliffs.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	Fed: None CA: SSC	Occurs in lower elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows, but instead will seek refuge under weeds and dead leaves instead.	Yes (c)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Phrynosoma blainvillii</i> coast horned lizard	Fed: None CA: SSC	Occurs in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (i.e. fire, floods, roads, grazing, fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Poliopitila californica californica</i> coastal California gnatcatcher	Fed: THR CA: SSC	Obligate resident of sage scrub habitats that are dominated by California sagebrush (<i>Artemisia californica</i>). This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland. Ranges from the Ventura County, south to San Diego County and northern Baja California and it is less common in sage scrub with a high percentage of tall shrubs. Prefers habitat with more low-growing vegetation.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Salvadora hexalepis</i> <i>virgulata</i> coast patch-nosed snake	Fed: None CA: SSC	Found in brushy or shrubby vegetation along the coast and requires small mammal burrows for refuge and overwintering.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Setophaga petechia</i> yellow warbler	Fed: None CA: SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Spea hammondi</i> western spadefoot	Fed: None CA: SSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Streptocephalus woottoni</i> Riverside fairy shrimpp	Fed: END CA: None	Restricted to deep, long-lived vernal pools, ephemeral ponds, and human-derived depressions such as drainage ditches. All known habitat lies within annual grasslands which may be interspersed with chaparral or coastal sage scrub vegetation.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Vireo bellii pusillus</i> least Bell's vireo	Fed: END CA: END	Primarily occupy Riverine riparian habitat that typically feature dense cover within 1 -2 meters of the ground and a dense, stratified canopy. Typically it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodlands, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses, 2,000 feet elevation in the interior.	Yes (a)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Xanthocephalus</i> <i>xanthocephalus</i> yellow-headed blackbird	Fed: None CA: SSC	Uncommon yearlong resident of southern California throughout freshwater emergent wetlands, and moist, open areas along agricultural areas, and mudflats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the border of lakes and ponds.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
SPECIAL-STATUS PLANT SPECIES					
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	Fed: None CA: None CNPS: 1B.1	Grows in sandy soils in coastal sage scrub and in chaparral habitats. Grows in elevation from 262 to 5,249 feet. Blooming period ranges from January to September.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Allium marinii</i> Yucaipa onion	Fed: None CA: None CNPS: 1B.1	Grows in clay soils and openings within chaparral habitats. Found at elevations ranging from 2,495 to 3,495 feet. Blooming period is from April to May.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Amutaster pauciflorus</i> alkali marsh aster	Fed: None CA: None CNPS: 2B.1	Grows in alkaline soils within meadows and seeps habitats. Found at elevations ranging from 785 to 2,625 feet. Blooming period is from June to October.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Ambrosia pumila</i> San Diego ambrosia	Fed: END CA: None CNPS: 1B.1	Grows in alkaline (sometimes), clay (sometimes), disturbed areas (often), loam (sometimes), sandy (sometimes) areas within chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools Occurs in freshwater wetland, coastal sage scrub, chaparral, and valley grassland communities. Can be found growing on the upper terraces of rivers and drainages, and in more open areas of a variety of communities. Occasionally found in areas adjacent to vernal-pools. Found at elevations ranging from 65 to 1,360 feet. Blooming period is from April to October.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Arctostaphylos rainbowensis</i> Rainbow manzanita	Fed: END CA: END CNPS: 1B.1	Grows within chaparral habitats. Found at elevations ranging from 675 to 2,200 feet. Blooming period is from December to March.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Astragalus pachyypus</i> var. <i>jaegeri</i> Jaeger's milk-vetch	Fed: END CA: None CNPS: 1B.1	Found in only a few places in Riverside County and within the Cleveland and San Bernardino National Forests. Grows in rocky (sometimes), sandy (sometimes) areas within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Found at elevations ranging from 1,200 to 3,200 feet. Blooming period is from December to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Berberis nevii</i> Nevin's barberry	Fed: END CA: END CNPS: 1B.1	Grows in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Usually found on steep, north facing slopes or in low grade sandy washes. Grows in elevation from 197 to 3,904 feet. Blooming period ranges from March to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	Fed: None CA: None CNPS: 1B.1	Occurs mostly on mesic, clay habitats and sometimes in serpentine soils. Usually found in vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows and seeps, and other small drainages. Found at elevations ranging from 98 to 5,561 feet. Blooming period ranges from May to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Caulanthus simulans</i> Payson's jewelflower	Fed: None CA: None CNPS: 4.2	Occurs on granitic sandy soils in chaparral and coastal scrub habitats. Found at elevations ranging from 295 to 7,218 feet. Blooming period is from February to June.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Ceanothus ophiocilius</i> Vail Lake ceanothus	Fed: THR CA: END CNPS: 1B.1	Grows in chaparral in gabbroic or pyroxenite-rich outcrops. Found growing at elevations ranging from 1,903 to 3,494 feet in elevation. Blooming period is from February to March.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Centromadia pungens</i> ssp. <i>laevis</i> smooth tarplant	Fed: None CA: None CNPS: 1B.1	Found in alkaline soils within chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland habitats. Found at elevations ranging from 0 to 2,100 feet. Blooming period is from April to September.	Yes (d)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i> Orcutt's pincushion	Fed: None CA: None CNPS: 1B.1	Grows in cracks in limestone or rocky soils of broken mountainous terrain in desert scrub, grassland, and oak woodland communities at elevations ranging from 5,200 to 6,000 feet. Blooms from January to August.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Chorizanthe leptotheca</i> Peninsular spineflower	Fed: None CA: None CNPS: 4.2	Found in granitic soils within chaparral, coast scrub, and lower montane coniferous forest habitats. Found at elevations ranging from 984 to 6,234 feet. Blooming period is from May to August.	Yes (e)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i> long-spined spineflower	Fed: None CA: None CNPS: 1B.2	Typically found on clay lenses which are largely devoid of shrubs. Can be found on the periphery of vernal pool habitat and even on the periphery of montane meadows near vernal seeps. Grows in elevation from 98 to 5,020 feet. Blooming period ranges from April to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Clarkia delicata</i> delicate clarkia	Fed: None CA: None CNPS: 1B.2	Often found on gabbroic soils within cismontane woodland and chaparral. Found at elevations ranging from 771 to 3,281 feet. Blooming period is from April to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Clinopodium chandleri</i> San Miguel savory	Fed: None CA: None CNPS: 1B.2	Known to grow in shady areas of riparian habitat, but can also be found in coastal sage scrub, foothill woodland, chaparral, and valley grassland communities. Blooms from May to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Deinandra paniculata</i> paniculate tarplant	Fed: None CA: None CNPS: 4.2	Typically found in vernal mesic, sometimes sandy soils in coastal scrub, valley and foothill grasslands, and vernal pools. Found at elevations ranging from 82 to 3,084 feet. Blooming period is from April to November.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Diplacus clevelandii</i> Cleveland's bush monkeyflower	Fed: None CA: None CNPS: 4.2	Native to the Peninsular ranges where it grows in chaparral and woodland habitat. Found at elevations ranging from 1,740 to 7,515 feet. Blooming period is from April to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Dodecathema leptoceras</i> slender-horned spineflower	Fed: END CA: END CNPS: 1B.1	Chaparral, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes. Found at elevations ranging from 1,181 to 2,690 feet. Blooming period is from April to June.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Dudleya viscida</i> sticky dudleya	Fed: None CA: None CNPS: 1B.2	Grows in rocky areas within chaparral, cismontane woodland, coastal bluff scrub, and coastal scrub habitats. Found at elevations ranging from 35 to 1,805 feet. Blooming period is from May to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Erythranthe diffusa</i> Palomar monkeyflower	Fed: None CA: None CNPS: 4.3	Grows in sandy or gravelly soils in chaparral and lower montane coniferous forest habitats. Found at elevations ranging from 4,003 to 6,004 feet. Blooming period ranges from April to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i> Mission Canyon bluecup	Fed: None CA: None CNPS: 3.1	Found in chaparral habitats in open, grassy places. Also can be found in disturbed areas. Grows in elevation ranging from 820 to 3,379 feet. Blooming period ranges from April to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	Fed: None CA: None CNPS: 4.2	Occurs on clay soils in chaparral, coastal scrub, and valley and foothill grasslands habitats. Grows in elevation from 66 to 3,133 feet. Blooming period ranges from March to May.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> curving tarplant	Fed: None CA: None CNPS: 4.2	Grows within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Found at elevations ranging from 195 to 3,610 feet. Blooming period is from May to November.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	Fed: None CA: None CNPS: 1B.1	Occurs on sandy or gravelly soils in chaparral, woodlands, and coastal scrub plant communities. Found at elevations ranging from 230 to 2,657 feet. Blooming period is from February to September.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Juglans californica</i> southern California black walnut	Fed: None CA: None CNPS: 4.2	Occurs in alluvial soils in chaparral, cismontane woodland, coastal scrub, and riparian woodlands. From 15 to 5,875 feet in elevation. Blooming period is from May to June.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	Fed: None CA: None CNPS: 1B.1	Prefers playas, vernal pools, and coastal salt marshes and swamps. Found at elevations ranging from 3 to 4,003 feet. Blooming period is from February to June.	Yes (d)	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Lathyrus splendens</i> pride-of-California	Fed: None CA: None CNPS: 4.3	Occurs in highly vegetated chaparral. Found at elevations to 3,444 feet. Blooming period is from March to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Lepechinia cardiophylla</i> heart-leaved pitcher sage	Fed: None CA: None CNPS: 1B.2	Occurs in closed-cone coniferous forest, chaparral, and cismontane woodland. From 1,706 to 4,495 feet in elevation. Blooming period ranges from April to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	Fed: None CA: None CNPS: 4.3	Dry soils on chaparral and coastal sage scrub. Found at elevations ranging from 3 to 2,904 feet. Blooming period is from January to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ocellated Humboldt lily	Fed: None CA: None CNPS: 4.2	Occurs in openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland. Found at elevations ranging from 98 to 5,906 feet. Blooming period is from March to August.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i> small-flowered microseris	Fed: None CA: None CNPS: 4.2	Found in clay soils within cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Found at elevations ranging from 49 to 3,511 feet. Blooming period ranges from March to May.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Mitelchoferia shevockii</i> Shevock's copper moss	Fed: None CA: None CNPS: 1B.2	Generally found in cismontane woodland habitats in mesic, metamorphic, and rocky soils. Can also be found growing on rocks along roadsides. Elevation ranges from 2,460 to 4,595 feet.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Monardella hypoleuca</i> <i>ssp. intermedia</i> intermediate monardella	Fed: None CA: None CNPS: 1B.3	Found in lower montane coniferous forest and chaparral plant communities. Found at elevations ranging from 1,312 to 4,101 feet. Blooming period is from April to September.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Monardella hypoleuca</i> <i>ssp. lanata</i> Felt leaved rock mint	Fed: None CA: None CNPS: 1B.2	Found in chaparral and cismontane woodland plant communities. Found at elevations ranging from 985-5,170 feet. Blooming period is from June to August.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Monardella macrantha</i> <i>ssp. hallii</i> Hall's monardella	Fed: None CA: None CNPS: 1B.3	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley & foothill grassland. Found at elevations ranging from 2,395 to 7,201 feet. Blooming period is from June to October.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Navarretia fossalis</i> spreading navarretia	Fed: THR CA: None CNPS: 1B.1	Found in chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools. Grows in elevation from 98 to 2,149 feet in elevation. Blooming period ranges from April to June.	Yes	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Nolina cismontana</i> chaparral nolina	Fed: None CA: None CNPS: 1B.2	Generally associated with sandstone or gabbro soils in chaparral and coastal scrub. Found at elevations ranging from 459 to 4,183 feet. Blooming period ranges from March to July.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Packera ganderi</i> Gander's ragwort	Fed: None CA: Rare CNPS: 1B.2	Occurs in chaparral in recently burned areas or in gabbro outcrops. Found at elevations ranging from 1,312 to 3,937 feet. Blooming period is from April to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	Fed: None CA: None CNPS: 4.3	Occurs in chaparral, cismontane woodland, and riparian woodland. Found at elevations ranging from 328 to 3,281 feet. Blooming period is from May to August.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	Fed: None CA: None CNPS: 2B.2	Grows in sandy, gravelly soils within chaparral, cismontane woodland, coastal scrub, and riparian woodlands habitats. Grows in elevation from 0 to 6,890 feet in elevation. Blooming period ranges from (July) August to November (December).	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Quercus engelmannii</i> Engelmann oak	Fed: None CA: None CNPS: 4.2	Occurs in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Found at elevations ranging from 164 to 4,265 feet. Blooming period is from March to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Salvagilia latimeri</i> Latimer's woodland-gilia	Fed: None CA: None CNPS: 1B.2	Habitats include chaparral, Mojavean desert scrub, pinyon and juniper woodland. Prefers rocky or sandy, often granitic soils. Found at elevations ranging from 1,310 to 6,235 feet. Blooming period is from March to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Selaginella cinerascens</i> ashy spike-moss	Fed: None CA: None CNPS: 4.1	Grows within chaparral and coastal scrub habitats. Found at elevations ranging from 65 to 2,100 feet.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Senecio aphanactis</i> chaparral ragwort	Fed: None CA: None CNPS: 1B.2	Found in alkaline (sometimes) soils in chaparral, cismontane woodland, and coastal scrub habitats. Found at elevations ranging from 50 to 2,625 feet. Blooming period is from January to April.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Sidalcea neomexicana</i> Salt Spring checkerbloom	Fed: None CA: None CNPS: 2B.2	Grows in alkaline, mesic soils within chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas habitats. Found at elevations ranging from 50 to 5,020 feet. Blooming period is from March to June.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Tetracoccus dioicus</i> Parry's tetracoccus	Fed: None CA: None CNPS: 1B.2	Grows within chaparral and coastal scrub habitats. Found at elevations ranging from 492 to 3,281 feet. Blooming period is from April to May.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
<i>Tortula californica</i> California screw moss	Fed: None CA: None CNPS: 1B.2	Grows in sandy soils within chenopod scrub and valley and foothill grassland habitats. Found at elevations ranging from 35 to 4,790 feet.	No	No	Presumed absent. No suitable habitat is present within or adjacent to the project site.
SPECIAL-STATUS HABITATS					
Southern Willow Scrub	CDFW Sensitive Habitat	Dense, broadleaved, winter-deciduous riparian thickets dominated by several willow species, with scattered emergent Fremont's cottonwood and California sycamore. Most stands are too dense to allow much understory development. Loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This early seral type required repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest.	NA	No	Absent

U.S. Fish and Wildlife Service (Fed) - Federal	California Department of Fish and Wildlife (CA) - California	California Native Plant Society (CNPS)	CNPS Threat Ranks	Western Riverside County MSHCP
END- Federal Endangered	END- California Endangered	1B Plants Rare, Threatened, or Endangered in California and Elsewhere	0.1- Seriously threatened in California	Yes- Fully covered
THR- Federal Threatened	THR- California Threatened Candidate- Candidate for listing under the California Endangered Species Act	2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere	0.2- Moderately threatened in California	No- Not covered
	FP- California Fully Protected	3 Plants About Which More Information is Needed – A Review List	0.3- Not very threatened in California	Yes (a)- May require surveys under MSHCP Section 6.1.2
	SSC- Species of Special Concern WL- Watch List	4 Plants of Limited Distribution – A Watch List		Yes (b)- May require surveys under MSHCP Section 6.1.3
				Yes (c)- May require surveys under MSHCP Section 6.3.2
				Yes (d)- May require surveys under MSHCP Section 6.3.2
				Yes (e)- Conditionally covered pending the achievement of species-specific conservation measures

Attachment E

Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). Section 9 of the ESA prohibits “take” of threatened or endangered species. “Take” under the ESA is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in “take” of the species or its habitat. Under the regulations of the ESA, the United States Fish and Wildlife Service (USFWS) may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an ESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines “endangered” and “rare” species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, “endangered” species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the

absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

- 1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere
- 1B- Plants Rare, Threatened, or Endangered in California and Elsewhere

- 2A- Plants Presumed Extirpated in California, But More Common Elsewhere
- 2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3- Plants about Which More Information is Needed - A Review List
- 4- Plants of Limited Distribution - A Watch List

Threat Ranks

- .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 / moderate degree and immediacy of threat)
- .3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

Local Regulations

Western Riverside County MSHCP

The MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue “take” authorizations for all species covered by the MSHCP, including state- and federal-listed species as well as other identified sensitive species and/or their habitats. Each city or local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the County and compliance with the survey requirements of the MSHCP where required, full mitigation in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and FESA will be granted. The Development Mitigation Fee varies according to project size and project description. The fee for industrial development is \$7,382 per acre (County Ordinance 810.2). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, CESA, and FESA for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the USFWS, the CDFW, and/or any other appropriate participating regulatory agencies and as set forth in the IA for the MSHCP.

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

In accordance with the Revised Definition of “Waters of the United States”; Conforming (September 8, 2023), “waters of the United States” are defined as follows:

(a) ***Waters of the United States*** means:

(1) Waters which are:

- (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (ii) The territorial seas; or
- (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under [paragraph \(a\)\(5\)](#) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

- (i) Waters identified in [paragraph \(a\)\(1\)](#) of this section; or
- (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section

(b) The following are not “waters of the United States” even where they otherwise meet the terms of [paragraphs \(a\)\(2\)](#) through [\(5\)](#) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted

cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow.

(c) In this section, the following definitions apply:

(1) **Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) **Adjacent** means having a continuous surface connection

(3) **High tide line** means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) **Ordinary high water mark** means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(5) **Tidal waters** means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake;
- or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state’s authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although “waste” is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

Appendix C
Joint Project Review



4080 Lemon St. 3rd Fl. Riverside, CA 92502
Mailing Address: P.O. Box 12008 Riverside, CA 92502-2208
951.787.7141 • wrc-rca.org

March 18, 2024

Eric Jones
City of Temecula
41000 Main Street
Temecula, California 92590

Dear Mr. Jones:

Please find the following JPR attached:

JPR 23-01-28-01. The Local Identifier is LR22-1107 / Bedford Court Car Wash HANS. The JPR file attached includes the following:

- RCA JPR Findings
- Exhibit A, Regional
- Exhibit B, Vicinity Map with MSHCP Schematic Cores and Linkages
- Exhibit C, MSHCP 1994 Baseline Vegetation
- Exhibit D, Soil
- Exhibit E, Project Detail

Thank you,

Tricia Campbell

Western Riverside County Regional Conservation Authority

cc: Karin Cleary-Rose
U.S. Fish and Wildlife Service
777 East Tahquitz Canyon Way,
Suite 208
Palm Springs, California 92262

Carly Beck
California Dept. of Fish and Wildlife
3602 Inland Empire Blvd. #C220
Ontario, California 91764



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

Project Information

Permittee: City of Temecula
 Case Information: LR22-1107 / Bedford Court Car Wash HANS
 Site Acreage: 1.9 acres (1.9 acres permanent and less than 0.1-acre avoidance)
 Portion of Site Proposed for MSHCP Conservation Area: 0 acre

Criteria Consistency Review

Consistency Conclusion: *The project is consistent with both the Criteria and Other Plan requirements with implementation of the measures presented in these Findings (including any within the project information provided to the Regional Conservation Authority by the Permittee for this JPR).*

Applicable Core/Linkage: Proposed Linkage 10 and Proposed Constrained Linkage 14

Area Plan: Southwest Area Plan

APN	Sub-Unit	Cell Group	Cell
922-210-042	SU1 - Murrieta Creek	N/A	7356

Project Information

- a. **Project Documentation.** JPR submittal materials provided by the Permittee included a JPR Application Form (January 26, 2023); a City of Temecula HANS Application (December 22, 2022); a Site Plan prepared by MMA Architecture (March 2024); a Biological Resources Assessment for the Proposed Bedford Court Project (*Assessment*; January 4, 2023) prepared by ELMT Consulting, and GIS shapefiles (March 2024).
- b. **Project Location.** The project site is located in the southwestern portion of the City of Temecula, east of Interstate 15 (I-15), south and west of State Route 79 (SR-79), and north of Pechanga Drive (Exhibit A). More specifically, the project site is just south of the intersection of SR-79 and Bedford Court (Exhibit E). The project site is located in the southwestern portion of the MSHCP Area (Exhibit B).
- c. **Project Description.** The project includes the construction of an express carwash and a coffee drive-thru. The project site is vacant, undeveloped lands that is considered disturbed and is relatively flat with elevations ranging from 1,014 to 1,025 feet above mean sea level. Common species observed on site include ripgut



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

brome (*Bromus diandrus*), puncturevine (*Tribulus terrestris*), Mediterranean mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), stinknet (*Oncosiphon pilulifer*), filaree (*Erodium cicutarium*), common cryptantha (*Cryptantha intermedia*), and telegraph weed (*Heterotheca grandiflora*). According to the *Assessment*, there is a small area of riparian vegetation that occurs immediately outside of the northwest corner of the project site, along the northbound I-15 off-ramp to SR-79. This riparian vegetation is concentrated around an existing storm drain outlet. MSHCP baseline vegetation communities (1994) within the site consist of developed or disturbed land (Exhibit C). Soil series within the project site include Ramona and Buren loams, 5 to 15 percent slopes, eroded (Exhibit D). According to the *Assessment*, soils on the proposed project site have been disturbed and heavily compacted from historic land uses (i.e., grading, routine weed abatement, illegal dumping, and staging and stockpiling activities from the surrounding development) since at least 1978.

The project includes on-site development of 1.9 acres. All impacts are permanent, the project does not propose any temporary or off-site impacts (Exhibit E). All staging of equipment and construction materials will be located within the development footprint. No weed abatement/fuel modification zones are proposed or required.

Relation to Reserve Assembly

- a. **Reserve Assembly Summary.** As stated in Section 3.2.3 of the MSHCP, “Proposed Linkage 10 consists of an upland connection in the southwest region of the Plan Area extending from Existing Core F (Santa Rosa Plateau Ecological Reserve) in the north to Existing Core G (Santa Margarita Ecological Reserve) in the south. Private lands compose the entirety of the Linkage, which consists of upland Habitat complementary to the riparian Linkage provided between these two Cores by Proposed Constrained Linkage 13 (Murrieta Creek). This Linkage, which is only somewhat constrained by existing urban Development, provides for movement between these two Cores for species such as bobcat and mountain lion. Although the Linkage is somewhat lengthy at 5.5 miles, it is also nearly a mile wide and thus provides Live-In Habitat for many species. Surrounding planned land uses are approximately evenly divided between Rural Mountainous and city (Murrieta, Temecula). In areas of the Linkage bordering Cities, treatment of edge conditions will be necessary to maintain the proper Habitat and movement functions of the Linkage.”

“Proposed Constrained Linkage 14 consists of portions of Pechanga and Temecula Creeks, located in the southwestern region of the Plan Area. This Constrained Linkage connects Existing Core G (Santa Margarita Ecological Reserve) and Proposed Linkage 10 in the west to Existing Linkage A in the south. This Linkage bifurcates and may be used to move directly to the east, along Temecula Creek, or to the southeast, along Pechanga Creek to Existing Linkage A. This Linkage is constrained along most of its length by existing urban Development and the planned land uses surrounding the Linkage consist almost entirely of city (Temecula). I-15 also intersects the Linkage at its western terminus. Therefore, high quality Live-In riparian Habitat must be maintained, and movement Habitat for bobcat and mountain lion must be provided, as these species are known to use the Linkage for movement. This portion of Pechanga and Temecula Creek may



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

serve as one component of a larger movement corridor for mountain lions traveling between the Santa Ana Mountains and the Palomar Mountains. A Linkage between these two mountain ranges would reduce the risk of extirpation of the Santa Ana Mountains population of mountain lion, which was considered to be "demographically unstable" without a movement connection (Beier 1993). Maintenance of contiguous Habitat with appropriate refugia for resting, such as rockpiles, brush piles, windfalls, hollow snags and hollow trees, is important for dispersal of juveniles. Maintenance of existing floodplain processes and water quality along the creek is also important for wetland species..."

The project site is located within Cell 7356, independent of a Cell Group. As stated in Section 3.3.15 of the MSHCP, "Conservation within this Cell will contribute to assembly of Proposed Linkage 10 and Proposed Constrained Linkage 14. Conservation within this Cell will focus on chaparral and coastal sage scrub habitat and on riparian scrub, woodland, and forest habitat along Temecula Creek. Areas conserved within this Cell will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell 7355 to the west and to riparian scrub, woodland and forest habitat proposed for conservation in Cell 7357 to the east. Conservation within this Cell will range from 50% to 60% of the Cell focusing in the western and southeastern portions of the Cell."

Cell 7356 totals approximately 153.9 acres. Using the low-range conservation goal (50%), approximately 77.0 acres are described for conservation and Cell 7356 cannot achieve this goal. While Cell 7356 cannot achieve its conservation goal, conservation of the proposed project would not provide any biological resource function or value due to its location east of I-15, nor impede the conservation goals for Proposed Linkage 10 (PCL-10) and Proposed Constrained Linkage 14 (PCL-14), nor result in issues regarding fragmentation. All of the conservation needed in Cell 7356 pertains to lands along Murrieta Creek and the Temecula Escarpment well west of the project site.

- b. **Rough Step.** The proposed project is within Rough Step Unit 5. Not all vegetation or land cover within a Rough Step Unit has acreage goals. In Rough Step Unit 5 there are 10 vegetation/land cover types, but only five have Rough Step acreage goals; coastal sage scrub; grasslands; riparian scrub, woodland, forest; Riversidean alluvial fan sage scrub; and woodlands and forests.

Baseline vegetation (1994) mapping for the project site is developed or disturbed land and not any of the five types tracked for this rough step unit (Exhibit C). Therefore, no additional measures regarding Rough Step are required and the proposed project does not conflict with Rough Step.

Other Plan Requirements (MSHCP Volume I)

Section 6.1.2 – Was Riparian/Riverine/Vernal Pool Mapping or Information Provided?

- Yes. There are riparian/riverine resources on the project site which will be avoided. The project site does not contain any vernal pools, nor does it support habitat considered suitable for fairy shrimp. There is no suitable riparian bird habitat on the project site.



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

Section 6.1.3 – Was Narrow Endemic Plant Species Survey Information Provided?

Yes. The project site is not located within a Narrow Endemic Plant Species Survey Area (NEPSSA).

Section 6.3.2 – Was Additional Survey Information Provided?

Yes. The project site is not located in a Criteria Area Species Survey Area (CASSA) for plants. The project site is not located in Additional Survey Needs and Procedures Areas for amphibians, burrowing owls (*Athene cunicularia*), or small mammals. The project site does not support Delhi sands (Exhibit D) or in areas that would trigger additional review for Delhi sands flower-loving fly (*Rhaphiomidas terminates abdominalis*).

Section 6.1.4 – Was Information Pertaining to Urban/Wildland Interface Guidelines Provided?

Yes. The property is located upstream of Murrieta Creek, which is described for conservation.

Comments on Other Plan Requirements:

- a. **Section 6.1.2.** The following discusses each requirement under this policy.

Riparian/Riverine. The project site was assessed for riparian/riverine resources by ELMT Consulting on October 13, 2022. According to the *Assessment*, the project site contains less than 0.1 acre of MSHCP riparian/riverine resources consisting of a constructed headwall and culvert (referred to as avoided in Exhibit E). This headwall and culvert output flows from an underground storm drain which eventually connects to Murrieta Creek. The remainder of the site is composed of disturbed land, described in the *Assessment*, as composed of bare ground and minimal non-native grasses/ruderal vegetation. A desktop analysis conducted by the RCA revealed the presence of a historic ephemeral drainage that once flowed east-west through the project site but that these flows were placed into a storm drain (east of SR-79) by 1996. However, water collects within the center of the project site and sheet flows to the northwest corner of the site. The *Assessment* clarifies that this observed sheet flow occurs during and immediately following storm events and follows onsite topography created when the site was rough graded, as such, the project site does not contain riparian/riverine resources outside of the headwall and culvert.

The project will avoid all riparian/riverine resources (i.e., headwall and culvert). There is an existing maintenance easement over this structure held by the County of Riverside. Because the very small portion of riparian/riverine on the project site is essentially a concrete headwall, is maintained by the County, has no other function other than to output flows briefly before going back into a storm drain underneath I-15, and is separated from the proposed development by an existing chain-linked fence, the RCA is not requiring a legal mechanism (e.g., deed restriction) be placed over this portion of the project site.

Vernal Pools/Fairy Shrimp. According to the *Assessment*, the project site lacks suitable soils, vegetation, and hydrology to support vernal pools. The project site is highly disturbed and heavily compacted from past grading beginning in 1996, as well as routine weed abatement, illegal dumping, staging and stockpiling activities.



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

The RCA completed a desktop analysis and determined the absence of vernal pool resources at the project site. This conclusion is based on a review of USGS soils, aerial imagery from Google Earth, and available online historic aerials. The desktop analysis noted signs of ponding or moist/wet soils in aerial imagery from 2018 and 2020. The analysis confirmed a historic ephemeral drainage was present in the northern portion of the project site until 1996 (as discussed for Riparian/Riverine above) which is generally not compatible with vernal pools or fairy shrimp. Additionally, the site was graded in 1996 further precluding the presence of fairy shrimp or vernal pools but likely causing soil compaction and hence creating potential for ponding. It is less than reasonable to assume listed fairy shrimp have been transported to the site since the grading in 1996. Focused surveys are not warranted.

Riparian Birds. The project site lacks suitable riparian habitat to support riparian birds, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Therefore, focused surveys were not warranted.

Based on the information provided in the *Assessment*, the project demonstrates consistency with Section 6.1.2 of the MSHCP.

- b. **Section 6.1.3 NEPSSA Plants.** The project site is not located within a NEPSSA plant survey area; therefore, NEPSSA plant focused surveys were not warranted.

Based on the information provided in the *Assessment*, the project demonstrates consistency with Section 6.1.3 of the MSHCP.

- c. **Section 6.3.2. Additional Survey Needs and Procedures.** The project site is not located in any Additional Survey Needs and Procedures survey areas.

Based on the information provided by in the *Assessment*, the project demonstrates consistency with Section 6.3.2 of the MSHCP.

- d. **Section 6.1.4. Urban/Wildlands Interface Guidelines.** While the project site is not located immediate adjacent to areas proposed for conservation, it is located immediately upstream of areas described for conservation (i.e., Murrieta Creek). As such, the guidelines contained in Section 6.1.4 related to controlling adverse effects for development adjacent to the MSHCP Conservation Area should be considered by the Permittee in their actions relative to the project. Therefore, the Permittee should include the following measures as project conditions of approval, as applicable:

SECTION 6.1.4 MEASURE.

- i. **Incorporate measures to control the quantity and quality of runoff from the site entering the MSHCP Conservation Area. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into MSHCP Conservation Areas. Best Management Practices (BMPs) will be implemented to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm downstream biological resources or ecosystems. Land uses proposed in proximity to the**



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

MSHCP Conservation Area that use chemicals or generate bioproducts, such as manure, that are potentially toxic or may adversely affect wildlife species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. The greatest risk is from landscaping fertilization overspray and runoff.

- ii. Night lighting shall be directed away from the MSHCP Conservation Area and the avoided area on site to protect species from direct night lighting.
 - iii. Proposed noise-generating land uses affecting the MSHCP Conservation Area, including designated avoidance areas, shall incorporate setbacks, berms, or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards.
 - iv. Avoid use of invasive, non-native plant species listed in Table 6-2 of the MSHCP in approving landscape plans for the portions of the project that are adjacent to the MSHCP Conservation Area, including avoidance areas. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas and designated avoidance areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography, and other features.
 - v. Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into existing and future MSHCP Conservation Areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms.
 - vi. Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.
 - vii. Weed abatement and fuel modification activities are not permitted in the Conservation Area, including designated avoidance areas.
- c. **Appendix C.** The following best management practices (BMPs), as applicable, shall be implemented for the duration of construction:

APPENDIX C MEASURE.

- i. A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the



RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.

- ii. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
- iii. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
- iv. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
- v. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
- vi. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian species identified in MSHCP Global Species Objective No. 7.
- vii. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
- viii. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG [CDFW], RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- ix. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.



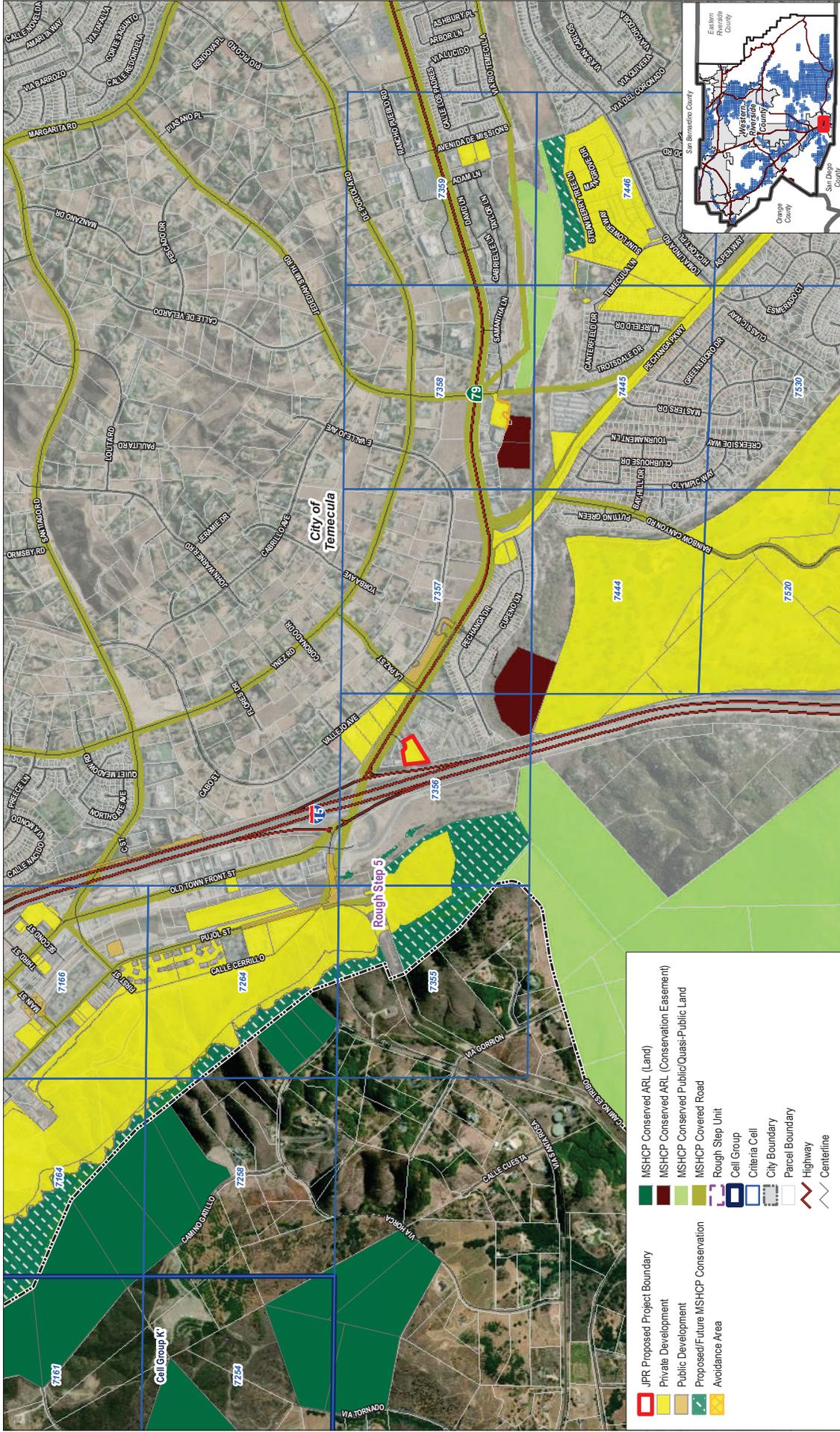
RCA Joint Project Review (JPR) Findings

JPR #: 23-01-28-01

Date: 03/18/24

- x. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
- xi. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- xii. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
- xiii. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
- xiv. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
- xv. The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions, including these BMPs.

SG/TC



- JPR Proposed Project Boundary
- Private Development
- Public Development
- Proposed/Future MSHCF Conservation
- Avoidance Area
- MSHCP Conserved ARL (Land)
- MSHCP Conserved ARL (Conservation Easement)
- MSHCP Conserved Public/Quasi-Public Land
- MSHCP Covered Road
- Rough Step Unit
- Cell Group
- Criteria Cell
- City Boundary
- Parcel Boundary
- Highway
- Centerline

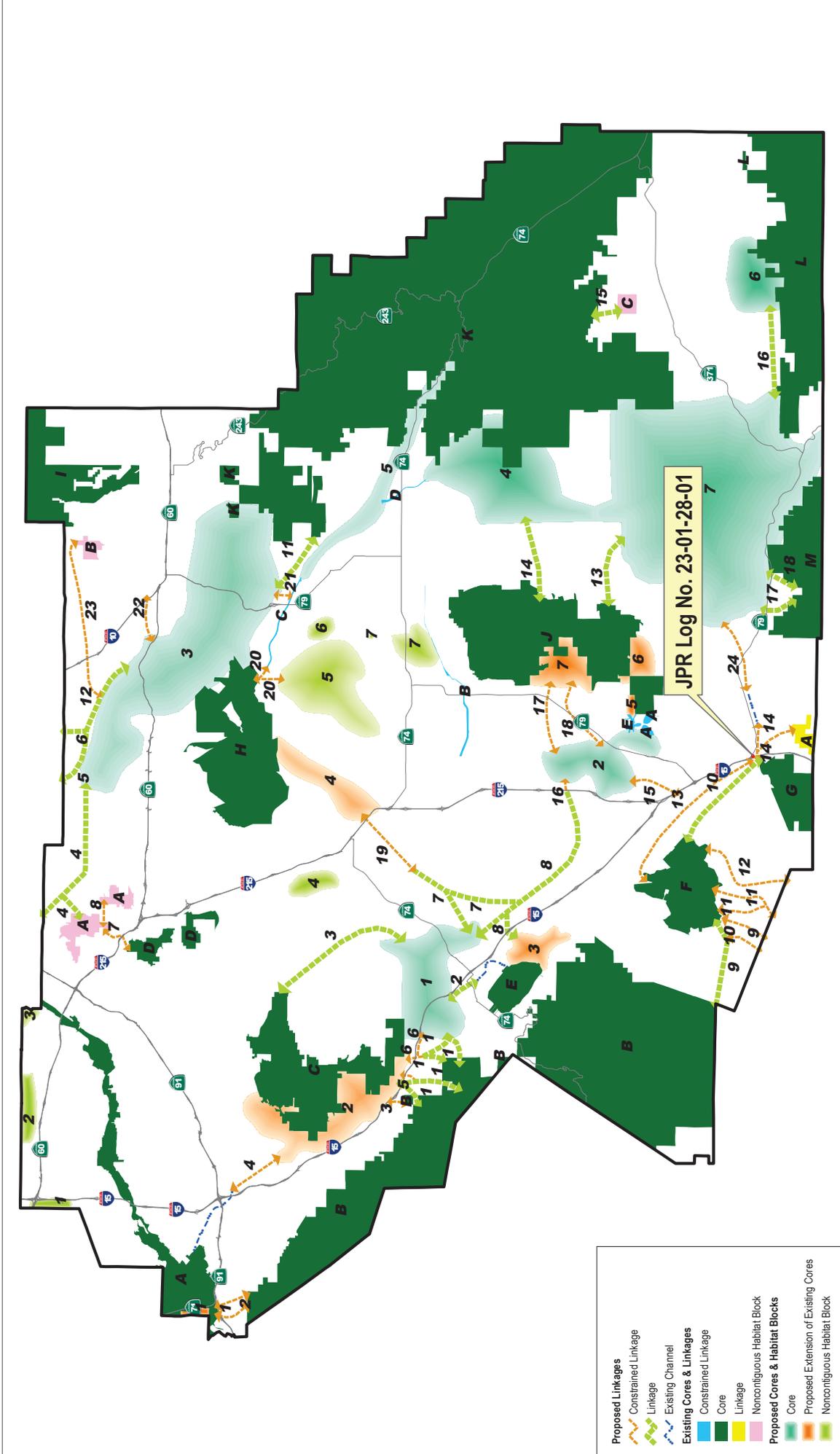
SOURCE: Western Riverside County Regional Conservation Authority 2023, County of Riverside 2020, Esri, Bingmap 2020. Map created on 2/7/2023.

r14511
 Permittee: City of Temecula
 HANS LR22-1107 Bedford Court Car Wash



EXHIBIT A
 JPR Log No. 23-01-28-01 - Regional

G:\RCA\JOINT_PROJECT_REVIEW\JPR_FILES_2023\PR23012801\PR23012801-ExhibitA_Regional.mxd

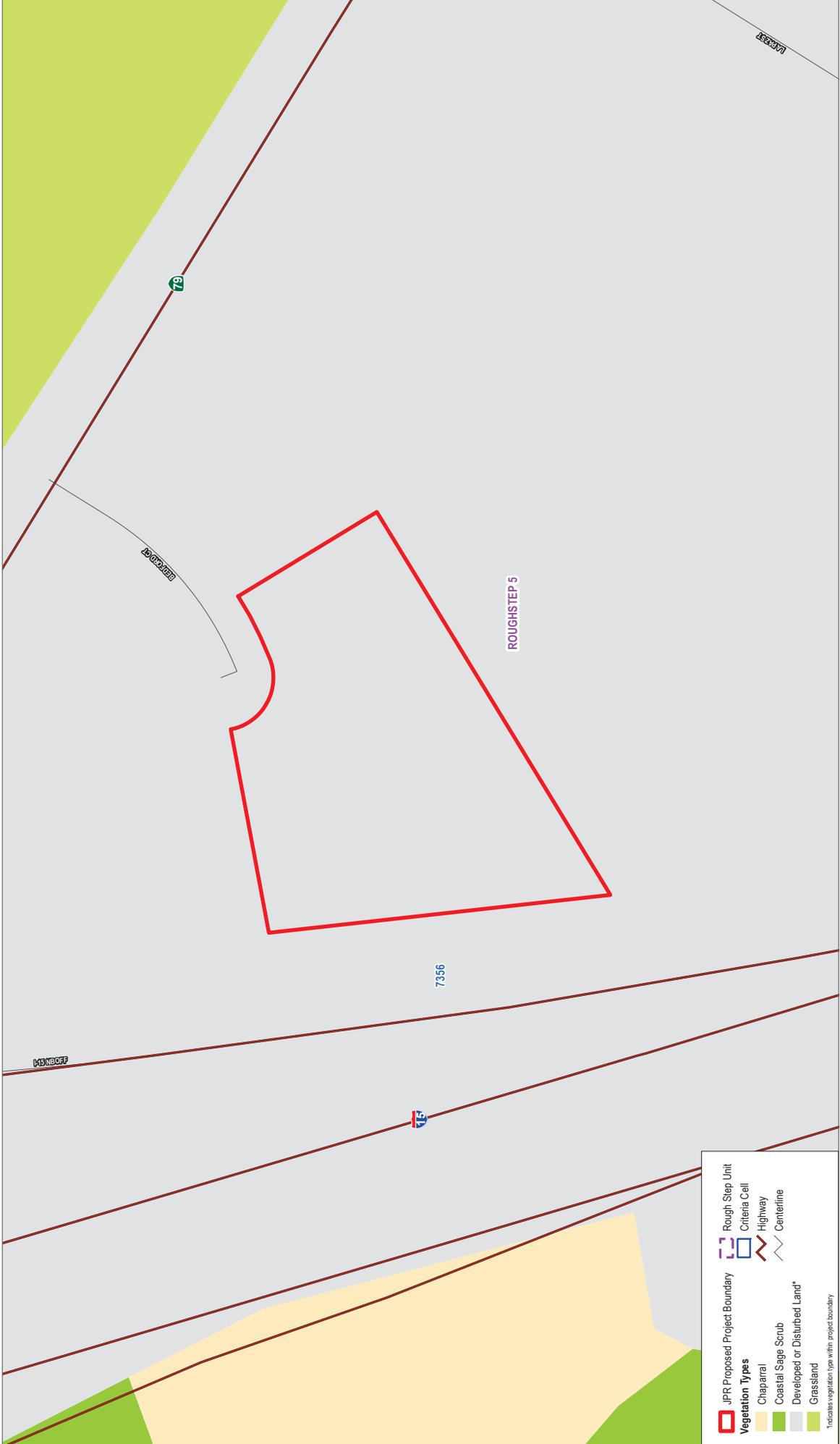


- Proposed Linkages**
 - Constrained Linkage
 - Linkage
 - Existing Channel
- Existing Cores & Linkages**
 - Constrained Linkage
 - Core
 - Linkage
 - Noncontiguous Habitat Block
- Proposed Cores & Habitat Blocks**
 - Core
 - Proposed Extension of Existing Cores
 - Noncontiguous Habitat Block

SOURCE: Western Riverside County Regional Conservation Authority (WRC-RCRA). Map created on 2/7/2023

r14511
 Permittee: City of Temecula
 HANS LR22-1107/Belford Court Car Wash





JPR Proposed Project Boundary

Vegetation Types

- Chaparral
- Coastal Sage Scrub
- Developed or Disturbed Land*
- Grassland

Rough Step Unit

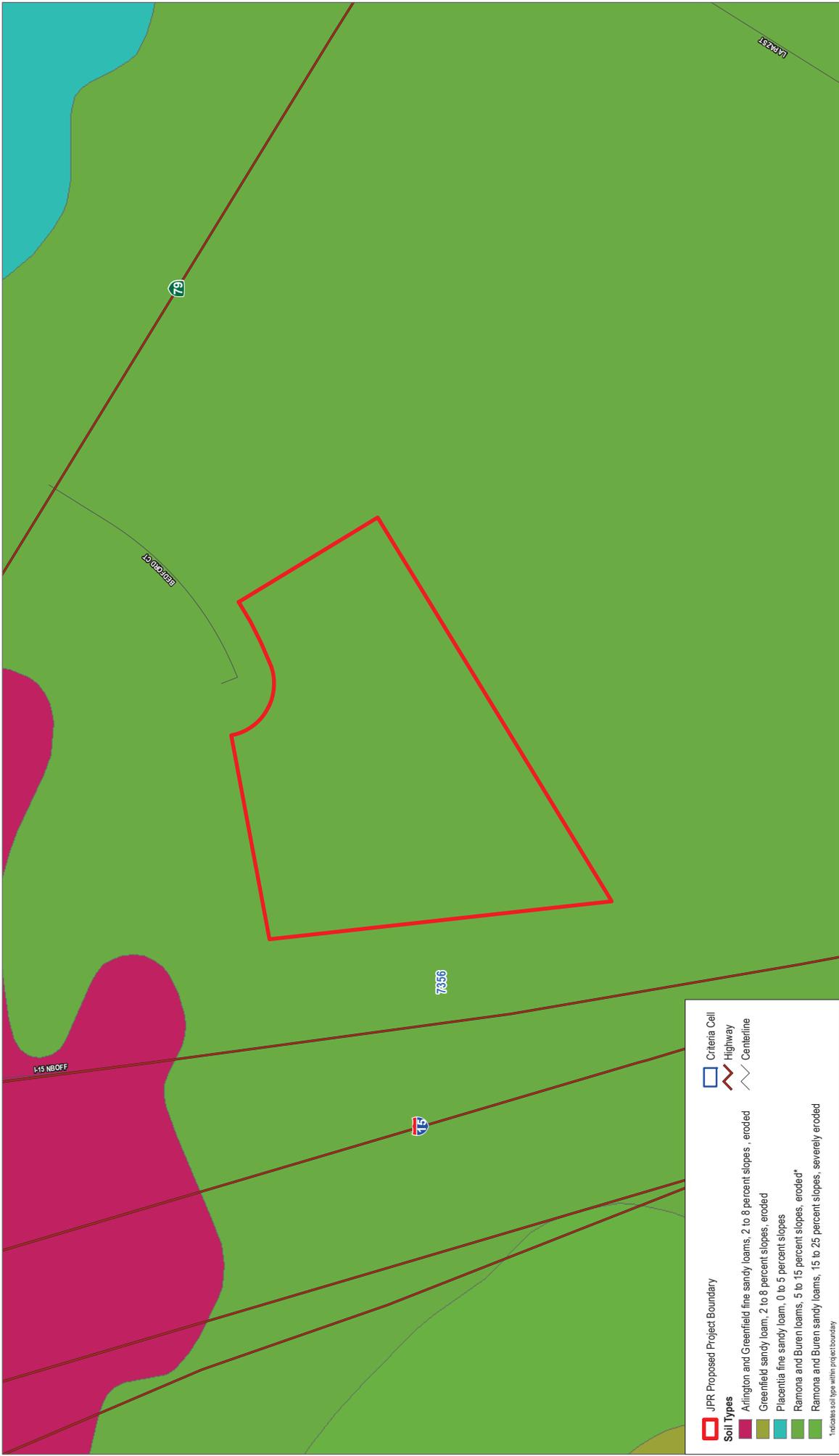
- Criteria Cell
- Highway
- Centerline

*Indicates vegetation type within project boundary

SOURCE: WRC-RCA MSHCP Baseline Vegetation (1994). Map created on 2/7/2023.

14511
 Regional Conservation Authority
 Permitted: City of Temecula
 HANS LRZ-1107/Belford Court Car Wash





JPR Proposed Project Boundary

Soil Types

- Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes - eroded
- Greenfield sandy loam, 2 to 8 percent slopes, eroded
- Placenta fine sandy loam, 0 to 5 percent slopes
- Ramona and Buren loams, 5 to 15 percent slopes, eroded*
- Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded

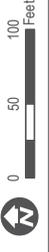
*Indicates soil type with project boundary.

Criteria Cell

- Highway
- Centerline

SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023, USDANRCS Soils 2017

14511
 Permittee: City of Temecula
 HANS LRZ-1107/Belford Court Car Wash





□ JPR Proposed Project Boundary
■ Avoidance Area (Riparian/Riverine)
■ MSHCP Covered Road
□ Parcel Boundary
▨ On-Site Permanent Development Impact
 Centeline

SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; Est. Basemap 2023. Map created on 3/14/2024.

14511
 Permits, City of Temecula
 HANS LR22-1107/Bedford Court Car Wash

G:\PROJECTS\2023\PRJ\201280\1\PRJ\23012801-EMH\Emhite_PropDetail.mxd



U.S. Fish and Wildlife Service
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262
760-322-2070
FAX 760-322-4648



California Department of Fish and Wildlife
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, California 91764
909-484-0167
FAX 909-481-2945

In Reply Refer To:
FWS/CDFW-WRIV-24-0065114

April 1, 2024
Sent by email

Mr. Scott Cooper
City of Temecula
Community Development Department
41000 Main Street
Temecula, CA 92589

Mr. Aaron Gabbe
Western Riverside County Regional Conservation Authority/
Riverside County Transportation Commission
3403 Tenth St., Ste. 320
Riverside, CA 92501

Subject: MSHCP Joint Project Review 23-01-28-01 for the Bedford Court Car Wash HANS
Project (LR22-1107), City of Temecula

Dear Mr. Cooper and Mr. Gabbe:

The California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, collectively referred to as the Wildlife Agencies, received Joint Project Review JPR 23-01-28-01 (JPR) for the Bedford Court Car Wash HANS Project (LR22-1107) located in Criteria Cell 7356 on March 18, 2024. The Wildlife Agencies are providing the following comments on the JPR as they relate to the Project's consistency with the Reserve Assembly provisions (Sections 3.2.3 and 3.3.3) of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP).

Criteria Cell 7356

The Wildlife Agencies have reviewed the JPR, and we concur with the RCA findings that the proposed Project would occur outside of the portions of Cell 7356 described for conservation, and that conservation of this site would not functionally contribute to the assembly of Proposed Linkage 10 or Proposed Constrained Linkage 14.

The MSHCP's Low-range Conservation Goal for Cell 7356 is approximately 77.0 acres. Conservation in Cell 7356 is to contribute to the assembly of MSHCP Proposed Linkage 10 and Proposed Constrained Linkage 14. To date, zero acres within Cell 7356 have been conserved, and approximately 60.0 undeveloped acres remain within the Cell. The approximately 60.0 remaining undeveloped acres are located within the portion of Cell 7356 that is described for conservation and would contribute to Proposed Linkage 10 and Proposed Constrained Linkage 14. However, the future conservation of all 60 acres would leave the cell approximately 17 acres short of the described conservation in the Cell.

The Wildlife Agencies are concerned about the conservation deficit in Criteria Cell 7356, and the related shortfall in assembly of Proposed Linkage 10 and Proposed Constrained Linkage 14 and their function in the MSHCP Conservation Area. We, therefore, request a meeting with the City and the RCA to discuss Proposed Linkage 10 and Constrained Linkage 14 to identify a process to ensure the conservation acreage goals for Proposed Linkage 10 and Constrained Linkage 14, as well as their intended ecological functions, will be accomplished in alternative locations.

Additional MSHCP Requirements

To avoid and minimize potential impacts to offsite areas that are either conserved or are described for future inclusion in the MSHCP Conservation Area, we request that the City condition the project to require the measures identified in the Joint Project Review, specifically: item “d.” (Page 5-6) related to Section 6.1.4 Urban/Wildlands Guidelines, and “c.” (Page 6-8) Best Management Practices identified in MSHCP Volume I, Appendix C.

Conclusion

We appreciate the opportunity to provide comments on JPR 23-01-28-01. The Wildlife Agencies request a meeting to discuss the prevention of a conservation shortfall in Criteria Cell 7356 and Proposed Constrained Linkages 10 and 14. If you have any questions or comments regarding this letter, please contact Ryan Siless of the Service at ryan_siless@fws.gov or Breanna Machuca of CDFW at breanna.machuca@wildlife.ca.gov.

Sincerely,

KARIN
CLEARY-ROSE
for
Brian Croft
Acting Assistant Field Supervisor
U.S. Fish and Wildlife Service

Digitally signed by
KARIN CLEARY-ROSE
Date: 2024.04.01
17:56:57 -07'00'

DocuSigned by:
Carly Beck
FAC3969253B145B...

for
Kim Freeburn
Environmental Program Manager
California Department of Fish and Wildlife

cc:

Aaron Gabbe, Western Riverside County Regional Conservation Authority
Tricia Campbell, Western Riverside County Regional Conservation Authority

Appendix D
Cultural Resources Assessment

A PHASE I CULTURAL RESOURCE ASSESSMENT

OF

DEVELOPMENT PLAN PA23-0197

APN 922-210-042

±1.88 ACRES OF LAND IN THE CITY OF TEMECULA
RIVERSIDE COUNTY, CALIFORNIA
USGS TEMECULA, CALIFORNIA QUADRANGLE, 7.5' SERIES

By

Jean A. Keller, Ph.D.
Cultural Resources Consultant
1084 N. El Camino Real, Suite B-244
Encinitas, California 92024
(760)815-1691

Prepared For:

Catalyst Commercial Group
Attn: Mark Cooper
38605 Calistoga Drive, Suite 150
Murrieta, CA 92563

March 2024
Revised October 2024

CONTENTS	
	Page
LIST OF FIGURES	ii
LIST OF TABLES	iii
MANAGEMENT SUMMARY	1
INTRODUCTION	5
ENVIRONMENTAL SETTING	
Topography and Geology	8
Biology	12
Climate	12
Discussion	13
CULTURAL SETTING	
Prehistory	14
Ethnography	15
History	20
METHODS AND PROCEDURES	
Research	28
Fieldwork	29
RESULTS	
Research	30
Fieldwork	41
CONCLUSIONS AND RECOMMENDATIONS	42
CONSULTANT CERTIFICATION	45
REFERENCES	46
APPENDIX	
Records Search Results	
Sacred Lands File Search Results	
Tribal Responses to Project Scoping Letters	

LIST OF FIGURES	Page
1. Development Plan PA23-0197.	6
2. Approximate location of Development Plan PA23-0197 in the City of Temecula, southwestern Riverside County.	7
3. Location of the study area relative to southwestern Riverside County.	9
4. Aerial view of the subject property.	10
5. Views of the subject property.	11
6. Ethnographic location of the study area.	16
7. Approximate location of the subject property following the 1854 – 1884 GLO surveys.	23
8. Location of the 31.61-acre Lot 2, Block 22 of Stevenson’s (Pauba Land & Water Company’s) Subdivision of the Temecula Rancho (1892).	39
9. Location of the 31.61-acre Lot 2, Block 11 of the Pauba Land & Water Company’s Subdivision of the Temecula Rancho (1920).	40
10. <i>Descanso</i> located within PA23-0197.	41
LIST OF TABLES	
1. Previously Recorded Cultural Resources in the Scope of the Records Search and Distance from Development Plan PA23-0197.	31
2. Historical Property Ownership and Value Summary of Projected Section 134, Township 8 south, Range 3 west (Lot 2, Block 22 / Lot 2, Block 11 of the Temecula Rancho Subdivision.	38

MANAGEMENT SUMMARY

A Phase I Cultural Resource Assessment of Development Plan PA23-0197 (PA23-0197) was requested by the project sponsor, Catalyst Commercial Group. The subject property encompasses ± 1.88 acres of land located on Bedford Court, southwest of Temecula Parkway, north of Pechanga Drive, and east of Interstate 15, in the City of Temecula, southwestern Riverside County. The proposed project is the development of a 3,596 square foot (sq. ft.) carwash with drive-thru and a 950 sq. ft. coffee shop with drive-thru, as well as associated parking and landscaping.

The purpose of the Phase I Cultural Resources Assessment was two-fold: 1) information was to be obtained pertaining to previous land uses of the subject property through research and a comprehensive field survey, and 2) a determination was to be made if, and to what extent, existing cultural resources would be adversely impacted by the proposed project.

No cultural resources of either prehistoric (Native American) or historical origin were observed within the boundaries of the subject property. However, according to the Pechanga Band of Indians, the proposed project is located in the very heart of their Ancestral Territory and based on their *'Ayélkwish/Traditional Knowledge*, the project APE is entirely within their Luiseño Ancestral Origin Traditional Cultural Landscape – a listed property on the National Registry of Historic Places. As such, there is not a more culturally sensitive area in their entire Ancestral Territory. Thus, although no artifacts or remains were observed within the boundaries of property that could reasonably be associated with religious or community practices, the Pechanga Band of Indians considers the property itself to be culturally significant.

A records search completed by staff at the Eastern Information Center, University of California, Riverside indicated that what is now PA23-0197 has been tangentially involved in three previous cultural resource studies, although none actually included the subject property. No cultural resources were observed within the property during the three previous studies. The subject property is located in an exceptionally well-studied area with 85 previous cultural resource studies having been conducted within a one-mile radius, many of which included large acreages. During the course of these studies, 22 cultural resource properties were recorded, none of which involved the project area. Of the recorded cultural resource properties, eight were of historical origin, one was of both prehistoric and historical origin, and one site had no cultural resources described. The remaining 12 sites were of Native American origin, with five isolated artifacts and seven comprised of other cultural resources, predominated by bedrock milling features. One of the recorded Native American properties is P-33-11443, which has been designated as the Murrieta Creek Archaeological Area. Encompassing three large prehistoric habitation sites (CA-

RIV-50, CA-RIV-270, CA-RIV-365) and one large prehistoric milling site (P-33-12520), the sites are located near the confluence of Murrieta Creek and Temecula Creek, approximately one-quarter mile west of the current study area. In 1972, the sites were nominated to the National Register of Historic Places as a single archaeological district. The boundaries of the district appear to be arbitrary and are not necessarily defined by the presence of recorded cultural features or artifacts, as it was simply mapped as a large square. PA23-0197 is located near the northeastern corner of the MCAA. Of the remaining cultural sites recorded within a one-mile radius of PA23-0197, the three closest are each approximately 1000 feet to the west, across I-15. One of the sites (CA-RIV-365) is part of the original four sites comprising the Murrieta Creek Archaeological Area, one is an isolated mano, and one is comprised of two circles carved into bedrock of unknown age or function. All 12 of the Native American sites are within a Pechanga Tribe Nationally Registered Property which was placed on the National Register of Historic Places on October 10, 2014. The Tribally registered property represents the Luiseño Ancestral Origin Landscape and encompasses 8.39 square miles, which is approximately 5,373 acres. The proposed Project lies within the boundaries of this National Register Property.

The Native American Heritage Commission (NAHC) determined that the Sacred Lands File search results were positive, meaning that Sacred Lands have been recorded within the same township, range, and section of the subject property. The NAHC provided a list of 22 tribal representatives who have expressed interest in development in the Temecula Area and project scoping letters were sent to them on March 4, 2024. At this time, responses have been received from the Agua Caliente Band of Cahuilla Indians, the Rincon Band of Luiseño Indians, and the Pechanga Band of Indians. After a records search of their Tribal Historic Preservation Office's cultural registry, the Agua Caliente Band of Cahuilla Indians determined that the project is not within the Tribe's Traditional Use Area. As such, ACBGI defers to other tribes in the area and their response letter concludes their consultation efforts. The Rincon Cultural Resources Department identified the location of the subject property as being within the Traditional Use Area of the Luiseño Indians, as well as in Rincon's specific area of Historic Interest. After reviewing the provided documents and their internal information, the Rincon Band had no information on specific Tribal Cultural Resources (TCRs) or Traditional Cultural Properties (TCPs) within or surrounding the area. The proposed project is in a culturally sensitive area and the Tribe believes that the potential exists for cultural resources to be identified during further research and survey work. They recommend working closely with the Pechanga Band as they may have pertinent information to provide.

After reviewing the provided maps and their internal documents, the Pechanga Band of Indians determined that the project area is not within their reservation, but it is located within 1.44 miles. The proposed project is located in the very heart of their Ancestral Territory and there is not a more culturally sensitive area in their entire Ancestral Territory. The tribe maintains that beyond scarification, the property's native soil remains intact despite having been impacted by off-road

traffic, parking, and as a staging area for adjacent development. Further, when considering their culture's burial practices and the property's proximity to Temecula Creek and Murrieta Creek, Pechanga believes that the possibility of recovering sensitive subsurface resources during ground disturbing activities is extremely high. At this time, the Pechanga Band of Indians requests the following: 1) Notification once the project begins the entitlement process; 2) Copies of all applicable archaeological reports, site records, proposed grading plans, and environmental documents; 3) Government-to-Government consultation with the Lead Agency; and 4) Recognition that monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving activities, so they reserve the right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Finally, in the event that subsurface cultural resources are identified, Pechanga requests consultation with the project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

Development Plan 23-0197 is proposed for a vacant in-fill lot at the end of a cul-de-sac and situated immediately east of Interstate 15 and north of the Rancho Meadows condominium complex, built in 1982. In 1986, four-parcel Parcel Map No. 21592 was approved, with the subject property being Parcel 2. According to an informant involved in that development approval, the entire site and four pads were rough graded, as well as grading for the installation of all underground utilities; dedicated easements currently exist for these utilities. At that time, Bedford Court was also built, as was a retaining wall along the western boundary of the property. In addition, a reinforced concrete pipe was installed at an estimated 15' to 20' depth to replace an earlier pipe that carried drainage from Vallejo Avenue. The drainage pipe runs south from Vallejo Avenue, under Temecula Parkway, continuing under Bedford Court and the subject property, terminating at a concrete culvert near the northwestern corner of the property; there is a 24-foot-wide drainage easement over the pipe that runs the width of the property. While it is true that the property has remained undeveloped, and thus a logical assumption would be that native soils would be relatively intact, in actuality no native soils are visible within the boundaries of the subject property. According to a 2022 geotechnical study conducted for PA23-0197, the entirety of the subject property is covered by 7' to 10' feet of compacted artificial fill, with the only native soil being below that level. Existing native soils would have been disturbed by rough grading and trenching for drainage pipe and utilities, but the impacts to the property after 1986 by grading, vehicle parking, trash dumping, and development of adjacent properties, would have been to artificial fill, not native soil.

In consideration of the aforementioned facts, it is clear that the proposed project, Development Plan PA23-0197, is located in an area that is highly sensitive for Native American cultural resources and moderately sensitive for those of historical origin. The subject property is situated near the confluence of Murrieta and Temecula creeks, a place of extreme significance to the

Pechanga Band of Indians, as it was there that the Creation of their Culture's World began. When considering their culture's burial practices near watercourses, the proximity of the subject property to both Temecula Creek and Murrieta Creek, and the assumption that the subject property's native soil remains intact, the Pechanga Band of Indians believes that the possibility of recovering sensitive subsurface cultural resources is extremely high. As such, they recommend that monitoring of all ground disturbing activities associated with the proposed development be actively monitored by a Riverside County/City of Temecula archaeologist and a professional Pechanga Tribal Monitor.

Despite the fact that no surface cultural resources were observed within the boundaries of PA23-0197 during the current field survey, this firm concurs with Pechanga's recommendation for grading monitoring. However, the subject property has not only been subject to significant impacts resulting from rough grading, as well as the installation of underground utilities and the drainage pipe, but the entire 1.88 acres of land has been covered by 7' to 10' of compacted artificial fill, with the only remaining native soil being present below that level. The intent of grading monitoring by professional archaeologists and tribal monitors is to prevent the destruction of *in situ* subsurface cultural resources inadvertently discovered during earthmoving. Since the upper 7' to 10' of the subject property is composed of artificial fill imported from elsewhere, there can be no *in situ* resources in that soil, only in native soil below that level. Therefore, this firm recommends that a Riverside County/City of Temecula qualified archaeologist and a Professional Pechanga Monitor actively monitor all ground disturbing activities occurring in native soil below the documented artificial fill level. Monitoring within the 7' to 10' of artificial fill is not recommended. Determination of areas requiring monitoring must be established prior to issuance of grading permits with consultation provided by the project engineer, geotechnical specialist, Project Archaeologist, Pechanga Band of Indians, and the project sponsor. Should any cultural resources be discovered during the course of earthmoving activities anywhere on the subject property, said activities should be halted or diverted until the qualified archaeologist can evaluate the resources, make a determination of their significance, and recommend appropriate treatment measures to mitigate impacts to the resources from the project, if found to be significant. If human remains are encountered unexpectedly during implementation of the project, compliance with State Health and Safety Code Section 7050.5 is required, with no further disturbances to the land until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98.

INTRODUCTION

In compliance with California Environmental Quality Act (CEQA) and City of Temecula Planning Department requirements, the project sponsor contracted with Jean A. Keller, Ph.D., Cultural Resources Consultant on February 11, 2024, to conduct a Phase I Cultural Resources Assessment of the subject property. The purpose of the assessment was to identify, evaluate, and recommend mitigation measures for existing cultural resources that may be adversely impacted by the proposed development.

The Phase I Cultural Resources Assessment commenced with a request submitted on February 12, 2024, to staff at the Eastern Information Center, University of California, Riverside to conduct a records search of available maps, site records, and reports. Results of the records search were received on February 28, 2024. A request for a Sacred Lands File search was submitted to the Native American Heritage Commission on February 12, 2024, with results received on March 1, 2024. Subsequently, on March 4, 2024, project scoping letters were sent to 22 tribal representatives listed by the NAHC as being interested in project development in the Temecula area. Tribal responses to the project scoping letters were received from the Agua Caliente Band of Cahuilla Indians on March 11, 2024, by the Rincon Band of Luiseño Indians on March 27, 2024, and by the Pechanga Band of Indians on April 1, 2024. A literature search of available publications, as well as archival, cartographic, and photographic documents pertaining to the subject property was conducted concurrent with the records and Sacred Lands File searches. Finally, a comprehensive pedestrian field survey of the subject property was conducted on February 18, 2024, for the purpose of locating, documenting, and evaluating all existing cultural resources within its boundaries.

The subject property, currently entitled Development Plan PA23-0197, encompasses ± 1.88 acres of land. The proposed project is the development of a 3,596 sq. ft. carwash with drive-thru, a 950 sq. ft. coffee shop with drive-thru, as well as associated parking and landscaping (Fig. 1). As shown on the USGS Temecula, California Topographic Map, 7.5' series, the subject property is located in the Temecula Rancho, projected Section 13, Township 8 south, Range 3 west, SBM (Fig. 2). Current land use is a vacant infill lot that was graded in 1986. Adjacent land uses are the Rancho Meadows condominium complex to the south, a Mobile gas station to the east, a small retail center to the north, and I-15 to the west. Disturbances to the property are significant, resulting from past grading, underground utility trenching, the addition of 7' to 10' of artificial fill across the entire parcel, parking, trash dumping, off-road vehicle use, and staging for development on adjacent properties.

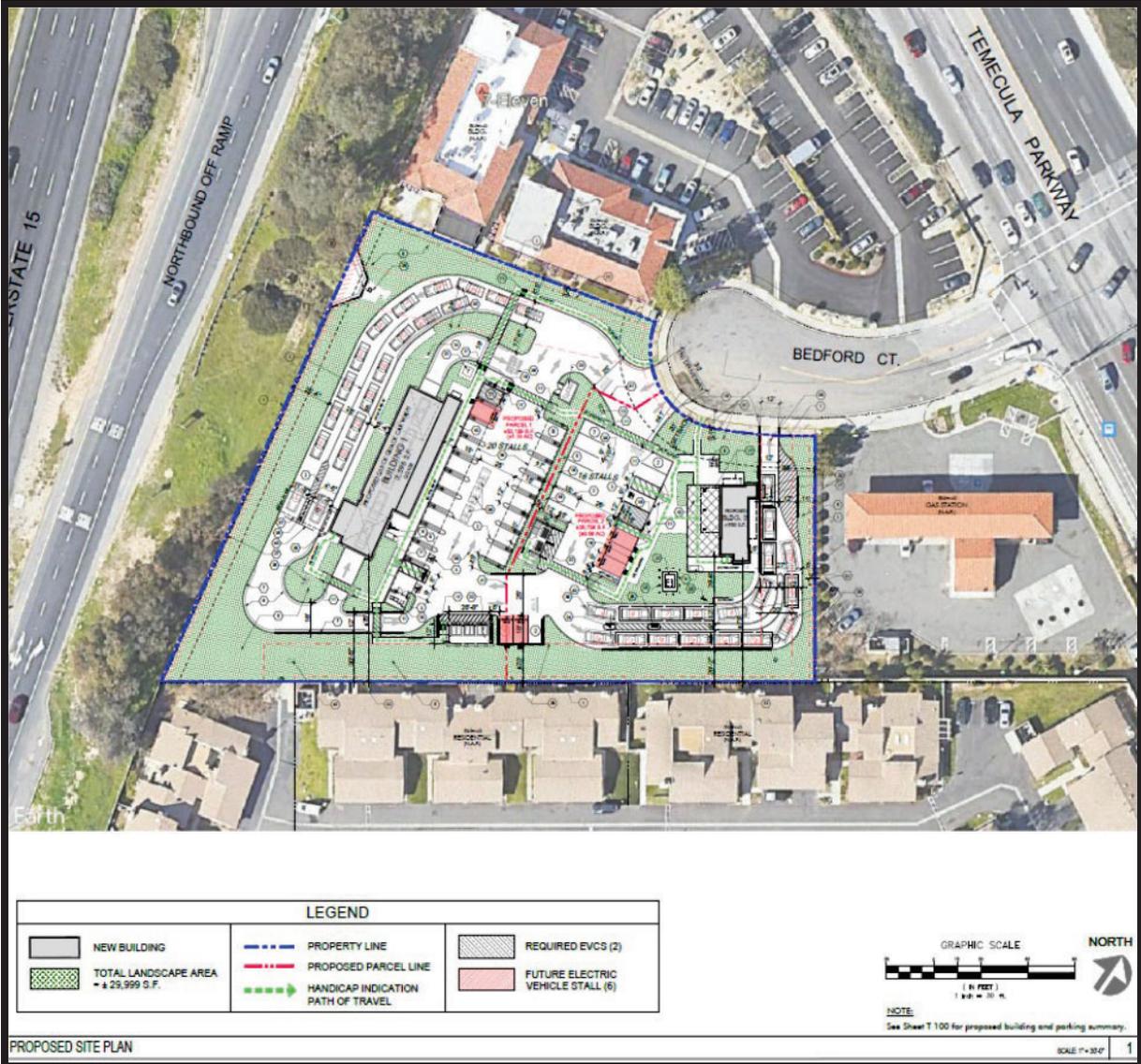


Figure 1: Development Plan PA23-0197.

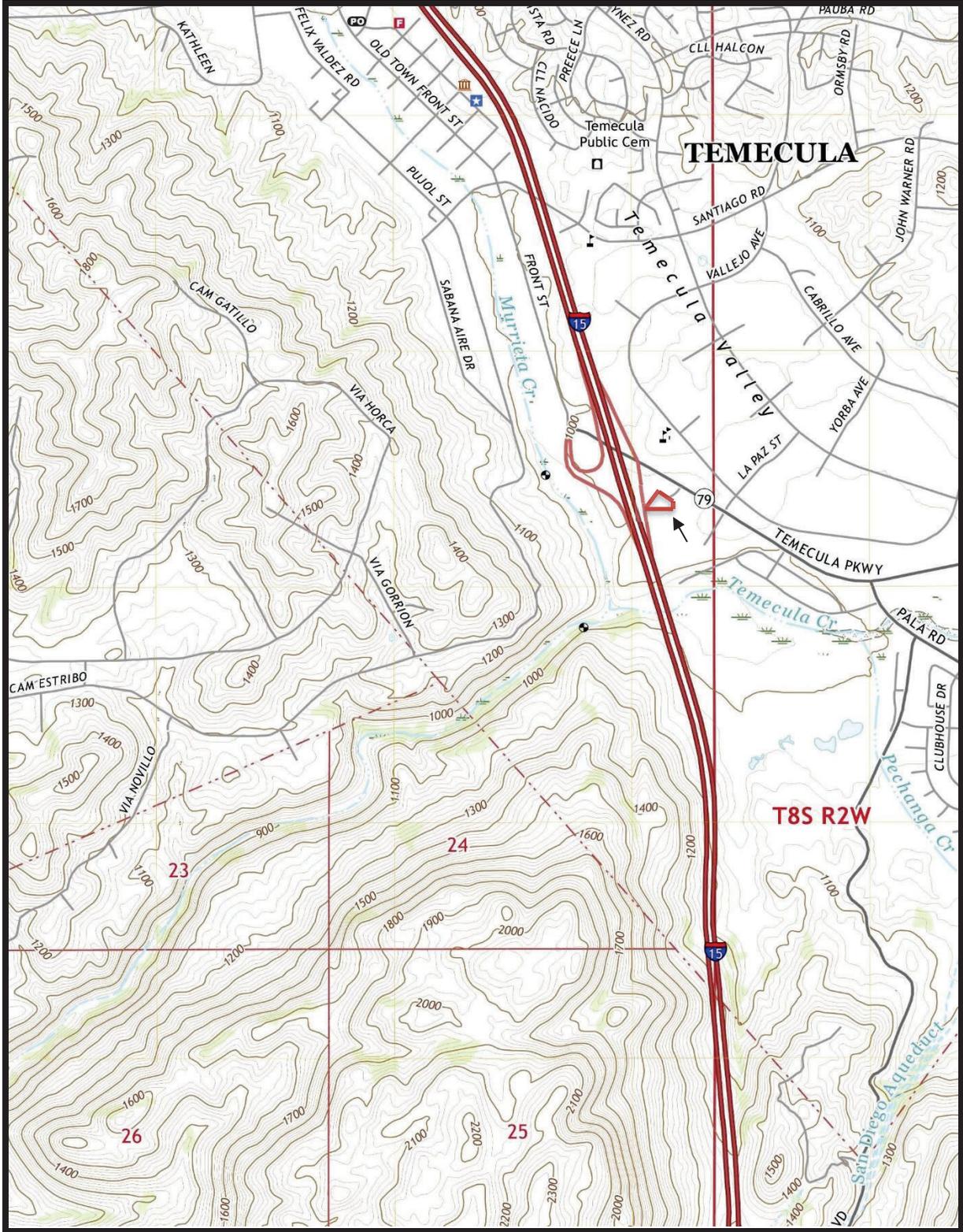


Figure 2: Approximate location of Development Plan PA23-0197 in the City of Temecula, southwestern Riverside County. Adapted from USGS Temecula, Calif. Quadrangle, 7.5' Topographic Map (2022).

ENVIRONMENTAL SETTING

Topography and Geology

The subject property is located in the City of Temecula, southwestern Riverside County. It is situated within a topographically diverse region that is defined by Gavilan Mountain to the southwest, Temecula Valley to the northwest, Buck Mesa to the northeast, and Agua Tibia Mountain to the southeast (Fig. 3). Virtually all drainage in the vicinity of the subject property has been channelized, but historically the drainage pattern has been in either a westerly direction towards Murrieta Creek or a southerly direction toward Temecula Creek. The confluence of the creeks is located approximately one-quarter mile southwest of PA23-0197, and it is at this point that they flow into the Santa Margarita River, which ultimately flows into the Pacific Ocean. For the most part, drainage is intermittent, occurring only as the result of seasonal precipitation.

Topographically, the property is currently a flat infill lot at the western terminus of Bedford Court, a short cul-de-sac road (Fig. 4 and 5). Current elevations range from a low of 1014.4 feet above mean sea level (AMSL) at the northwestern property corner, to a high of 1019.5 feet AMSL near the southeastern property corner (A.L.T.A. Survey 2022). However, the native topography of the property has been significantly modified since 1986. According to Mr. Larry Markham, a consultant for the project at that time, the entire parcel was rough graded and a building pad created in conjunction with the development of the four-parcel Parcel Map 21592. Trenches were excavated for utilities, including Southern California Edison, General Telephone, and the Eastern Municipal Water District; easements for these utilities currently exist within the property boundaries. In addition, a reinforced concrete drainage pipe was installed at an estimated depth of 15' to 20' across the width of the property, closely paralleling its northern boundary. The pipe replaced an earlier pipe, which extended south from Vallejo Avenue, and continued under Highway 79 (Temecula Parkway), before extending under Bedford Court and the subject parcel, terminating at a concrete culvert near the northwestern corner of PA23-0197 (Markham 2024). There is a 24'-wide drainage easement over this pipe, running from the end of Bedford Court across the property to the culvert, as well as a 10'-wide drainage easement along the entirety of the western property boundary above a retaining wall built by CalTrans.

The study area lies within a portion of the Northern Peninsular Ranges of Southern California, with the general province characterized by upland surfaces, prominent ridges and peaks, longitudinal valleys, basins, and steep-walled canyons. Geological formations within the Northern Peninsular Range are generally comprised of the great mass of basement igneous rocks called the Southern California Batholith, with the primary rocks being granitic tonalite and diorite of Jurassic age. The geological composition of the subject property is unknown, since in addition to rough grading and trenching for utilities, the entirety of the subject property has been covered



Figure 3: Location of the study area relative to southwestern Riverside County. Adapted from USGS Santa Ana, California Topographic Map (1959, photorevised 1979). Scale 1:250,000.



Figure 4: Aerial view of the subject property. Adapted from Google Earth (05/21/2023).

by 7' to 10' of compacted artificial fill, with the only remaining native soil existing below that level (GeoStrata 2022b:4). The use of imported fill was necessary in order bring the property up to the elevation of the Rancho Meadows condominium complex on adjacent land to the south, which had started construction in 1982 (Markham 2024). Exposed bedrock outcrops are not present within the property boundaries. Loose lithic material is very sparse and as part pf the artificial fill, would not be considered representative of the property's geological profile.

A permanent source of water is not located within the property boundaries. The subject property is geographically situated between Murrieta Creek and Temecula Creek, both NHD/National Hydrography Dataset blueline streams, with Murrieta Creek located approximately 825 feet to the east and Temecula Creek located approximately 950 feet to the south/southeast. In addition,



View from the southwestern property corner looking northeast.



View from the northwestern property corner looking southeast.

Figure 5: Views of the subject property.

the Santa Margarita River is located approximately one-quarter mile to the southwest. All of the watercourses represent easily accessible, permanent sources of water.

Biology

Over the past 40 years, the subject property has been a vacant lot used as a staging area for development on adjacent properties, as well as for parking, off-road vehicle activity, and trash dumping. As a result of these activities and periodic weed abatement, native vegetation no longer exists within the property boundaries. A variety of invasive plant species were identified during the field survey. These included, but were not limited to, tumbleweed (*Kali tragus*), slender wild oat (*Avena barbarata*), shortpod mustard (*Hirschfeldia incana*), redstem stork's bill (*Erodium cicutarium*), and Yorkshire fog (*Hoculus lanatus*). Two cultivated golden raintrees (*Koelreuteria paniculata*) are growing in the southeastern property corner, near landscaping on adjacent property.

Prior to development of the subject property, it hosted plant species characteristic of the Coastal Sage Scrub Plant Community, which predominates in this region. Characteristic plant species include, but are not limited to, white sage (*Salvia apiana*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), jimson weed (*Datura wrightiica*), scrub oak (*Quercus berberidifolia*), mulefat (*Baccharis salicifolia*), buffalo gourd (*Cucurbita foetidissima*), wild cucumber (*Marach macrocarpus*) and laurel sumac (*Malosma laurina*). Indigenous peoples of the region commonly used plants of this community for food, construction, medicine, and implement production.

During both the prehistoric and historical periods an abundance of faunal species inhabited the study area. However, due to regional urbanization, the current faunal community is generally restricted to those species that can exist in proximity to humans, such as valley pocket gopher (*Thomomys bottae*), Audobon's cottontail (*Sylvilagus audobonii*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), western fence lizard (*Sceloporus occidentalis*), and occasionally, mule deer (*Odocoileus hemionus*).

Climate

The climate of the study area is that typical of cismontane Southern California, which on the whole is warm, and rather dry. This climate is classified as Mediterranean or "summer-dry subtropical." Temperatures seldom fall below freezing or rise above 100 degrees Fahrenheit. The rather limited precipitation received occurs primarily during the summer months.

Discussion

Based on the type and quantity of cultural resources recorded on undeveloped properties in the vicinity of PA23-0197, it is probable that locally available floral and faunal resources offered opportunities to Native Americans for procuring food, as well as components for medicines, tools, and construction materials. Bedrock outcrops do not exist within the project boundaries, thus precluding opportunities for food processing, rock art, or shelter. It is possible that outcrops once did exist on the property but were removed during grading and the placement of artificial fill. Existing loose lithic material has been imported to the property, so is not relevant when considering resources available for indigenous tool production. A permanent source of water does not exist within the property, but Murrieta Creek, Temecula Creek, and the Santa Margarita River represent permanent sources of water and are located within less than one-quarter mile of the property. Finally, the subject property does not possess the types of defensive locations preferred by Native peoples of the region for long-term habitation. It is probable that the subject property was utilized for seasonal resource exploitation by indigenous peoples of the region and not for long-term occupation.

Criteria for occupation during the historical era were generally somewhat different than for aboriginal occupation since later populations did not depend solely on natural resources for survival. During the historical era, the subject property would have been considered very desirable due to the flat topography, tillable soil, and its proximity to urban centers and major transportation corridors.

CULTURAL SETTING

Prehistory

On the basis of currently available archaeological research, occupation of Southern California by human populations is believed to have begun at least 10,000 years ago. A number of theories propose much earlier occupation, specifically during the Pleistocene Age, but at this time archaeological evidence has not been fully substantiated. Therefore, for the purposes of this report, only human occupation within the past 10,000 years will be addressed. A time frame of occupation may be determined on the basis of characteristic cultural resources. These comprise what are known as cultural traditions or complexes. It is through the presence or absence of time-sensitive artifacts at a particular site that the apparent time of occupation may be suggested.

In general, the earliest established cultural tradition in Southern California is accepted to be the San Dieguito Tradition, first described by Malcolm Rogers in the 1920s. The San Dieguito people were nomadic large-game hunters whose tool assemblage included large domed scrapers, leaf-shaped knives and projectile points, stemmed projectile points, chipped stone crescentics, and hammerstones (Rogers 1939; Rogers 1966). The San Dieguito Tradition was further divided into three phases: San Dieguito I is found only in the desert regions, while San Dieguito II and III occur on both sides of the Peninsular Ranges. Rogers felt that these phases formed a sequence in which increasing specialization and refinement of tool types were the key elements. Although absolute dates for the various phase changes have not been hypothesized or fully substantiated by a stratigraphic sequence, the San Dieguito Tradition as a whole is believed to have existed from approximately 7000 to 10,000 years ago.

Throughout southwestern California the La Jolla Complex followed the San Dieguito Tradition. The La Jolla Complex, as first described by Rogers (1939, 1945), then redefined by Harding (1951), is recognized primarily by the presence of millingstone assemblages within shell middens. Characteristic cultural resources of the La Jolla Complex include basined millingstones, unshaped manos, flaked stone tools, shell middens, and a few Pinto-like projectile points. Flexed inhumations under stone cairns, with heads pointing north, are also present (Rogers 1939, 1945; Warren *et al* 1961).

The La Jolla Complex existed from 5500 to 1000 BCE. Although there are several hypotheses to account for the origins of this complex, it would appear that it was a cultural adaptation to climatic warming after c. 6000 BCE. This warming may have stimulated movements to the coast of desert peoples who then shared their millingstone technology with the older coastal groups (Moratto 1984). The La Jollan economy and tool assemblage seems to indicate such an infusion of coastal and desert traits instead of a total cultural displacement.

The Pauma Tradition, as first identified by D.L. True in 1958, may be an inland variant of the La Jolla Complex, exhibiting a shift to a hunting and gathering economy, rather than one based on shellfish gathering. Implications of this shift are an increase in number and variety of stone tools and a decrease in the amount of shell (Meighan 1954; True 1958; Warren 1968; True 1977). At this time, it is not known whether the Pauma Complex represents the seasonal occupation of inland sites by La Jollan groups or whether it represents a shift from a coastal to a non-coastal cultural adaptation by the same people.

The late period is represented by the San Luis Rey Complex, first identified by Meighan (1954) and later redefined by True *et al* (1974). Meighan divided this complex into two periods: San Luis Rey I (1400-1750 CE) and the San Luis Rey II (1750-1850 CE). The San Luis Rey I type component includes cremations, bedrock mortars, millingstones, small triangular projectile points with concave bases, bone awls, stone pendants, *Olivella* shell beads, and quartz crystals. The San Luis Rey II assemblage is the same as San Luis Rey I, but with the addition of pottery vessels, cremation urns, tubular pipes, stone knives, steatite arrow straighteners, red and black pictographs, and such non-aboriginal items as metal knives and glass beads (Meighan 1954). Inferred San Luis Rey subsistence activities include hunting and gathering with an emphasis on acorn harvesting.

Ethnography

Available ethnographic research indicates that the study area was included in the known territory of the Luiseño Indians during both prehistoric and historic times. The name Luiseño is Spanish in origin and was used in reference to those aboriginal inhabitants of Southern California associated with the Mission San Luis Rey. As far as can be determined, the Luiseño, whose language is of the Takic family (part of the Californian Uto-Aztecan linguistic stock), had no equivalent word for their nationality because they did not consider themselves to “belong to” the Spanish occupiers. The Luiseño called themselves *Atáaxum*, which means “people,” and traditional songs refer to the people as *Payómkawichum*, “people of the west.” The people were also associated with their villages. For example, today the Pechanga people refer to themselves as the *Pechangayam*, “people of Pechanga.”

According to ethnographers and Luiseño oral tradition, the territory of the Luiseño was extensive, encompassing much of coastal and inland Southern California. Known territorial boundaries extended on the west to the Southern Channel Islands, to the Santa Ana River and Box Springs Mountain on the north, as far northeast as Mt. San Jacinto, to Lake Henshaw on the southeast, and to Agua Hedionda Creek on the southwest. Their habitat included every ecological zone from sea level to 6000 mean feet above sea level.

Territorial boundaries of the Luiseño were shared with the Gabrieliño and Serrano to the north, the Cahuilla to the east, the Cupeño and Ipai to the south (Fig. 6). With the exception of the Ipai,



Figure 6: Ethnographic location of the study area. Adapted from Kroeber (1925).

these tribes shared similar cultural and language traditions. Although the social structure and philosophy of the Luiseño were similar to that of neighboring tribes, they had a greater population density and correspondingly, a more rigid social structure.

The settlement pattern of the Luiseño was based on the establishment and occupation of sedentary autonomous village groups. Villages were usually situated near adequate sources of food and water, in defensive locations primarily found in sheltered coves and canyons. Typically, a village was comprised of permanent houses, a sweathouse, and a religious edifice. The permanent houses of the Luiseño were earth-covered and built over a two-foot excavation (Kroeber 1925:654). According to informants' accounts, the dwellings were conical roofs resting on a few logs leaning together, with a smoke hole in the middle of the roof and entrance through a door. Cooking was done outside, when possible, on a central interior hearth when necessary. The sweathouse was similar to the houses except that it was smaller, elliptical, and had a door in one of the long sides. Heat was produced directly by a wood fire. Finally, the religious edifice was usually just a round fence of brush with a main entrance for viewing by the spectators and several narrow openings for entry by the ceremonial dancers (Kroeber 1925:655).

Luiseño subsistence was based on seasonal floral and faunal resource procurement. Each village had specific resource procurement territories, most of which were within one day's travel of the village. During the autumn of each year, however, most of the village population would migrate to the mountain oak groves and camp for several weeks to harvest the acorn crop, hunt, and collect local resources not available near the village. Hunters typically employed traps, nets, throwing sticks, snares, or clubs for procuring small animals, while larger animals were usually ambushed, then shot with bow and arrow. The Luiseño normally hunted antelope and jackrabbits in the autumn by means of communal drives, although individual hunters also used bow and arrow to hunt jackrabbits throughout the year. Many other animals were available to the Luiseño during various times of the year but were generally not eaten. These included dog, coyote, bear, tree squirrel, dove, pigeon, mud hen, eagle, buzzard, raven, lizards, frogs, and turtles.

Small game was prepared by broiling it on coals. Venison and rabbit were either broiled on coals or cooked in an earthen oven. Whatever meat was not immediately consumed was crushed on a mortar, then dried and stored for future use (Sparkman 1908:208). Of all the food sources utilized by the Luiseño, acorns were by far the most important. Six species were collected in great quantities during the autumn of every year, although some were favored more than others. In live oak (*Q. chrysolepsis*), Engelmann Oak (*Q. engelmannii*), interior live oak (*Q. wislizenii*), and order of preference, they were black oak (*Quercus kelloggii*), coast live oak (*Q. agrifolia*), canyon scrub oak (*Q. berberidifolia*). The latter three were used only when others were not available.

Acorns were prepared for consumption by crushing them in a stone mortar and leaching off the tannic acid, then made into either a mush or dried to a flour-like material for future use.

Herb and grass seeds were used almost as extensively as acorns. Many plants produce edible seeds which were collected between April and November. Important seeds included, but were not limited to, the following: California sagebrush (*Artemisia californica*), wild tarragon (*Artemisia dracunculus*), white tidy tips (*Layia glandulosa*), sunflower (*Helianthus annuus*), calabazilla (*Cucurbita foetidissima*), sage (*Salvia carduacea* and *S. colombariae*), California buckwheat (*Eriogonum fasciculatum*), peppergrass (*Lepidium nitidum*), and chamise (*Adenostoma fasciculatum*). Seeds were parched, ground, cooked as mush, or used as flavoring in other foods.

Fruit, berries, corms, tubers, and fresh herbage were collected and often immediately consumed during the spring and summer months. Among those plants commonly used were basketweed (*Rhus trilobata*), Manzanita (*Arctostaphylos Adans.*), miner's lettuce (*Montia Claytonia*), thimbleberry (*Rubus parviflorus*), and California blackberry (*Rubus ursinuss*). When an occasional large yield occurred, some berries, particularly juniper and manzanita, were dried and made into a mush at a later time.

Tools for food acquisition, preparation, and storage were made from widely available materials. Hunting was done with a bow and fire-hardened or stone-tipped arrows. Coiled and twined baskets were used in food gathering, preparation, serving, and storage. Seeds were ground with handstones on shallow granitic mutates, while stone mortars and pestles were used to pound acorns, nuts, and berries. Food was cooked in clay vessels over fireplaces or earthen ovens. The Luiseño employed a wide variety of other utensils produced from locally available geological, floral, and faunal resources in all phases of food acquisition and preparation.

The Luiseño subsistence system described above constitutes seasonal resource exploitation within their prescribed village-centered procurement territory. In essence, this cycle of seasonal exploitation was at the core of all Luiseño lifeways. During the spring collection of roots, tubers, and greens was emphasized, while seed collecting and processing during the summer months shifted this emphasis. The collection areas and personnel (primarily small groups of women) involved in these activities remained virtually unchanged. However, as the autumn acorn harvest approached, the settlement pattern of the Luiseño altered completely. Small groups joined to form the larger groups necessary for the harvest and village members left the villages for the mountain oak groves for several weeks. Upon completion of the annual harvest, village activities centered on the preparation of collected foods for use during the winter. Since few plant food resources were available for collection during the winter, this time was generally spent repairing and manufacturing tools and necessary implements in preparation for the coming resource procurement seasons.

Each Luiseño village was a clan tribelet – a group of people patrilineally related who owned an area in common and who were both politically and economically autonomous from neighboring villages (Bean & Shipek 1978:555). The chief of each village inherited his position and was responsible, with the help of an assistant, for the administration of religious, economic, and warfare powers. A council comprised of ritual specialists and shamans, also hereditary positions, advised the chief on matters concerning the environment, rituals, and supernatural powers.

According to early ethnographers, the social structure of the villages was considered obscure, since the Luiseño apparently did not practice the organizational system of exogamous moieties used by many of the surrounding Native American groups. At birth, a baby was confirmed into the house-holding group and patrilineage. Girls and boys went through numerous puberty initiation rituals during which they learned about the supernatural beings governing them and punishing any infractions of the rules of behavior and ritual (Sparkman 1908:221-225). The boys' ceremonies included the drinking of toloache (*Datura*), visions, dancing, ordeals, and the teaching of songs and rituals. Girl's puberty rituals, which included "roasting" in warm sands and rock painting, were centered on how to be a contributing adult in their society and their responsibilities in the cycles of the world. Marriages did not take place immediately after puberty rituals were completed as the relationship between girls, puberty, and marriage was very complex. Children's future marriages were often arranged at birth, but as the parties became adults, relationships were reevaluated. The Luiseño were concerned that marriages not occur between individuals too closely related. Although cross-cousin marriages occurred on occasion, they were not commonly accepted. Instead, marriage was based more on clan relationships. Luiseño marriages created important economic and social alliances between lineages and were celebrated accordingly with elaborate ceremonies and a bride price. Residence was typically patrilineal. Men and women with large social responsibility often lived with multiple people and the relationships were of support for the community.

One of the most important elements in the Luiseño life cycle was death. At least a dozen successive mourning ceremonies were held following an individual's death, with feasting taking place and gifts being distributed to ceremony guests. Luiseño cosmology was based on a dying-god theme, the focus of which was *Wiyó-t'*, a creator-culture hero and teacher who was the son of earthmother (Bean & Shipek 1978:557). The order of the world was established by this entity, and he was one of the first "people" or creations. Upon the death of *Wiyó-t'* the nature of the universe changed, and the existing world of plants, animals, and humans was created. The original creations took on the various life forms now existing and worked out solutions for living. These solutions included a spatial organization of species for living space and a chain-of-being concept that placed each species into a mutually beneficial relationship with all others.

Based on Luiseño settlement and subsistence patterns, the type of archaeological sites associated with this culture may be expected to represent the various activities involved in seasonal resource exploitation. Temporary campsites, usually evidenced by lithic debris and/or milling features, may be expected to occur relatively frequently. Food processing stations, often only single milling features, are perhaps the most abundant type of site found. Isolated artifacts occur with approximately the same frequency as food processing stations. The most infrequently occurring archaeological site is the village site. Sites of this type are usually large, in defensive locations amidst abundant natural resources, and usually surrounded by the types of sites previously discussed, which reflect the daily activity of the villagers. Little is known of ceremonial sites, although the ceremonies themselves are discussed frequently in the ethnographic literature. It may be assumed that such sites would be found in association with village sites, but with what frequency is not known.

History

Four principal periods of historical occupation existed in Southern California: the Protohistoric Period (1540-1768 CE), the Spanish Mission Period (1769-1830 CE), the Mexican Rancho Period (1830-1848 CE), and the American Developmental Period (1848-present CE).

In the general study area, the Spanish Mission Period (1769-1830 CE) first represents historical occupation. Although earlier European explorers had traveled throughout South California, it was not until the 1769 “Sacred Expedition” of Captain Gaspar de Portola and Franciscan Father Junipero Serra that there was actual contact with aboriginal inhabitants of the region. The intent of the expedition, which began in San Blas, Baja California, was to establish missions and presidios along the California coast, thereby serving the dual purpose of converting Indians to Christianity and expanding Spain’s military presence in the “New World.” In addition, each mission became a commercial enterprise utilizing Indian labor to produce commodities such as wheat, hides, and tallow that could be exported to Spain. Founded on July 16, 1769, the Mission San Diego de Alcalá was the first of the missions, while the Mission San Francisco Solana was the last mission, founded on July 4, 1823.

In 1798 the Mission San Luis Rey de Francia was founded and all aboriginals living within the mission’s realm of influence became known as the “Luiseño.” Within a 20-year period, under the guidance of Fr. Antonio Peyri, the mission prospered to a degree that it was often referred to as the “King of the Missions.” At its peak, the Mission San Luis Rey de Francia, which is located in what is now Oceanside, controlled six ranches and annually produced 27,000 cattle, 26,000 sheep, 1300 goats, 500 pigs, 1900 horses, and 67,000 bushels of grain. During this period, the Mission San Luis Rey de Francia claimed the entire region that is now western Riverside County and northern San Diego County as a cattle ranch, although records of the Mission San Juan Capistrano show this region as part of their holdings.

Toward the end of this period, a federal law was passed that would have a substantial future impact on the study area in that it encouraged both increased settlement and land speculation. The Land Act of 1820, enacted April 24, 1820, ended the ability to purchase the United States' public domain lands on a credit or installment system over four years, as previously established. The new law became effective July 1, 1820, and required full payment at the time of purchase and registration. But to encourage more sales and make land more affordable, Congress also reduced both the minimum price from \$2.00 to \$1.25 per acre and the minimum size of a standard tract from 160 to 80 acres. The minimum full payment now amounted to \$100, rather than \$320. By lowering the price of land and the amount of land required for purchase, the law made it possible for settlers to move to the West, thus increasing the population and decreasing the need for illegal occupation. Although the Land Act of 1820 was good for the average American, it was also good for the wealthy land speculators who had sufficient money to buy the lower cost land, hoping to sell it later at a higher price. Although the Land Act helped create a new age of Western growth and influence, it also increased the confiscation of land from Native Americans.

During the Mexican Rancho Period (1830-1848 CE) the first of the Mexican ranchos was established following the enactment of the Secularization Act of 1833 by the Mexican government. Mexican governors were empowered to grant vacant land to “contractors (*empresarios*), families, or private citizens, whether Mexicans or foreigners, who may ask for them for the purpose of cultivating or inhabiting them” (Robinson 1957:66). Mexican governors granted approximately 500 ranchos during this period. Although legally a land grant could not exceed 11 square leagues (about 50,000 acres or 76 square miles) and absentee ownership was officially forbidden, neither edict was rigorously enforced (*ibid*). The subject property was located within the Temecula Rancho.

The Temecula Rancho originally encompassed both the Temecula and Murrieta valleys, as well as Lake Elsinore. According to Bancroft, the rancho was originally granted to José Antonio Estudillo, who was also the grantee of the San Jacinto Rancho (Bancroft 1886 II: 493). The *diseño* for the Temecula land grant covered an area approximately seven by eleven miles. This large rancho was apparently coveted by Pio Pico, who was the administrator of the Mission San Luis Rey after secularization. However, the Indians who had been forced to build the mission and tend to mission lands by the Spanish missionaries and soldiers, protested and claimed the Temecula Rancho as their own (Bancroft 1886 II: 361). The Indians would not cede their rights because not only did they believe the land grant to legitimately belong to them, but also because they realized that it produced more grain for the Mission San Luis Rey than any of the Mission's other land holdings.

On August 9, 1840, Pio Pico informed the Indians that the governor had granted him the rancho even though the Indians had strongly opposed this action. However, as American occupation approached, Mexican Governor Manuel Micheltoarena granted a large part of the Temecula Rancho, encompassing an area six square leagues (26,609.54 acres) in size to Mexican army officer Felix Valdez on December 14, 1844. Valdez apparently did little with his rancho. Where grain had once been grown for the Mission San Luis Rey, the land was allowed to return to its natural state. In 1848, Valdez sold the Temecula Rancho to Jean-Luis Vignes, a French vintner, who had purchased the Pauba Ranch the previous year.

In the final period of historical occupation, the American Developmental Period (1848-present), the first major changes in the study area took place, beginning with the discovery of gold in 1848. During the years of the California Gold Rush, most mining occurred in the northern and central portions of the state and as a result, these areas were far more populated than most of Southern California. Nevertheless, there was an increasing demand for land throughout the state and the federal government was forced to address the issue of how much land in California would be declared public land for sale. The Congressional Act of 1851 created a land commission to receive petitions from private land claimants and to determine the validity of their claims. The United States Land Survey of California, conducted by the General Land Office, also began that year. Since the subject property was not considered public land, its boundaries were included in the GLO surveys beginning in 1854 and continuing until 1884, but no details about its use were included in the GLO plat (Fig. 7).

Following completion of the General Land Office surveys, large tracts of federal land became available for sale and for preemption purposes, particularly after Congress passed the Homestead Act of 1862. California was eventually granted 500,000 acres of land by the federal government for distribution, as well as two sections of land in each township for school purposes. Much of this land was located in the southern portion of the state. Under the Homestead Act of 1862, 160-acre homesteads were available to citizens of the United States (or those who had filed an intention to become one) who were either the head-of-household or a single person over the age of 21 (including women). Once the homestead claim was filed the applicant had six months to move onto the land and was required to maintain residency for five years as well as to build a dwelling and raise crops. Upon completion of these requirements the homesteader had to publish intent to close on the property in order to allow others to dispute the claim. If no one did so the homesteader was issued a patent to the property, thus conveying ownership. Individuals were attracted to the federal lands by their low prices and as a result, the population began to increase in regions where the lands available for homestead were located. It was at this time that the region of Southern California which became Riverside County saw an influx of settlers as well as those seeking other opportunities, including gold mining and land speculation,

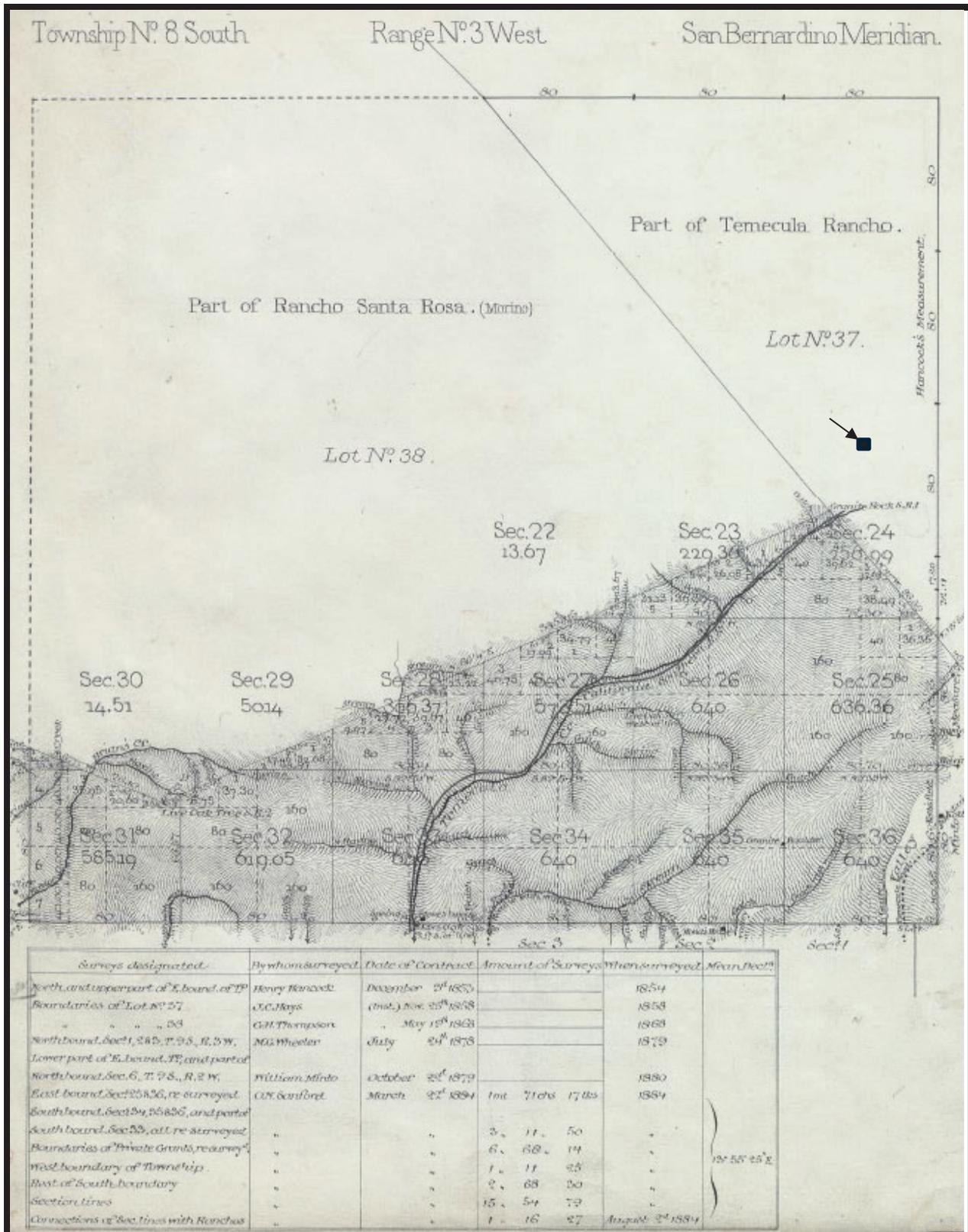


Figure 7: Approximate location of the subject property following the 1854 to 1884 GLO surveys. Adapted from the GLO Plat for Township No. 8 south, Range No. 3 west.

the latter being the result of application of the Land Act of 1820 to California. As Anglo-Americans came to this region in increasing numbers, the continued existence of Native Americans in the area was threatened as their traditional lands were stolen from them.

Vignes' undisputed ownership of the Temecula Rancho in 1848 was to be very short-lived. As the result of its defeat in the Mexican American War (1846-1848), Mexico ceded the northern one-third of the country to the United States in the 1848 Treaty of Guadalupe Hidalgo. The immediate result of this act was that Jean-Luis Vignes no longer technically owned the rancho. All of the ceded land was now considered public land owned by the United States and once surveyed by the General Land Office, would be available for sale under the 1820 Land Act, and later, available under the Homestead Act of 1862. Title to some of the public lands was eventually transferred to the states in which they were located. California became a state in 1850 and the first GLO survey of the subject property occurred in 1854 (boundaries). Interestingly, the Temecula Rancho was not sectionalized at this time and remained intact on the GLO plat.

Another component of the original text of the Treaty of Guadalupe Hidalgo stipulated that the United States would continue to recognize the validity of Mexican land grants. Although Congress struck out this provision of the treaty during the ratification process, the United States assured Mexico that it would uphold valid grants and adjudicate land rights accordingly. In order to comply with the treaty terms for lands in California, the United States Congress passed "An Act to Ascertain and Settle the Private Land Claims in the State of California" on March 3, 1851 (aka Grant-Spanish/Mexican, 009 Stat. 0633). This law provided a mechanism for owners of Mexican land grants to apply for validation and reinstatement of their claims.

Although Jean-Luis Vignes purchased the Temecula Rancho in 1848, the sale was not confirmed until January 18, 1860, by court order under the Grant-Spanish/Mexican Act of 1851. Confirmation of the Pauba Rancho had occurred the previous year. Vignes is often called the father of the wine industry in California, and it is assumed that he bought both the Temecula and Pauba ranchos with grape growing in mind. However, his plans did not come to fruition and soon after he acquired ownership of the ranchos, he sold them to Jacob R. Snyder. From Snyder, the ranchos were sold to Francisco Zanjurjo, Domingo Pujol, Jose Gonzalez, and Juan Murrieta (although Murrieta's name does not appear on County records). For \$52,000, 52,000 acres of land were acquired (Hudson 1981:72). At this time, sheep raising was reintroduced on the ranchos. After living on the Temecula Rancho for several years, Murrieta sold his interest, which was the northern 14,000 acres of the rancho, to the Temecula Land and Water Company in 1884. Except for this sale, the Temecula and Pauba ranchos were never under separate ownership until 1964 when Rancho California started subdividing. Titles to the two ranchos were recorded for several owners after Zanjurjo, et al. These included C.C. Stevenson, Cosmos Land and Water

Company, H.L. Heffner, the Pauba Ranch Company (Vail Ranch), and the Empire Land and Cattle Company.

Throughout the late 1840s and the 1850s, thousands of settlers and prospectors traveled through the study area on the Emigrant Trail enroute to various destinations in the West. The southern portion of the trail ran from the Colorado River to Warner's Ranch and then westward to Aguanga, where it split into two roads. The main road continued westward past Aguanga and into the valley north of the Santa Ana Mountains. This road was alternately called the Colorado Road, Old Temescal Road, or Fort Yuma Road and what is now SR-79 generally follows its alignment. The second road, known as the San Bernardino Road, split off northward from Aguanga and ran along the base of the San Jacinto Mountains.

On September 16, 1858, the Butterfield Company, following the southern Emigrant Trail, began carrying the Overland Mail from Tipton, Missouri to San Francisco, California. The first stagecoach passed through Temecula on October 7, 1858, and exchanged horses at John Magee's store, which was located south of Temecula Creek on the Little Temecula Rancho. It was around this store that the second location of Temecula was established. In addition to being a Butterfield Overland Mail stop, it was at John Magee's store that the first post office in what is now Riverside County opened on April 22, 1859, with Louis A. Rouen being appointed the first United States postmaster in inland southern California (Hudson 1968:8). From this time until the outbreak of the Civil War terminated Butterfield's service, mail was delivered to the Temecula Post Office four times per week.

The Temecula Post Office was discontinued on March 12, 1862, and then sometime later in the 1860's, John Magee's Store was abandoned. Shortly thereafter, Louis Wolf, who had worked for John Magee at the store, built a new store across Temecula Creek at the Pauba Ranch headquarters. After being out of service for over seven years, the Temecula Post Office was re-established on July 27, 1870, at Louis Wolf's store, which was approximately one-quarter mile north of Magee's store. On the same day the post office was re-opened, Wolf was appointed Temecula's postmaster. For the next four years, mail was delivered to Wolf's Store once a week by the firm of Barlow and Cafron who operated Mail Route No. 14830 between San Diego and San Bernardino under contract with the United States Post Office Department. Wolf was also appointed postmaster from February 4, 1876, to January 7, 1883, and from March 10, 1886, to September 17, 1887; the day on which he died at age fifty-four (Hudson 1968:10).

Barlow and Cafron's contract lasted only four years and it is not known how mail was delivered to Temecula for the following four years (1874 to 1878). However, on October 9, 1878, Captain Samuel Warren Hackett purchased a mail contract from A. J. Knight for Mail Route 46336, which began in San Diego and terminated in Temecula. Hackett was able to renew his contract to continue the mail route until June 30, 1886. During the first five years of his contract, Hackett

delivered the weekly mail to the Temecula Post Office at Wolf's Store on the Pauba Ranch. When the post office moved from Wolf's Store to Temecula Station on January 24, 1883, Hackett's route increased by 3.5 miles, an inconvenience for which he requested and was granted increased compensation by the United States Post Office Department.

Despite the closure of Magee's Store, the second Temecula, located at Pauba Ranch, had continued to thrive as an important supply center and stopping place for travelers on both the Southern Emigrant Trail and the San Diego-to-San Bernardino Road, which actually intersected in the area. With the establishment of Louis Wolf's store, Temecula had also become the trading center for hundreds of square miles of backcountry in San Diego County.

In the 1870's, Wolf had purchased the Little Temecula Rancho, within which his store was located. At this time, there still existed the Luiseño village that had been built around Pablo Apis' residence and John Magee's store. In 1875, the Indians occupying this village, as well as others residing in the region, were forcefully relocated onto land south of Temecula Creek by a posse led by the sheriff of San Diego County. Louis Wolf was a member of that posse. The Indians built new homes on the land, and ten years after the relocation, the 4125-acre Pechanga Indian Reservation was created.

On March 17, 1882, the California Southern Railroad (San Bernardino and Temecula Line) was opened extending from National City near the Mexican border in San Diego County, northerly to Temecula and Murrieta, across the Perris Valley, down Box Springs Grade, and on to the City of San Bernardino and the entire region anticipated a boom in industry and population. A railway station serving the new line was constructed three and one-half miles to the northwest of the Temecula Post Office, and then located at Louis Wolf's store. The post office was moved to the station on January 8, 1883, and re-named the Temecula Station. While surveying the route for the California Southern Railroad, the Chief Engineer for Construction, Mr. Frederick Thomas Perris, had also run survey lines for lots and streets to form a new town site around the railway station. The third and final location of Temecula was thus established. Unfortunately, flooding and washouts in Temecula Canyon plagued the California Southern Railroad from the beginning. Railway service was disrupted for months at a time and a fortune was spent on rebuilding the washed out tracks. Finally, in 1891 the Santa Fe Railway constructed a new line from Los Angeles to San Diego down the coast and when later that year the California Southern Railway's route through Temecula Canyon once again was washed out, that portion of the line was discontinued.

Around the time that the California Southern Railroad commenced service, Mr. L. Menifee Wilson, a 20-year-old from Kentucky, moved to the area and located what appears to have been the first gold quartz mine in Southern California. The mine was located approximately fifteen miles northwest of PA23-0197 and was named the Menifee Quartz Lode. As news of his finding spread, miners flocked to the region to try their luck. Hundreds of gold mining claims were

subsequently filed in the region around Menifee's mine and this area became known as Menifee and the Menifee Valley (Gunther 1984:319-320). Unfortunately, most of the mines eventually closed, generally due to the lack of water necessary for processing gold-bearing ore. By the end of the 19th century, a far greater emphasis began to be placed on the agricultural potential of the area. Replacing daily reports on gold yields from the mines were crop yields and bushel reports from the growing number of farms in western Riverside County. Although settlers continued to move into this region and a number of small towns developed, the migration was less dynamic than it had been during the early years of the gold rush and the region retained a fairly rural flavor until the last decades of the 20th century.

In 1904 and 1905, a partnership formed by Walter A. Vail and Carrol W. Gates purchased most of the land that was to become the Vail Ranch from the San Francisco Savings Union. This land included the Pauba Rancho, the southern portion of the Temecula Rancho, and the Santa Rosa Rancho. The San Francisco Savings Union apparently did not own the Little Temecula Rancho lands and according to the grant deed records of Riverside County, this land was purchased at a somewhat later date than the majority of Vail Ranch lands. The Vail Ranch, with a total acreage of 87,500 acres, became one of the largest cattle ranches in California.

On December 4, 1964, the Vail Company completed the sale of its 87,500-acre cattle ranch to Rancho California, Inc., a partnership comprised of Macco Corporation, Kaiser Aluminum and Chemical Corporation, and Kaiser Industries. With a sale price of twenty-one million dollars in cash, it constituted the largest single land transaction at that point in Riverside County history. Although Rancho California development plans called for maintaining primarily rural and agricultural uses, the sale of Vail Ranch clearly marked the end of an era.

METHODS AND PROCEDURES

Research

Prior to commencement of the Phase I Cultural Resources Assessment field survey, a records search request was submitted to staff at the Eastern Information Center located at the University of California, Riverside on February 12, 2024, with the results received on February 28, 2024. The records search included a review of all site maps, site records, survey reports, and mitigation reports within a one-mile radius of the study area. The following documents were also reviewed: National Register of Historic Places, California Office of Historic Preservation Archaeological Determinations of Eligibility, and California Office of Historic Preservation Historic Properties Directory. In addition to the records search, a request for a Sacred Lands File search was submitted to the Native American Heritage Commission on February 12, 2024, with the results received on March 1, 2024. On March 4, 2024, project scoping letters were sent to 22 tribal representatives listed as being interested in project development within the Temecula area.

Concurrent with the records and Sacred Lands File search requests, a literature search of available published references to the study area was undertaken. Reference material included all available photographs, maps, books, journals, historical newspapers, registers, and directories held in various repositories. Archival and cartographic research was conducted through the USGS Historical Map Collection, the General Land Office records currently maintained by the California Office of the Bureau of Land Management, a plethora of archival materials held by Ancestry.com, the California Digital Newspaper Collection, and the California Internet Archives. Information regarding property ownership and valuation from 1892 to 1943 was available from the Riverside County Archives, but post-1943 information was not accessible due to current conservation efforts and scanning of the original materials. The following maps were consulted:

1854 thru 1884 General Land Office Plats, Township No. 8 south, Range No. 3 west
1901 Elsinore, California 30' USGS Topographic Map
1942 Temecula, California 15' U.S. Dept. of the Army Corps of Engineers Topographic Map
1948 Temecula, California Quadrangle, 7.5' USGS Topographic Map
1950 Temecula, California Quadrangle, 7.5' USGS Topographic Map
1959 Santa Ana, California 1:250,000 USGS Topographic Map
1968 Temecula, California Quadrangle, 7.5' USGS Topographic Map
1975 (photorevised, Temecula, California Quadrangle, 7.5' USGS Topographic Map
2015 Temecula, California Quadrangle, 7.5' USGS Topographic Map
1980 (photorevised) Santa Ana, California 1:250,000 USGS Topographic Map
2022 Temecula, California Quadrangle, 7.5' USGS Topographic Map

Fieldwork

Subsequent to the literature, archival, photographic, and cartographic research, Jean Keller conducted a comprehensive pedestrian field survey of the subject property on February 18, 2024. Beginning at the northwestern property corner, the survey was accomplished by traversing the subject property in parallel transects at 15-meter intervals. The survey proceeded in a generally north-south, south-north direction, following the existing land contours. All of the property was accessible for survey, although as previously discussed, no native soil is currently visible within the property boundaries, having been covered by 7' to 10' of compacted artificial fill. The *descanso* located near the southeastern corner of the property was photographed and evaluated. Since the feature was determined to be of contemporary origin, no further work was conducted.

RESULTS

Research

Results of the records search conducted on February 28, 2024, by staff at the Eastern Information Center indicated that the subject property had not been included in any previous cultural resource studies, although three previous studies have tangentially involved PA23-0197. The first of these studies was conducted in 1980 by Archaeological Systems Management, Inc. and was entitled "Cultural Resource Inventory and Impact Assessment for the KACOE/Rancho California Property (RI-1048). The study included 7500 acres divided into two primary parcels, neither of which actually included what is now PA23-0197. Boundaries for the larger, eastern parcel were Highway 79 on the south; portions of General Kearney Road, Solana Way, and Serena Way on the north; portions of Margarita and Pauba roads on the west; and the proposed route of Butterfield Stage Road on the east. The western parcel was bounded by Webster Road to the north; Winchester Road, Solana Way, and Ynez Road to the east; Diaz Road and Interstate 15 to the west. The southern boundary was a narrow strip of land between Ynez Road and I-15 which terminated one kilometer south of the intersection of I-15 and Highway 79, the latter apparently being the reason EIC listed RI-1048 as involving the subject property, despite the fact that it was not actually included in the study.

The second previous cultural resource study was conducted in 2003 by Michael Brandman Associates, with the letter report entitled "Records Search and Site Visit for Sprint Telecommunications Facility RV54XC468H (Carl's Jr.), 44515 Bedford Court, Temecula, Riverside County, California," (RI-6169). Again, this study did not include the subject property, but was specific to the precise location of a proposed cell tower next to the Carl's Jr. restaurant. Due to the scale of the USGS topographic map on which the study was plotted, as well as to inaccurate mapping, the study appeared to touch the northeastern boundary of the subject property, thus at least tangentially involving what is now PA23-0197. Both Carl's Jr. and the cell tower are actually quite some distance removed from the subject property.

The third previous cultural resource assessment was at the same time completely removed from the subject property and most closely connected to it. In 2012, archaeologists from the California Department of Transportation, District 8, conducted a study entitled "Environmentally Sensitive Area Action Plan for the Cajalco Road/Alexander Street Traffic Signal Project, City of Perris, Riverside County, California," (RI-9155). Cajalco Road is, in fact, approximately 36 miles northwest of the subject property. Inexplicably, of the 22-page report, pages 14, 15, 16, 21, and 22 dealt with a completely different project, proposed improvements to the existing Interstate 15 (I-15) / Highway 79 (SR 79) Interchange. The proposed project included demolition of existing

I-15 southbound on-and off-ramps and construction of a cloverleaf interchange with direct on-ramps and loop off-ramps. Although this project also did not include the subject property, USGS map scale and inaccurate mapping resulted in an appearance that the property was included in this study, when in fact, it's location was tangential. According to Mr. Eulices Lopez of the EIC, the actual report dealing with the Temecula property has not been found.

The subject property is in a very well-studied area with 85 cultural resource studies having been conducted within a one-mile radius, several of which encompassed large tracts of land. As a result, most of the land within this radius has been involved in at least one previous study. During the course of field surveys for these studies, 23 cultural resources properties have been recorded, although one site was recorded twice with different primary numbers (Table 1).

Table 1
Previously Recorded Cultural Resources in the Scope of the Records Search
and Distance from Development Plan PA23-0197

Primary No. <i>Trinomial</i>	Description of Recorded Cultural Resources	Distance <i>(in miles)</i>
P-33-000050 <i>CA-RIV-50</i>	Large occupation area, formerly designated (incorrectly) the village of <i>Temeku</i> , contributor to the Murrieta Creek Archaeological Area. Tested in the 1940s and 1950s by UC Berkeley. Recorded cultural resources include 22 milling features, a possible shelter, a bowl fragment, hearth, a rock alignment, midden, fire affected rock, debitage, mano fragments, and metate fragments.	0.25 – 0.50
P-33-000270 <i>CA-RIV-270</i>	Occupation area, contributor to the Murrieta Creek Archaeological Area. Recorded cultural resources include 9 bedrock milling stations with 15 mortars; cupules, basalt tertiary flakes, quartz tertiary flakes, and schist ground stone fragment.	0.00 – 0.25
P-33-000365 <i>CA-RIV-365</i>	Occupation area, contributor to the Murrieta Creek Archaeological Area. Recorded cultural resources include a metate, mano, mano fragments, spare quartz and basalt debitage, fire affected rock, midden, and burnt bone fragments.	0.00 – 0.25
P-33-001071 <i>CA-RIV-1071</i>	Recorded in 1976 by Eastvold, but had no site description; could not be relocated in 1987, 1989, 2006, and 2011	0.75 – 1.0
P-33-004707 <i>CA-RIV-4707</i>	Prehistoric and Historic site components. <i>Prehistoric:</i> relatively dense midden, flaked stone tools, Cottonwood points, debitage, Tizon Brownware sherds, ground stone tools, bone awl, vertebrate fauna, and fire altered rock. <i>Historic:</i> Trash dump; historic glass, ceramic and metal artifacts, domestic animal bone, large amounts of historic Tizon Brownware jar and bowl fragments, fire altered rock,	0.50 – 0.75

	square nails, chunk of daub, charred plants, and 1850-1900 irrigation pipe.	
P-33-004949 CA-RIV-4949	Concrete foundation and structural remains of a slaughterhouse established in 1910. Demolished in early 1990s and material shoved into creek.	0.50 – 0.75
P-33-007742	1925 Munoa House (28763 Front Street) Vernacular Wood Frame House.	0.75 – 1.00
P-33-007761	1882 Al Otton House (28717 Pujol Street) Vernacular Wood Frame Residence.	0.75 – 1.00
P-33-007762	1920 Fred Ramirez House (historic name) / The Jordan Home (common name) (28725 Pujol Street) Bungalow.	0.75 – 1.00
P-33-007763	1926 Angel Ramirez House (28731 Pujol Street) Bungalow.	0.75 – 1.00
P-33-007764	1910 Vernacular Wood Frame Residence (28735 Pujol Street).	0.75 – 1.00
P-33-011222	Two rock circles carved into granitic bedrock.	0.00 – 0.25
P-33-011443	Murrieta Creek Archaeological Area. Encompasses three large prehistoric habitation sites (CA-RIV-50, -270, -365) and one prehistoric milling site (CA-RIV-12520). Tom King nominated the sites to the National Register of Historic Places in 1972 as a single archaeological district. The boundaries of the district appear to be arbitrary and are not necessarily defined by recorded cultural features and artifacts.	0.75 – 1.00
P-33-012517	Multiple bedrock milling outcrops and a scatter of flaked lithics.	0.75 – 1.00
P-33-012520	Contributor to the Murrieta Creek Archaeological Area. Three bedrock milling features with mortars, basins, slicks, cupules, and a possible “yoni.”	0.25 – 0.50
P-33-012742	Recorded in 1988 by Drover as “isolated granite/diorite unifacial mano fragment,” but could not be relocated in 2011.	0.75 – 1.00
P-33-013135	1927 Bridge on Pala Road over Temecula Creek (three-span, earth-filled, reinforced concrete round nose piers and “U” abutments.	0.75 – 1.00
P-33-014928	Recorded by Sheets in 2006 as an “isolated vesicular basalt metate fragment,” but could not be relocated in 2011.	0.75 – 1.00
P-33-023889	Isolate: complete shaped, bifacial quartz hand stone.	0.75 – 1.00
P-33-024153	0.8-mile segment of Rainbow Canyon Road / Old U.S. Route 395 (two-lane, asphalt-paved, 25’ wide with variable shoulder and multiple steep curves).	0.75 – 1.00
P-33-025246	Isolate: unifacial mano	0.00 – 0.25
P-33-029407	Isolate: granitic metate	0.25 – 0.50
P-33-029766	<i>*identical to P-33-029766</i>	0.25 – 0.50

Eight of the 22 recorded cultural resource properties within a one mile radius of PA23-0197 are of historical origin, one site has both prehistoric and historical elements, and one site was never

described so its origins are unknown. The remaining 12 sites are of prehistoric (Native American) origin, comprised primarily of bedrock milling features and/or associated milling artifacts. Eighteen percent of the sites have been recorded within one-quarter mile of PA23-0197, while 14% of the recorded sites are within one-half mile, 9% within three-quarters of a mile, and 59% are within three-quarters to one mile of the subject property. Five of the recorded sites were isolated artifacts and of these, none could be relocated after the initial recordation; a sixth site of unknown characteristics also could not be relocated. Four occupation sites are situated near the confluence of Murrieta Creek and Temecula Creek, an area designated as the Murrieta Creek Archaeological Area. This is a somewhat arbitrarily defined area whose boundaries are not necessarily driven by recorded cultural features or artifacts; the subject property is located near the northwestern corner of the MCAA. The four sites comprise what has been described as a large habitation complex with evidence of long-term occupation. When originally recorded, it was incorrectly identified as the village of *Temeku*. It is probable that the small special use milling sites in the general area were associated with this habitation complex, thus expanding its geographic extent and influence. The presence of both bedrock mortars and milling slicks at sites recorded within one mile of PA23-0197 indicate a diversity of resources available for exploitation. Mortars were most commonly used to process acorns, but currently, oak trees in this area of Riverside County are sparse, so it is possible that either oak trees were far more abundant at one time, or that acorns were harvested elsewhere and brought to the habitation site for processing. Interestingly, although the presence of a number of bedrock mortars and milling slicks appear relatively balanced, no pestles - which would have been used with mortars - have thus far been recorded, compared to an abundance of manos, which were used in conjunction with milling slicks. This may reflect the fact that rocks suitable for making pestles were not as common as those used for manos, so were rarely left behind after use.

A search of the *Sacred Lands File* was completed by the Native American Heritage Commission for the subject property, with positive results based on the provided USGS quadrangle information. At this time, responses to the 22 project scoping letters sent to tribes listed by the NAHC as being interested in the Temecula area, have been received from the Agua Caliente Band of Cahuilla Indians (March 11, 2024), the Rincon Band of Luiseño Indians (March 27, 2024, and the Pechanga Band of Indians (April 1, 2024). Internal records of the Agua Caliente Band of Cahuilla Indians' Tribal Historic Preservation Office's cultural registry revealed that the project is not located within the Tribe's Traditional Use Area. Therefore, they deferred to local tribes in the area and concluded their consultation efforts. The Rincon Cultural Resources Department identified the location of the subject property as being within the Traditional Use Area of the Luiseño Indians, as well as in Rincon's specific area of Historic Interest. After reviewing the provided documents and their internal information, the Rincon Band has no information on specific Tribal Cultural Resources (TCRs) or Traditional Cultural Properties (TCPs) within or surrounding the area, but that does not mean that none exists. The proposed project is in a

culturally sensitive area and the Tribe believes that the potential exists for cultural resources to be identified during further research and survey work. They recommend working closely with the Pechanga Band as they may have pertinent information to provide. The Rincon Band requested that a final copy of the cultural resources study be forwarded to them upon completion. As part of the AB 52 process, a copy of this Phase I Cultural Resource Assessment will be provided to the Rincon Band by the City of Temecula.

After reviewing the provided maps and their internal documents, the Pechanga Band of Indians determined that the project area is not within their reservation, but it is located within 1.44 miles. The proposed project is located in the very heart of their Ancestral Territory and as such, they are interested in participating in the project based on their *'Ayé/kwish/Traditional Knowledge*, especially considering that the APE is entirely within their Luiseño Ancestral Origin Traditional Cultural Landscape – a listed property on the National Registry of Historic Places. According to the Pechanga Band, there is not a more culturally sensitive area in their entire Ancestral Territory. Additionally, the project is within the scope of their Creation-Placename and surrounded by eight additional Ancestral Placenames, all under 1.15 miles away. The very flash point for Creation of their Culture's World occurs at the confluence of Murrieta Creek and Temecula Creek, which is located less than one-quarter mile from PA23-0197. Further, when considering their culture's burial practices and the proximity of the subject property to the creeks, Pechanga believes that the possibility of recovering sensitive subsurface resources during ground disturbing activities is extremely high. At this time, the Pechanga Band requests the following: 1) Notification once the Project begins the entitlement process; 2) Copies of all applicable archaeological reports, site records, proposed grading plans, and environmental documents; 3) Government-to-Government consultation with the Lead Agency; and 4) Monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving activities, so they reserve the right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Finally, in the event that subsurface cultural resources are identified, Pechanga requests consultation with the project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

A literature search found no information specific to the subject property. Archival research was conducted relating to previous ownership of the subject property, but currently, records at the Riverside County Archives are only available to 1943. Early settlers in the Temecula area typically obtained land from the public domain of the United States through homesteading or other means of public land acquisitions, such as the Land Act of 1820, or from agents of the Southern Pacific Railroad. Other lands in the region, including even-numbered mile-square sections, were homesteaded or obtained through preemption. Lands were granted to the State of California on March 3, 1853, by an Act of Congress (Ch. 145, 10 Stat. 244) to support public schools. These lands consisted of the 16th and 36th sections of land in each township, except for lands reserved

for other public purposes, lands previously conveyed, e.g., rancho lands, sovereign lands, and swamp or overflowed lands, and lands known to be mineral in character. No federal patents to the State were required under the grant. Title to the lands was vested in the State upon approval of the U.S. Township Survey Plats.

Archival research pertaining to early ownership of what is now PA23-0197 is rather intriguing. As previously discussed, the subject property is included in the Temecula Rancho. Although the rancho had been briefly owned first by José Antonio Estudillo, then by Felix Valdez, Jean-Luis Vignes was the first non-Native owner who held the property for any significant length of time. After purchasing the Pauba Rancho in 1847, Vignes purchased the Temecula Rancho in 1848. On January 19, 1860, the sale was finally confirmed and a Serial Patent for 26,291.30 acres of the Temecula Rancho was granted to Vignes under authority of the Spanish/Mexican Grant Act.

Jean-Louis Vignes was born to Jean Vignes and Elizabeth Cato on April 9, 1780, in Béguey, a village downriver from Cadillac, Gironde near Bordeaux, France. He grew up with two brothers, Pierre and Pierre Esliens, and two sisters, both named Marie. The Vignes were artisans who made barrels for the local wine industry, as well as their own. On February 10, 1802, Jean-Louis married Jeanne Simon and on December 30, 1816, he paid his father 2,100 francs to acquire the family home in Béguey, along with its cellars and workshop, the vines, and 3.2 acres of land. Jean-Louis became a local public figure, but unfortunately, by the end of 1820, his mortgages exceeded 20,000 francs and he ran into financial difficulties. On April 25, 1826, he stopped paying his father the money he owed, and all his properties were mortgaged. His financial difficulties, coupled with a dramatically changed political environment, led to the Vignes family leaving France, and landing in Hawai'i on July 6, 1827.

To start his new life, Jean-Louis Vignes settled on a small property about three miles from Honolulu and started raising sugar cane, vines, turkeys, and a few cattle. In October 1828, he was hired as manager of Oahu's rum distillery. However, the manufacture and sale of liquor did not sit well with the powerful Puritan Reverend Hiram Bingham, who successfully pressured Queen Kaahumanu to outlaw the sale of rum. In December 1829, the distillery was closed, the sugar cane plantations were destroyed, and Jean-Louis Vignes decided to move to California, landing in Monterey, Alta California on June 26, 1831. On July 15, 1831, Vignes applied for a Mexican *carta de seguridad*, stating his occupation as a cooper and distiller. Thereafter, he was referred to as Jean-Luis Vignes in period documents, with his middle name changed from the French to Spanish spelling.

From Monterrey, Vignes travelled to Los Angeles, purchased 104 acres of land located between the original Pueblo and the banks of the Los Angeles River, planted a vineyard, and started to make wine. He named his property *El Aliso* after the centuries-old white alder tree found near the entrance. From that time, he was known as Don Luis del Aliso. At that time, the only grapes

grown in California were the Mission variety, brought to Alta California by the Franciscans at the end of the 18th century. They grew well and yielded large quantities of wine, but Jean-Luis Vignes was not satisfied with the results, so he decided to import better vines from Bordeaux - Cabernet Franc and Sauvignon Blanc. The vines were transported on ships around Cape Horn, inserted into moss and potato slices in order to preserve their roots. Vignes became the first person in Alta California to grow quality vines, and the first who aged his wines. At that time, the common practice was to drink the wine as soon as it was fermented. Although the exact date of his first vintage is unknown, it was probably before 1837, because in 1857 he ran an advertisement claiming that some of his wines were 20 years old. The wood for the barrels came from land Vignes owned in the San Bernardino Mountains.

In 1840, Jean-Luis Vignes made the first recorded shipment of California wine. Since the Los Angeles market was too small for his production, he expanded his sales to other areas, and loaded a shipment on the Monsoon, bound for Northern California. By 1842, he made regular shipments to Santa Barbara, Monterey and San Francisco and by 1849, *El Aliso*, was the most extensive vineyard in California. Vignes owned over 40,000 vines and produced 150,000 bottles, or 1000 barrels, per year. *El Aliso* was also the first commercial vineyard in California.

Building on his success with vineyards, Vignes decided to expand his agricultural endeavors and in 1834, brought a few orange trees from the Mission San Gabriel, and planted the first orange grove in Los Angeles. In 1851, his two orange groves reportedly produced between 5000 and 6000 oranges per season. He also grew 400 peach trees, as well as apricots, pears, apples, figs, and walnuts.

In 1848, Vignes purchased both the Temecula Rancho and the adjacent Pauba Rancho in the Temecula Valley, intending to establish vineyards and produce wine in what he considered an ideal environment. Unfortunately for him, the Mexican American War was in progress at this time and upon the United States' victory, the northern one-third of Mexico (including the Temecula Valley) was ceded from Mexico to the United States, where it was temporarily classified as public land. As previously discussed in this report, although the terms of the Treaty of Guadalupe Hidalgo guaranteed that ownership of all Mexican lands be maintained, it was not until 1860, after a court order, that Jean-Luis Vignes was finally issued a patent for the two ranchos. It is possible that Vignes had planned on ultimately moving his winery operations to the ranchos, since in 1855, he had sold *El Aliso* to his nephews Pierre Sainsevain and Jean-Louis Sainsevain for \$40,000, the largest sum of money ever paid for real estate in California at the time. However, due to the ongoing battle to gain title to the land, he was not able to see his plans come to fruition. Instead, he remained living in Los Angeles and increased his involvement in the community. In 1856, he made a large gift to the Catholic Sisters of Charity to participate in the financing of the first hospital in Los Angeles, which opened on May 31, 1858. He also contributed

to the founding of the first Los Angeles public school. Jean-Luis Vignes died in Los Angeles on January 17, 1862, at the age of 82, only two years after finally being issued the patents for the Temecula Valley ranchos.

As discussed earlier in the History section of this report, shortly after finally receiving the patent for the Pauba and Temecula ranchos, Vignes sold them to Jacob R. Snyder. From Snyder, the 52,000 acres of the combined ranchos were sold to Francisco Zanjurjo, Domingo Pujol, Jose Gonzalez, and Juan Murrieta for \$52,000. Except for the sale of the northern 14,000 acres of the Temecula Rancho by Murrieta, the Temecula Rancho and the Pauba Rancho were never under separate ownership until 1964 when Rancho California was established and began subdividing. As illustrated in Table 2, title to projected Section 13 of the Temecula Rancho was recorded for several owners after Zanjurjo, *et al* (as was title to the Pauba Rancho). These included the San Francisco Savings Union, Cosmos Land and Water Company, the Pauba Ranch Company (Vail Ranch), and Empire Land & Cattle Co.

The first owner of the Temecula Rancho once the County of Riverside was founded in 1893, was San Francisco Savings Union, which may have been the result of a foreclosure. By this time, a portion of Temecula Rancho had been subdivided and was called the Stevenson's (Pauba Land & Water Company) Subdivision of the Temecula Rancho; the subject property was part of the 31.61-acre Lot 2, Block 22 (Fig. 8). With an assessed land value of \$316, the land had obviously increased substantially from the original sale price to Zanjurjo *et al* of \$1.00 per acre. The assessed value declined until 1910, when the 31.61-acre parcel of land was purchased by the Empire Land & Cattle Co. From that point, the assessed value increased to a peak of \$745 in 1915, then resumed a downward trend, plateauing at \$600 for the next 16 years. By 1920, the entirety of the Temecula Rancho had been subdivided and the subject property was located in Lot 2 of Block 11, which still encompassed 31.61 acres (Fig. 9). In 1933, the Empire Land & Cattle Company combined Lots 1-5 and 13-17 of Block 11 which totaled 399.71 acres and had a single assessed value of \$3600. Within two years, the value had increased 66% to \$5400, an assessment that remained until 1943, at which time, the assessed value of the property almost doubled to \$10,350. No information was discovered that could explain this significant increase in assessed value and since post-1943 property owner records are not currently available, whether the property maintained this value over time is not known. According to records held by the Riverside County Archives, neither buildings nor agriculture in the form of trees and/or vines, existed on the subject property from 1893 to 1943, indicating that the land was not developed during this time.

Cartographic and photographic research into the land use history of the subject property included only the 1.88 acres of PA23-0197 instead of the original 31.61-acre parcel of which it

Table 2
 Historical Property Ownership and Value Summary of Projected Section 13, Township 8 south,
 Range 3 west (Lot 2, Block 22 / Lot 2, Block 11 of the Temecula Rancho)

YEAR	OWNER	LAND VALUE	BUILDING VALUE	TREES/VINES VALUE
1893	San Francisco Savings Union	-	-	-
1894	"	<i>Lot 2, Block 22</i> 31.61 acres \$316	-	-
1895	"	\$315	-	-
1896	"	"	-	-
1897	Cosmos Land & Water Co.	"	-	-
1898	"	\$255	-	-
1899	"	"	-	-
1900	Pauba Ranch Co.	"	-	-
1901	"	"	-	-
1902	"	"	-	-
1903	"	"	-	-
1904	"	"	-	-
1905	"	"	-	-
1906	"	"	-	-
1907	"	"	-	-
1908	"	"	-	-
1909	"	\$310	-	-
1910	Empire Land & Cattle Co.	\$410	-	-
1911	"	"	-	-
1912	"	"	-	-
1913	"	"	-	-
1914	"	\$425	-	-
1915	"	\$745	-	-
1916	"	\$600	-	-
1917	"	"	-	-
1918	"	"	-	-
1919	"	"	-	-
1920	"	<i>Lot 2, Block 11</i> 31.61 acres \$600	-	-
1921	"	"	-	-
1922	"	"	-	-
1923	"	"	-	-
1924	"	"	-	-

1925	"	"	-	-
1926	"	"	-	-
1927	"	"	-	-
1928	"	"	-	-
1929	"	"	-	-
1930	"	"	-	-
1931	"	"	-	-
1932	"	\$3100	-	-
1933	"	Lots 1-5 & 13-17, Block 11 391.77 acres \$3600	-	-
1934	"	"	-	-
1935	"	\$5400	-	-
1936	"	"	-	-
1937	"	"	-	-
1938	"	"	-	-
1939	"	"	-	-
1940	"	"	-	-
1941	"	"	-	-
1942	"	"	-	-
1943	"	\$10,350	-	-

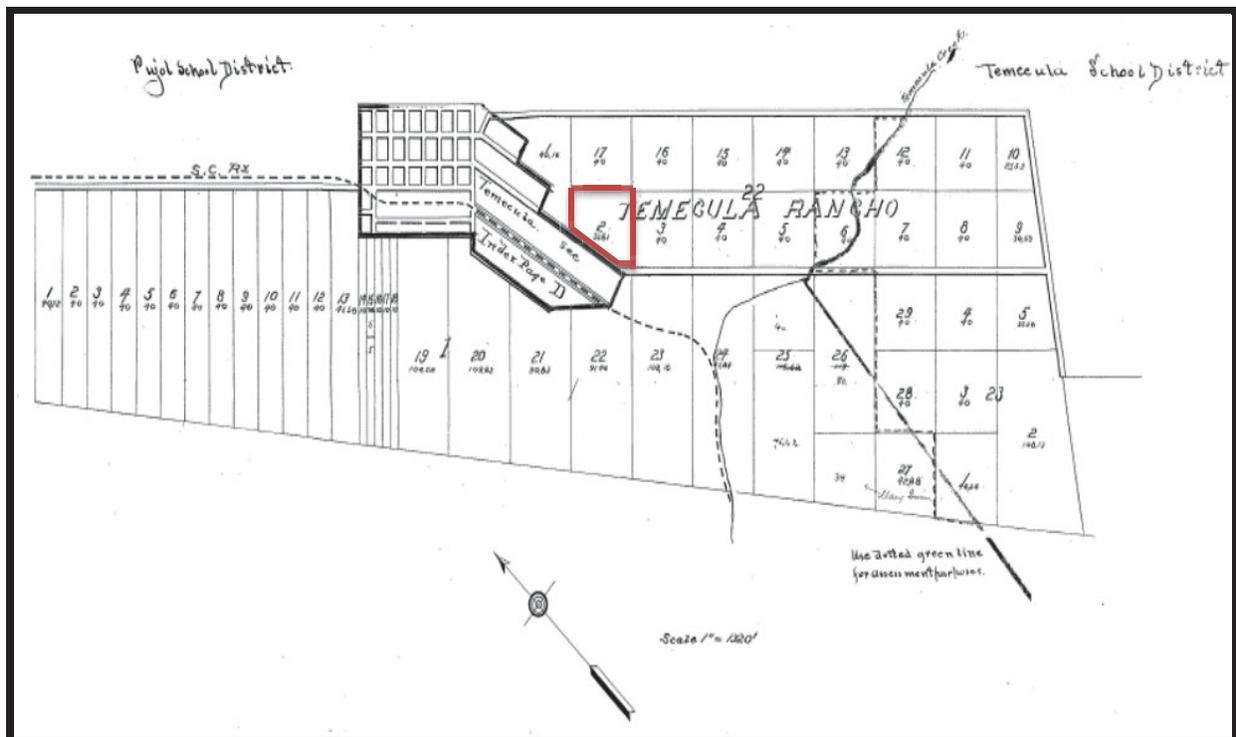


Figure 8: Location of the 31.61-acre Lot 2, Block 22 of Stevenson’s (Pauba Land & Water Company’s) Subdivision of the Temecula Rancho (1892).

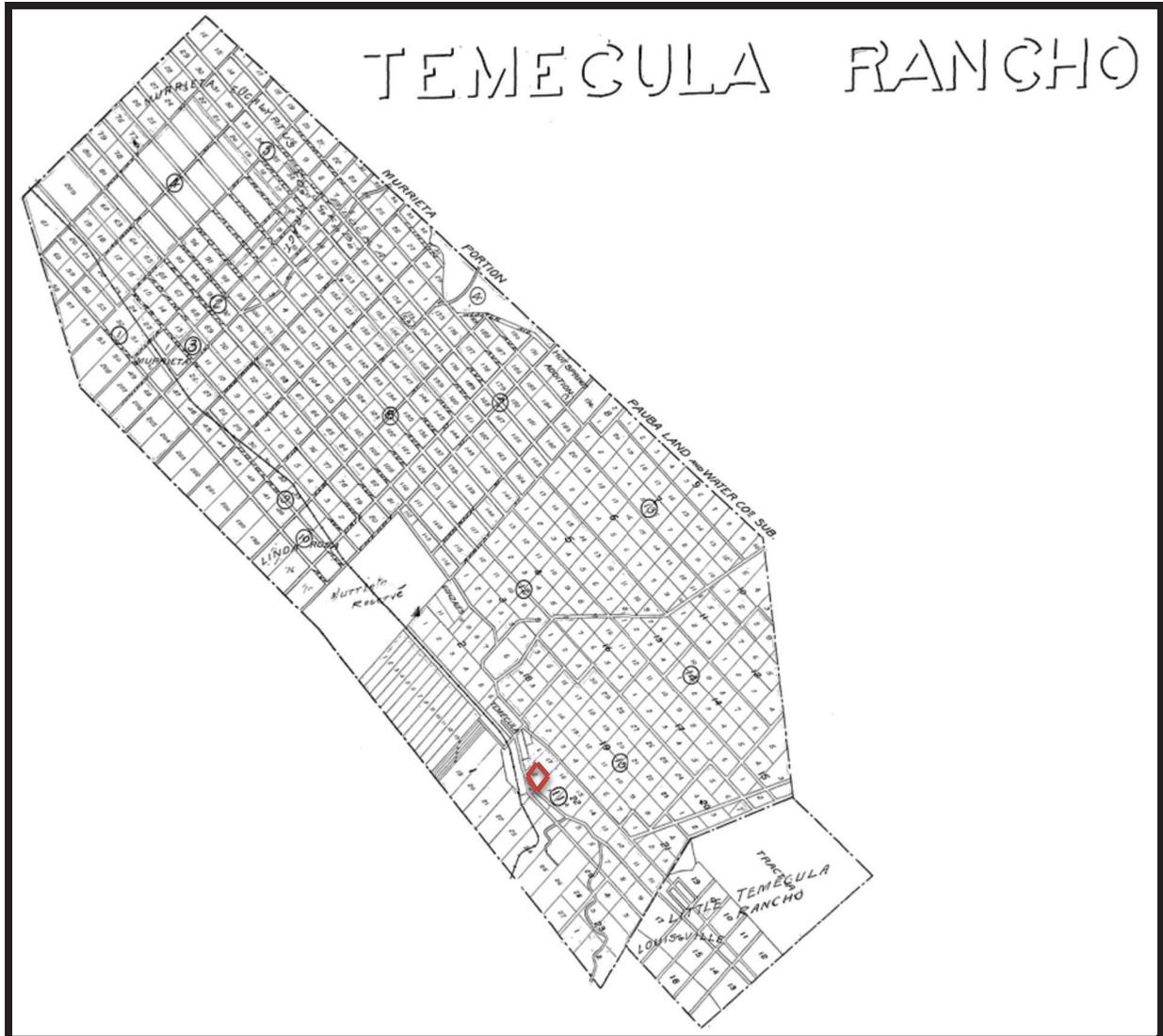


Figure 9: Location of the 31.61-acre Lot 2, Block 11 of the Pauba Land & Water Company's Subdivision of the Temecula Rancho's (1920).

was a part at least until 1943. From the 1854-1884 GLO Plat until the most recent USGS topographic map in 2022, the property appears vacant, indicating that it has been undeveloped during this time. Aerial photographs from 1939 through 2023 show that the property has been vacant, but subject to variety of impacts ranging from grading, to serving as a staging area for development on adjacent property, to being used for parking. Significant changes to all properties around PA23-0197 have occurred during this period, but it has remained as a vacant infill lot. Changes have included, but have not been limited to, construction and expansion of the I-15 freeway to the west, construction of Highway 79 to the northeast, development of the Rancho Meadows condominium complex to the south in 1982, development of the Mobile gas station to the east in 1986, and the small retail center to the north, also in 1986.

Fieldwork

No cultural resources of prehistoric or historical origin were observed within the boundaries of PA23-0197 during the current field survey. No bedrock outcrops exist within the property boundaries and as previously discussed, the limited loose lithic material, including several piles of gravel, was imported to the site. Large expanses of the property have been covered with gravel, sand, and dirt to apparently facilitate driving and parking. Debris is scattered throughout the parcel, all of which was identified as being of contemporary origin. A concrete apron leading to a concrete culvert and retaining wall is located near the northwestern property corner, but the drainage feature itself is outside of the PA23-0197 boundaries. Ground surface visibility throughout the property ranged from 25% in areas with the densest ground cover, to 100% in areas that have been cleared of vegetation, with an overall average visibility of approximately 65%.

Located near the southeastern property corner is a small *descanso* comprised of a white cross, a framed slab, fabric, and artificial flowers ((Fig. 10). A *descanso*, which in Spanish means “rest,” is typically a roadside marker that commemorates a site where a person died suddenly and unexpectedly, away from home. Unlike a grave site headstone, which marks the place where a body is buried, a *descanso* marks the last place a person was alive. No identification was observed on this memorial. An evaluation of the components and their condition determined that this is a feature of contemporary origin. It is highly unusual to find a memorial such as this on private property instead of on a roadway or intersection.



Figure 10: *Descanso* located within PA23-0197.

CONCLUSIONS AND RECOMMENDATIONS

No cultural resources of either Native American or historical origin were observed within the boundaries of Development Plan No. 23-0197, but the Pechanga Band of Indians identified that the subject property lies within the boundaries of their Nationally Registered Property. Thus, although no artifacts or remains were observed within the boundaries of property that could reasonably be associated with religious or community practices, the Pechanga Band considers the property itself to be culturally significant.

A records search completed by staff at the Eastern Information Center, University of California, Riverside indicated that what is now PA23-0197 has been tangentially involved in three previous cultural resource studies, although none actually included the subject property. No cultural resources were observed within the property during the three previous studies. The subject property is located in an exceptionally well-studied area with 85 previous cultural resource studies having been conducted within a one-mile radius, many of which included large acreages. During the course of these studies, 22 cultural resource properties were recorded, none of which involved the project area. Of the recorded cultural resource properties, eight were of historical origin, one was of both prehistoric and historical origin, and one site had no cultural resources described. The remaining 12 sites were of Native American origin, with five isolated artifacts and seven comprised of other cultural resources, predominated by bedrock milling features. One of the recorded Native American properties is P-33-11443, which has been designated as the Murrieta Creek Archaeological Area. Encompassing three large prehistoric habitation sites (CA-RIV-50, CA-RIV-270, CA-RIV-365) and one large prehistoric milling site (P-33-12520), the sites are located near the confluence of Murrieta Creek and Temecula Creek, approximately one-quarter mile west of the current study area. In 1972, the sites were nominated to the National Register of Historic places as a single archaeological district. The boundaries of the district appear to be arbitrary and are not necessarily defined by the presence of recorded cultural features or artifacts, as it was simply mapped as a large square. PA23-0197 is located near the northeastern corner of the MCAA. Of the remaining cultural sites recorded within a one-mile radius of PA23-0197, the three closest are each approximately 1000 feet to the west, across I-15. One of the sites (CA-RIV-365) is part of the original four sites comprising the Murrieta Creek Archaeological Area, one is an isolated mano, and one is comprised of two circles carved into bedrock of unknown age or function.

The Native American Heritage Commission determined that the Sacred Lands File search results were positive, meaning that Sacred Lands have been recorded within the same township, range, and section of the subject property; further details were not provided. The NAHC did provide a list of 22 tribal representatives who have expressed interest in development in the Temecula Area and project scoping letters were sent to them March 4, 2024. At this time, responses have

been received from the Agua Caliente Band of Cahuilla Indians, the Rincon Band of Luiseño Indians, and the Pechanga Band of Indians. After a records search of their Tribal Historic Preservation Office's cultural registry, the Agua Caliente Band of Cahuilla Indians determined that the project is not within the Tribe's Traditional Use Area. As such, ACBGI defers to other tribes in the area and their response letter concludes their consultation efforts. The Rincon Cultural Resources Department identified the location of the subject property as being within the Traditional Use Area of the Luiseño Indians, as well as in Rincon's specific area of Historic Interest. After reviewing the provided documents and their internal information, the Rincon Band has no information on specific Tribal Cultural Resources (TCRs) or Traditional Cultural Properties (TCPs) within or surrounding the area. The proposed project is in a culturally sensitive area and the Tribe believes that the potential exists for cultural resources to be identified during further research and survey work. They recommend working closely with the Pechanga Band as they may have pertinent information to provide.

After reviewing the provided maps and their internal documents, the Pechanga Band of Indians determined that the Project area is not within their reservation, but it is located within 1.44 miles. The proposed project is located in the very heart of their Ancestral Territory and there is not a more culturally sensitive area in their entire Ancestral Territory. The tribe maintains that beyond scarification, the property's native soil remains intact despite having been impacted by off-road traffic, parking, and as a staging area for adjacent development. Further, when considering their culture's burial practices and the property's proximity to Temecula Creek and Murrieta Creek, Pechanga believes that the possibility of recovering sensitive subsurface resources during ground disturbing activities is extremely high. At this time, the Pechanga Band requests the following: 1) Notification once the Project begins the entitlement process; 2) Copies of all applicable archaeological reports, site records, proposed grading plans, and environmental documents; 3) Government-to-Government consultation with the Lead Agency; and 4) Monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving activities, so they reserve the right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Finally, in the event that subsurface cultural resources are identified, Pechanga requests consultation with the Project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

Development Plan 23-0197 is proposed for a vacant infill lot at the end of a cul-de-sac and situated immediately east of Interstate 15 and north of the Rancho Meadows condominium complex, built in 1982. In 1986, four-parcel Parcel Map No. 21592 was approved, with the subject property being Parcel 2. According to an informant involved in that development approval, the entire site and four pads were rough graded, as well as grading for the installation of all underground utilities; dedicated easements currently exist for these utilities. At that time,

Bedford Court was also built, as was a retaining wall along the western boundary of the property. In addition, a reinforced concrete pipe was installed at an estimated 15' to 20' depth to replace an earlier pipe that carried drainage from Vallejo Avenue. The drainage pipe runs south from Vallejo Avenue, under Temecula Parkway, continuing under Bedford Court and the subject property, and terminating at a concrete culvert near the northwestern corner of the property; there is a 24-foot-wide drainage easement over the pipe that runs the width of the property. While it is true that the property has remained undeveloped, and thus a logical assumption would be that native soils would be relatively intact, in actuality no native soils are visible within the boundaries of the subject property. According to a 2022 geotechnical study conducted for PA23-0197, the entirety of the subject property is covered by 7' to 10' feet of compacted artificial fill, with the only native soil being below that level. Existing native soils would have been disturbed by rough grading and trenching for the drainage pipe and utilities, but the impacts to the property after 1986 by grading, vehicle parking, trash dumping, and development of adjacent properties, would have been to artificial fill, not native soil.

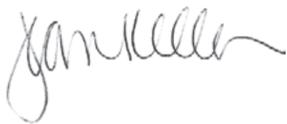
In consideration of the aforementioned facts, it is clear that the proposed project, Development Plan PA23-0197, is located in an area that is highly sensitive for Native American cultural resources and moderately sensitive for those of historical origin. The subject property is situated near the confluence of Murrieta and Temecula creeks, a place of extreme significance to the Pechanga Band of Indians, as it was there that the Creation of their Culture's World began. When considering their culture's burial practices near watercourses, the proximity of the subject property to both Temecula Creek and Murrieta Creek, and the assumption that the subject property's native soil remains intact, the Pechanga Band of Indians believes that the possibility of recovering sensitive subsurface cultural resources is extremely high. As such, they recommend that monitoring of all ground disturbing activities associated with the proposed development be actively monitored by a Riverside County/City of Temecula archaeologist and a professional Pechanga Tribal Monitor.

Despite the fact that no surface cultural resources were observed within the boundaries of PA23-0197 during the current field survey, this firm concurs with Pechanga's recommendation for grading monitoring. However, the subject property has not only been subject to significant impacts resulting from rough grading, as well as the installation of underground utilities and the drainage pipe, but the entire 1.88 acres of land has been covered by 7' to 10' of compacted artificial fill, with the only remaining native soil being present below that level. The intent of grading monitoring by professional archaeologists and tribal monitors is to prevent the destruction of *in situ* subsurface cultural resources inadvertently discovered during earthmoving. Since the upper 7' to 10' of the subject property is composed of artificial fill imported from elsewhere, there can be no *in situ* resources in that soil, only in native soil below that level. Therefore, this firm recommends that a Riverside County/City of Temecula qualified

archaeologist and a Professional Pechanga Monitor actively monitor all ground disturbing activities occurring in native soil below the documented artificial fill level. Monitoring within the 7' to 10' of artificial fill is not recommended. Determination of areas requiring monitoring must be established prior to issuance of grading permits with consultation provided by the project engineer, geotechnical specialist, Project Archaeologist, Pechanga Band of Indians, and the project sponsor. Should any cultural resources be discovered during the course of earthmoving activities anywhere on the subject property, said activities should be halted or diverted until the qualified archaeologist can evaluate the resources, make a determination of their significance, and recommend appropriate treatment measures to mitigate impacts to the resources from the project, if found to be significant. If human remains are encountered unexpectedly during implementation of the project, compliance with State Health and Safety Code Section 7050.5 is required, with no further disturbances to the land until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98.

CONSULTANT CERTIFICATION

The undersigned certifies that the attached report is a true and accurate description of the results of the Phase I Cultural Resources Assessment described herein.



Jean A. Keller, Ph.D.
Riverside County Certificate No. 232

April 14, 2024 Revised October 2024

Date

REFERENCES

Ancestry.com

1822-1995 *U.S. City Directories, 1822-1995* [database on-line]. Provo, UT, USA: Ancestry.com Operations, Inc., 2011.

Archaeological Systems Management, Inc.

1980 Cultural Resource Inventory and Impact Assessment for the KACOR/Rancho California Property (RI-1048). Unpublished manuscript on file at the Eastern Information center, University of California, Riverside.

Bancroft, Hubert Howe

1884-1890 *History of California*, 7 vols. The History Company, San Francisco, California.

Bean, Lowell John, and Florence C. Shipek

1978 Luiseño. In Robert F. Heizer (ed.): *Handbook of North American Indians, Vol. 8, California*; pp. 550-563. Washington, D.C.: Smithsonian Institution.

Bureau of Land Management (U.S. Department of the Interior)

1854 -1884 General Land Office Records (Township No. 8 south, Range No. 3 west)
 Land Patents
 Surveys
 Plats and Field Notes
 Land Status Records
 Control Document Index Records

California Department of Transportation, District 8

2012 Environmentally Sensitive Area Action Plan For the Cajalco Road/Alexander Street Traffic Signal Project, City of Perris, Riverside County, California (RI-9155). Unpublished manuscript on file at the Eastern Information Center, University of California, Riverside.

California Division of Mines and Geology

1968 Map of Riverside County, California Showing Locations of Mines and Mineral Resources.

California State Library

1866 - 1898 *Great Register of Voters, 1866 – 1898*. Sacramento, California.
 1866 - 1910 *Great Register of Voters, 1866 - 1910*. Sacramento, California.
 1900 - 1968 *Great Register of Voters, 1900 – 1968*. Sacramento, California.

- Caughey, J.W.
1948 *The California Gold Rush*. University of California Press, Berkeley, California.
- Cutter, D.C.
1949 "The Discovery of Gold in California," in *The Mother Lode Country* (Centennial Edition). *Geologic Guidebook Along Highway 49, Sierra Gold Belt, California Division of Mines*, Bulletin 141:13-17, San Francisco, California.
- DuBois, Constance G.
1908 *The Religion of the Luiseño Indians of Southern California*. University of California Publications in American Archaeology and Ethnology, Vol. 8, No. 3. University of California Press, Berkeley, California.
- Dumke, G.S.
1944 *The Boom of the Eighties in Southern California*. The Huntington Library, San Marino, California.
- Earth Strata Geotechnical Services, Inc.
2022a Phase I Environmental Site Assessment of Undeveloped Property, Assessor's Parcel Number APN 922-210-042, Bedford Court and Temecula Parkway, Temecula, CA 92592.
2022b Preliminary Geotechnical Interpretive Reports, Proposed Drive-Thru Coffee Shop and Express Carwash, Assessor's Parcel Number APN 922-210-042, Located on Bedford Court, City of Temecula, Riverside County, California1a.
- Elders, W.A.
1971 *Geological Excursions in Southern California*. University of California, Number 1, Riverside, California.
- Elliot, Wallace W.
1890 *History of San Bernardino and San Diego Counties*. Wallace W. Elliot & Co.
- Google Earth
1985 – 2023 Aerial photographs of the subject property.
- Gunther, Jane Davies
1984 *Riverside County, California Place Names: Their Origins and Their Stories*. Rubidoux Printing Company, Riverside, California.
- Harding, M.
1951 La Jollan Culture. *El Museo* 1(1), pp. 10-11, 31-38. San Diego, California.

Heizer, Robert F., ed.

1978 *Handbook of North American Indians, Vol. 8, California*. Smithsonian Institution, Washington, D.C.

Holmes, E.W.

1912 *History of Riverside County*. Historic Record Co., Los Angeles, California.

Kroeber, Alfred L., ed.

1925 *Handbook of the Indians of California. Bulletin 78, Bureau of American Ethnology*. Government Printing Office, Washington, D.C.

Lech, Steve

2004 *Along the Old Roads*. Self-published. Riverside, California.

Lewis Publishing Company

1890 *Illustrated History of Southern California*. Lewis Publishing Company, Chicago, Illinois.

Markham, Larry R. (Markham Development Strategies, LLC)

2024 Personal and email communication, 04/03/2024.

McGoldrick Engineers, Inc.

1986 Parcel Map 21591, County of Riverside, State of California,

Meighan, C. W.

1954 "A Late Complex in Southern California Prehistory," *Southwestern Journal of Anthropology* 10(2):215-227.

Michael Brandman Associates

2003 Records Search and Site Visit for Sprint Telecommunications Facility RV54XC468H (Carl's Jr.), 44515 Bedford Court, Temecula, Riverside County, California (RI-6169). Unpublished manuscript on file at the Eastern Information Center, University of California, Riverside.

Moratto, Michael J.

1984 *California Archaeology*. Academic Press, San Diego, California.

Munroe, Sherrie (4M Engineering and Development, Inc.)

2024 Personal and email communication, 04/05/2024.

Munz, Phillip A.

1968 *A California Flora and Supplement*. University of California Press, Berkeley, California.

Ormsby, William L.

1942 *The Butterfield Overland Mail*. Lyle H. Wright & Josephine M. Bynum, eds. The Huntington Library, San Marino, California.

Oxendine, Joan

- 1983 *The Luiseño Village During the Late Prehistoric Era*. Ph.D. dissertation. Department of Anthropology, University of California, Riverside.

PBLA Surveying, Inc.

- 2022 A.L.T.A./N.S.P.S. Land Title Survey: Bedford Court, City of Temecula, County of Riverside, State of California.

Robinson, W.W.

- 1948 *Land in California*. University of California Press, Berkeley.
1957 *The Story of Riverside County*. Title Insurance and Trust Company, Los Angeles, California.

Rogers, Malcolm J.

- 1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas*. San Diego Museum Papers No. 3.
1945 "An Outline of Yuman Prehistory." *Southwestern Journal of Anthropology* 1:167-198.
1966 *Ancient Hunters of the Far West*. R.F. Pourade, (ed). San Diego Union Publishing Company, San Diego, California.

Sparkman, Phillip S.

- 1908 *The Culture of the Luiseño Indians*. University of California Publication American Archaeology and Ethnology, Vol. 8, No. 4. University of California Press, Berkeley, California.

Strong, William Duncan

- 1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology, Vol. 26. Reprinted by Malki Museum Press, Banning, California in 1972.

True, D.L.

- 1958 An Early Complex in San Diego County, California. *American Antiquity* 20:68-72.
1977 Archaeological Investigations in San Diego County: Preliminary Report on the Sites SDI-4558, 4562, and 4562A. Report to the California Department of Transportation, Sacramento, California.

True, D.L., C. W. Meighan, and H. Crew

- 1974 *Archaeological Investigations at Molpa, San Diego County, California*. University of California Publications in Anthropology, Vol. 11, University of California Press, Berkeley, California.

United States Department of the Army Corps of Engineers

- 1942 Map: Temecula, Calif. (15', 1:62,500); 1939-1941 aerial photos

USGS (United States Geological Survey, U.S. Department of the Interior)

- 1901 Map: Elsinore, Calif. (30' 1:125,000); surveyed in 1897-1898
- 1948 Map: Temecula, Calif. (7.5' 1:24,000); 1946-1947 aerial photos
- 1959 Map: Santa Ana, Calif. (1:250,000); 1955 aerial photos
- 1968 Map: Temecula, Calif. (7.5' 1:24,000); 1967 aerial photos
- 1975 Map: Temecula, Calif. (7.5' 1:24,000); photorevised 1968, 1975 aerial photos
- 1979 Map: Santa Ana, Calif. (1:250,000); 1959 edition revised 1979
- 2012 Map: Temecula, Calif. (7.5' 1:24,000); 2010 aerial photos
- 2015 Map: Temecula, Calif. (7.5' 1:24,000); 2012 aerial photos
- 2022 Map: Temecula, Calif. (7.5' 1:24,000); 2020 aerial photos

Wallace, William. J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214-230. University of New Mexico Press, Albuquerque, New Mexico.
- 1978 Post Pleistocene Archaeology, 9,000 to 2,000 B.C. In Robert F. Heizer (ed.) *Handbook of North American Indians, Vol. 8, California*; pp. 25-36. Smithsonian Institution, Washington, D.C.

Warren, Claude N.

- 1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In Cynthia Irwin-Williams (ed.): *Archaic Prehistory in the Western United States*; pp.1-14. Eastern New Mexico University Contributions in Anthropology 1(3). Portales, New Mexico.

Warren, Claude N, D.L. True, and A.A. Eudrey

- 1961 *Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey. University of California, Los Angeles Archaeological Annual Survey Report, 1960-1961.* University of California Press, Los Angeles, California.

White, R.C.

- 1963 *Luiseño Social Organization.* University of California Publications in American Archaeology and Ethnology Vol. 48, No. 2. University of California Press, Berkeley, California.

APPENDIX

Record Search Results
Sacred Lands File Search Results
Tribal Responses to Project Scoping Letters

EASTERN INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology, University of California, Riverside, CA 92521-0418
(951) 827-5745 - eickw@ucr.edu
Inyo, Mono, and Riverside Counties

February 23, 2024
CHRIS Access and Use Agreement No.: 120
ST-RIV-7399

Jean Keller
Jean A. Keller, Ph.D., Cultural Resources Consultant
1042 N. El Camino Real, Suite B-244
Encinitas CA, 92024

Re: Cultural Resources Records Search for the Development Plan No. PA23-0197 (APN 922-210-042) Project

Dear Jean Keller:

We received your request on February 12, 2024 for a cultural resources records search for the Development Plan No. PA23-0197 (APN 922-210-042) project located in Section 13, T.8S, R.3E, SBBM, in the Temecula Valley area in Riverside County. We have reviewed our site records, maps, and manuscripts against the location map you provided.

Our records indicate that 85 cultural resources studies have been conducted within a one-mile radius of your project area. Three of these studies involved the project area. PDF copies of these reports are included for your reference. All of these reports are listed on the attachment entitled "Eastern Information Center Report Listing" and are available upon request at 15¢/page plus \$40/hour for hard and/or PDF copies.

Our records indicate that 23 cultural resources properties have been recorded within a one-mile radius of your project area. One of these properties involved the project area. PDF copies of the records are included for your reference.

The above information is reflected on the enclosed maps. Areas that have been surveyed are highlighted in yellow. Numbers marked in blue ink refer to the report number RI #. Cultural resources properties are marked in red; numbers in black refer to Trinomial designations, those in green to Primary Number designations. National Register properties are indicated in light blue.

As the Information Center for Riverside, Inyo, and Mono Counties, it is necessary that we receive a copy of all cultural resources reports and site information pertaining to these counties in order to maintain our map and manuscript files. Confidential information provided with this records search regarding the location of cultural resources outside the boundaries of your project area should not be included in reports addressing the project area.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this

records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by the IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kenedy Jacome', with a long horizontal flourish extending to the right.

Kenedy Jacome
Information Officer

Enclosures

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-00111	NADB-R - 1080125; Submitter - 0103; Voided - MF-0097	1973	Leslie E. Wildesen	Archaeological Impact Evaluation: Proposed Pala Village Development Rancho California	Archaeological Research Unit, U.C. Riverside	
RI-00328	NADB-R - 1080386; Voided - MF-0301	1978	Larry L. Bowles	Environmental Impact Evaluation: Archaeological Assessment of Parcel 11, 984	Archaeological Consultant, Colton, CA	
RI-00513	NADB-R - 1080552; Submitter - 0359; Voided - MF-0445	1978	Stan Wilmoth	Environmental Impact Evaluation: Archaeological Assessment of EMWD Proposed Effluent Holding Ponds and Pipeline, Rancho California Regional Plant, Riverside County	Archaeological Research Unit, U.C. Riverside	
RI-00968	NADB-R - 1081018; Voided - MF-0878	1980	Christopher E. Drover	Environmental Impact Evaluation: Archaeological Assessment of Tentative Parcel 15211, Riverside County, California	Consulting Archaeologist	
RI-01048	NADB-R - 1081146; Voided - MF-0991	1980	Christopher W. White	Cultural Resource Inventory and Impact Assessment for the KACOR/Rancho California Property	Archaeological Systems Management, Inc.	33-001726, 33-001727, 33-001728, 33-001729, 33-001730, 33-001742, 33-001753
RI-01201	NADB-R - 1081344; Voided - MF-1177	1981	Deborah Moore	Environmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 16962, Southeast of Temecula in Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-01323	NADB-R - 1081495; Voided - MF-1323	1981	Roger J. Desautels.	Archaeological Assessment of TR 3750, TR 3646, GPA 240	Scientific Resource Survyes, Inc., Santa Ana, CA	
RI-01426	NADB-R - 1081676; Voided - MF-1496	1982	BOWLES, LARRY L.	ARCHAEOLOGICAL ASSESSMENT FOR TENTATIVE PARCEL 18254	AUTHOR(S)	33-000050, 33-000270, 33-002134
RI-01987	NADB-R - 1082407; Voided - MF-2177	1985	MCCARTHY, DANIEL	AN ARCHAEOLOGICAL ASSESSMENT OF 3+ ACRES OF LAND IN THE TEMECULA AREA OF RIVERSIDE COUNTY	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	
RI-02070	NADB-R - 1082503; Voided - MF-2266	1984	CROTTEAU, KAREN	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT: ROUTE 15, P.M. 1.1/1.6	CALTRANS DISTRICT 8, SAN BERNARDINO	
RI-02169	NADB-R - 1082595; Voided - MF-2353	1987	Christopher E. Drover	Rancho Villages Assessment District Cultural Resources Element	Consulting Archaeologist, Tustin, CA	33-000050, 33-000270, 33-000364, 33-000365, 33-001520, 33-001521, 33-002189
RI-02186	NADB-R - 1082613; Voided - MF-2372	1987	Philip Wilke	Letter Report: Cultural Resources Assessment of Temecula Creek Bridge No. 56C-165	Archaeological Research Unit, U.C. Riverside	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02343	NADB-R - 1082806; Voided - MF-2548	1988	DROVER, C.E.	AN ARCHAEOLOGICAL ASSESSMENT OF TEMECULA CREEK INN GOLF COURSE EXPANSION, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	33-012742
RI-02384	NADB-R - 1082882; Submitter - 0968; Voided - MF-2624	1988	MCCARTHY, DANIEL F.	REEVALUATION OF ARCHAEOLOGICAL SITES RECORDED ON TPM 23987, LOCATED IN THE TEMECULA AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-000365
RI-02543	NADB-R - 1083030; Voided - MF-2767	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 22806, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02544	NADB-R - 1083031; Voided - MF-2768	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 24742, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02545	NADB-R - 1083032; Voided - MF-2769	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE MAP NO. 24739, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02546	NADB-R - 1083033; Voided - MF-2770	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 24741, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02547	NADB-R - 1083034; Voided - MF-2771	1989	DROVER, CHRISTOPHER E. and COLE PARKER	RANCHO VILLAGES ASSESSMENT DISTRICT SEWERLIFT STATION: THE VAIL SITE, RIV-365. AN ARCHAEOLOGICAL TEST AND MITIGATION.	AUTHOR(S)	33-000365
RI-02563	NADB-R - 1083047; Voided - MF-2784	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP 24740 RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02567	NADB-R - 1083051; Voided - MF-2788	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP 24941 RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02617	NADB-R - 1083093; Voided - MF-2829	1990	ARKUSH, BROOKE S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT 25349, LOCATED EAST OF TEMECULA IN SOUTHWESTERN RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT	
RI-02727	NADB-R - 1083337; Voided - MF-2932	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP 25582 RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02729	NADB-R - 1083339; Voided - MF-2934	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 25980 RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-02757	NADB-R - 1083362; Voided - MF-2957	1990	BROCK, JAMES	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT #21067, RANCHO CALIFORNIA, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGY ADVISOR GROUP	
RI-02903	NADB-R - 1084015; Submitter - R-1774A; Voided - MF-3104	1989	WADE, SUE A. and SUSAN M. HECTOR	A CULTURAL RESOURCE SURVEY OF THE SANTA MARGARITA RIVER FROM TEMECULA TO THE PACIFIC OCEAN	RECON	33-000050, 33-000270, 33-000365, 33-001382, 33-003063, 33-012340
RI-03116	NADB-R - 1081142; Voided - MF-3338	1987	BISEL, R.M.	A CULTURAL RESOURCES RECONNAISSANCE OF TENTATIVE PARCEL NO. 22515 NEAR TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	RMW PALEO ASSOCIATES	
RI-03189	NADB-R - 1083751; Other - 89-90; Voided - MF-3408	1990	PEAK AND ASSOCIATES and Brian F. Mooney Associates	CULTURAL RESOURCES ASSESSMENT OF AT&T'S PROPOSED SAN BERNARDINO TO SAN DIEGO FIBER OPTIC CABLE, SAN BERNARDINO, RIVERSIDE AND SAN DIEGO COUNTIES, CALIFORNIA	PEAK AND ASSOCIATES & BRIAN F. MOONEY ASSOCIATES	
RI-03290	NADB-R - 1083888; Voided - MF-3523	1991	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP 26845, 3.68 ACRES OF LAND IN TEMECULA, RIVERSIDE COUNTY, CALIFORNIA, USGS TEMECULA, CALIFORNIA QUADRANGLE, 7.5' SERIES	AUTHOR(S)	
RI-03312	NADB-R - 1083911; Voided - MF-3543	1990	SHINN, JUANITA R.	CULTURAL RESOURCES RECONNAISSANCE OF TENTATIVE TRACT 22286, TEMECULA, RIVERSIDE COUNTY	RMW PALEO ASSOCIATES	33-000050, 33-000270, 33-000365
RI-03436	NADB-R - 1084112; Submitter - 3699; Voided - MF-3699	1992	PETERSEN, C.J., RACHEL GREELEY, and BRUCE LOVE	CULTURAL RESOURCES ASSESSMENT: PALA ROAD BRIDGE SEWER AND ROAD REALIGNMENT PROJECT AT TEMECULA CREEK, TEMECULA AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-004707
RI-03439	NADB-R - 1085123; Voided - MF-3699	1997	DE BARROS, PHILIP	ARCHAEOLOGICAL SURVEY REPORT FOR THE TEMECULA CREEK (PALA ROAD) BRIDGE IN THE CITY OF TEMECULA RIVERSIDE COUNTY, CALIFORNIA 08-RIV-CR-PALA ROAD	PROFESSIONAL ARCHAEOLOGICAL SERVICES	33-004707

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-03440	NADB-R - 1085124; Voided - MF-3699	1997	Phillip de Barros and Christopher E. Drover	Phase II Evaluation Of Archaeological Site CA-RIV-4707/H For Determination Of Eligibility Temecula Creek (Pala Road) Bridge Project City Of Temecula, Riverside County, California 08-RIV-CR-Pala Road	Professional Archaeological Services	33-004707
RI-03496	NADB-R - 1084178; Voided - MF-3757	1992	JONES & STOKES ASSOCIATES, INC.	ARCHAEOLOGICAL SURVEY REPORT FOR RIVERSIDE COUNTY MURRIETA CREEK FLOOD CONTROL PROJECT	JONES & STOKES ASSOCIATES, INC.	33-001085
RI-04085	NADB-R - 1085241; Other - TR3552; Voided - MF-4536	1998	HORNE, MELINDA	CULTURAL RESOURCES SURVEY OF A 7.5 ACRE PARCEL LOCATED AT THE WESTERN EDGE OF TEMECULA VALLEY, RIVERSIDE COUNTY, CALIFORNIA	APPLIED EARTHWORKS	
RI-04147	NADB-R - 1085339; Voided - MF-4623	1998	MASON, ROGER, PHILIPPE LAPIN, and WAYNE H. BONNER	CULTURAL RSOURES RECORDS SEARCH AND SURVEY REPORT FOR A PACIFIC BELL MOBILE TELECOMMUNICATIONS FACILITY: CM 258-11, CITY OF MURRIETA, CALIFORNIA	CHAMBERS GROUP, INC.	
RI-04346	NADB-R - 1085644; Submitter - 561; Voided - MF-4842	2000	LOVE, BRUCE and MICHAEL HOGAN	IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES: AT&T WIRELESS SITE C792, CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA.	CRM TECH	
RI-04381	NADB-R - 1085707; Submitter - 00-1674; Voided - MF-4883	2000	BROWN, JOAN C.	CULTURAL RESOURCES RECONNAISSANCE FOR THE RANCHO COMMUNITY CHURCH, TEMECULA, RIVERSIDE COUNTY, CALIFORNIA.	RMW PALEO ASSOCIATES	33-009753
RI-04404	NADB-R - 1085736; Voided - MF-4913	2000	JONES AND STOKES ASSOCIATES, INC.	FINAL CULTURAL RESOURCES INVENTORY REPORT FOR THE WILLIAMS COMMUNICATIONS, INC., FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, RIVERSIDE TO SAN DIEGO, CALIFORNIA VOL I-IV.	JONES AND STOKES ASSOCIATES, INC.	33-000816, 33-000817, 33-000862, 33-001845, 33-002970, 33-003081, 33-003839, 33-004202, 33-004624, 33-004744, 33-004768, 33-007587, 33-007601, 33-008105, 33-008172, 33-009772, 33-009773, 33-009774, 33-009775, 33-009776
RI-04654	NADB-R - 1086013	2002	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT MAP 30169, 4.57 ACRES OF LAND IN THE CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04865	NADB-R - 1086227; Submitter - TPC-01-150 & TCP-01-254	2001	DICE, MICHAEL, E. BRUCE LANDER, and LESLIE NAY IRISH	A PHASE I ARCHAEOLOGICAL RESOURCE SURVEY AND A PALEOTOLOGICAL RECORDS REVIEW OF THE TEMECULA MARKETPLACE PROJECT, LOCATED NEAR HIGHWAY 79 AND AVENIDA DE MISSIONES, CITY OF TEMECULA, CALIFORNIA	L&L ENVIRONMENTAL, INC.	33-003410
RI-05012	NADB-R - 1086374; Submitter - 04-01-05-570	2001	MCKENNA ET AL.	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE PROPOSED SANTA MARGARITA OUTFALL PROJECT AREA, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	33-011222
RI-05027	NADB-R - 1086389; Submitter - Job No. 00-5-00-500	2000	Jeanette A. McKenna	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE VESTA TELECOMMUNICATIONS, INC. FIBER OPTIC ALIGNMENT, RIVERSIDE COUNTY TO SAN DIEGO COUNTY, CALIFORNIA	MCKENNA ET AL.	
RI-05065	NADB-R - 1086427	2005	MIRRO, VANESSA	CULTURAL RESOURCES RECORDS AND LITERATURE REVIEW FOR THE TEMECULA CREEK INN PROJECT, TEMECULA, CALIFORNIA	APPLIED EARTH WORKS, Hemet, CA	
RI-05277	NADB-R - 1086640	2004	DICE, MICHAEL and MARNIE AISLIN-KAY	CULTURAL RESOURCE SURVEY: I-15/SR79 LAND ACQUISITION PROJECT CITY OF TEMECULA, RIVERSIDE COUNTY, CA (APN# 922-210-052, -060, AND -061)	MICHAEL BRANDMAN ASSOCIATES	33-000365
RI-05539	NADB-R - 1086902	2006	KELLER, JEAN	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE PARCEL MAP 30404, +/-5.19 ACRES OF LAND IN THE CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	JEAN KELLER	
RI-05733	NADB-R - 1087096	2003	MASON, RODGER D.	CULTURAL RESOURCES RECORDS SEARCH AND FIELD SURVEY REPORT FOR A VERIZON TELECOMMUNICATIONS FACILITY: AVOCADO IN THE CITY OF TEMECULA, RIVERSIDE COUNTY, CA	CHAMBERS GROUP, INC.	
RI-05880	NADB-R - 1087243	2006	MIRRO, VANESSA	PHASE I CULTURAL RESOURCES SURVEY OF THE TEMECULA CREEK INN PROPERTY, TEMECULA, CALIFORNIA	APPLIED EARTH WORKS, INC.	33-001071, 33-011443, 33-012742, 33-014928, 33-014929, 33-014930, 33-014931, 33-014932, 33-014933
RI-06057	NADB-R - 1087420	2006	MOSLAK, KEN	CULTURAL RESOURCES SURVEY FOR THE PUJOL STREET CONDOMINIUMS, CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	ASM AFFILIATES	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06168	NADB-R - 1087531	2003	TANIGUCHI, CHRISTEEN and MICHAEL DICE	LETTER REPORT: RECORDS SEARCH RESULTS ANS SITE VISIT FOR SPRINT TELECOMMUNICATIONS FACILITY RV54XC468I (RANCHO BAPTIST CHURCH), 29775 SANTIAGO ROAD, TEMECULA, RIVERSIDE COUNTY, CA	MICHAEL BRANDMAN ASSOCIATES	
RI-06169	NADB-R - 1087532	2003	DICE, MICHAEL	LETTER REPORT: RECORDS SEARCH RESULTS AND SITE VISIT FOR SPRINT TELECOMMUNICATIONS FACILITY RV54XC468H (CARL'S JR.), 44515 BEDFORD COURT, TEMECULA, RIVERSIDE COUNTY, CA	MICHAEL BRANDMAN ASSOCIATES	
RI-06487	NADB-R - 1087852; Submitter - CONTRACT #1635	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NOS. 922-170-014, AND -015, IN THE CITY OF TEMECULA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06612	NADB-R - 1087979; Submitter - CRM TECH CONTRACT #1866	2006	TANG, BAI "TOM", MICHAEL HOGAN, JOSH SMALLWOOD, and THOMAS SHACKFORD	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: ASSESSOR'S PARCEL NUMBER 922-130-016, CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-007770
RI-07024		2006	Keller, Jean A.	A Phase I Cultural Resources Assessment of Tentative Parcel Map 34699, +/- 4.98 Acres of Land in the City of Temecula, Riverside County, California	Jean A. Keller	
RI-07540		2007	Keller, Jean A.	A Phase I Cultural Resources Assessment of Pujol Street Apartments, Planning Application 07-0229, +/-13.72 Acres of Land in the City of Temecula, Riverside County, California	Jean A. Keller, Cultural Resources Consultant	
RI-07574		2008	Patrick McGinnis and Hillary Murphy	Phase I Archaeological Assessment of 3-Acres Proposed for the Santiago Sedimentation Basin Project, Riverside County, California, APN 945-120-01, TPM No. 11125	Tierra Environmental Services, Inc.	
RI-07646		2005	Clifford, James, Scott Mattingly, and Brian F. Smith	A Cultural Resources Survey for the Star World Center Project, City of Temecula, Riverside County	Brian F. Smith and Associates	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-08171		2008	Jennifer M. Sanka and Marnie Aislin-Kay	Cultural Resources Assessment Public Safety Enterprise Communication Project Riverside, Orange, San Bernardino, and San Diego Counties, FM 04174400010	Michael Brandman Associates	
RI-08327		2009	Wayne H. Bonner and Sarah A. Williams	Letter Report: Cultural Resource Records Search and Site Visit for Royal Street Communications California, LLC Candidate LA3454A (Temecula Creek Inn), 44501 Rainbow Canyon Road, Temecula, Riverside County, California.	Michael Brandman Associates (MBA)	
RI-08363		2009	Kathy Anderson and Madeleine Bray	Old Town Specific Plan Amendment, Temecula, Riverside County, California.	Environmental Science Associates	33-007737, 33-007738, 33-007739, 33-007740, 33-007750, 33-007752, 33-007757, 33-007758, 33-007759, 33-007760, 33-007761, 33-007773
RI-08408		2009	Jean A. Keller	A Phase I Cultural Resources Assessment of Santiago Road Property APN 945-120-001 thru 004.	Jean A. Keller, PhD., Cultural Resources Consultant	
RI-08485	Other - SCE PO# 4500032069; Other - WO 6088- 4800/9-4882, AI#9- 4877, and 9-4876	2009	Kurt Heidelberg	Archaeological Survey for Southern California Edison's Service Pole Installations in Temecula, Murrieta, and Lake Elsinore, Riverside County, California	AECOM, Inc.	
RI-08552		2011	Dennis McDougall	Phase I Cultural Resources Assessment for this San Diego Pipeline Nos. 4 and 5 Station 1530+00 Erosion Repair Project, Temecula, Riverside County, CA	Applied EarthWorks, Inc.	33-011443
RI-08557	Other - APN 940-230- 002; Submitter - CRM TECH Contract #2461	2010	Bai "Tom" Tang	Letter Report: Historical/Archaeological Resources Survey, ACE Bowen Pump Station Improvements, APN 940-230-002 Santa Rosa Palteau, Riverside County, California CRM TECH Contract #2461	CRM TECH	
RI-08881	Other - APN 961-010- 006, Tract 30468	2012	Anna M. Hoover, Kristie R. Blevins, Jim McPherson, and Barbara Loren-Webb	An Archaeological Mitigation-Monitoring Report for the Temecula Creek Project	L&L Environmental, Inc.	
RI-09146		2013	Tracy A. Stropes and Brian F. Smith	Phase I Archaeological Assessment for the Ridge Park Project, City of Temecula, California	Brian F. Smith and Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-09155	Other - Federal Project No. HSIPL-5956 (203)	2014	Mark C. Robinson	Environmental Sensitive Area Action Plan: For the Cajalco/Alexander Street Traffic Signal Project, City of Perris, Riverside County, California, 08-RIV-Cajalco Road, Federal Project No. HSIPL-5956 (203)	ICF International	33-000811, 33-000817
RI-09272		2014	David Brunzell	Cultural Resources Assessment Temecula Creek Inn Project City of Temecula, Riverside County, California	BCR Consulting	33-001071, 33-011443, 33-012742, 33-014928, 33-014929, 33-014930, 33-014931, 33-014932, 33-014933
RI-09350		2014	Victoria Harvey	Cultural Resources Records Search and Site Visit for Temecula Creek Inn, ATC Site No. 274611, unsectioned portion of Township 7S, Range 2W, 44501 Rainbow Canyon Road, Temecula, Riverside County, California	Cogstone Resource Management	
RI-09492		2015	Ben Kerridge, Daniel Ballester, and Nina Gallardo	Phase I Historical/ Archaeological Resource Survey Ace Bowen Pump Station Disinfection System Improvements Project	CRM Tech	
RI-09601	Other - Federal Project No. CML 5459 (023)	2015	Molly Vasic	Archaeological Survey Report for the Temecula Park and Ride Facility Project, City of Temecula, Riverside County, California	Cogstone	
RI-09623	Other - Project Number: 3274	2015	Dustin Keeler	Cultural Resources Assessment for the Temecula Gateway Project, Riverside County, California	Cogstone	
RI-10048	IC Record Search Nbr -	2002	LORNA BILLAT	LETTER REPORT: NEXTEL COMMUNICATIONS PROPOSED WIRELESS TELECOMMUNICATIONS SERVICE FACILITIES IN SOUTHERN CALIFORNIA	EARTHTOUCH LLC	
RI-10088	Other - TCNS ID # 115367	2014	Matthew Beazley and Matthew Fields	Archaeological Assessment: Proposed Collocation of Antennas on an Existing 73-Foot Stealth Telecommunications Equipment Compound.	Envionrmntal Corporation of America	
RI-10106		2017	DAVID BRUNZELL	CULTURAL RESOURCES ASSESSMENT PECHANGA PARKWAY WIDENING PROJECT TEMECULA, RIVERSIDE COUNTY, CALIFORNIA	BCRCONSULTING LLC	
RI-10114		2015	CANDACE EHRINGER, MICHAEL VADER, and CHRIS LOCKWOOD	ALTAIR SPECIFIC PLAN EIR PROJECT TEMECULA RIVERSIDE COUNTY CALIFORNIA	ESA	33-000270, 33-025246, 33-025247, 33-028069, 33-028070, 33-028071

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-10220		2009	Diane F. Bonner and Robert J. Wlodarski	LETTER REPORT: Cultural Resources Record Search and Archaeological Survey Results for the proposed Royal Street Communications, California, LLC, Site LA3453A (Rancho Baptist Church) located at 29775 Santiago Road, Temecula, Riverside County, California 92592-3055	Historical Environmental Archaeological Research Team (H.E.A.R.T.)	
RI-10483		2018	David Brunzell	Cultural Resources Assessment Ynez Road Improvements Project Temecula, Riverside County, California	BCR Consulting LLC	
RI-10893		2019	David Brunzell	Cultural Resources Assessment Temecula Park and Ride Project	BCR Consulting LLC	33-029766
RI-11082		2020	Hannah Haas and Christopher Duran	Archaeological Monitoring for the Pala Force Main Project, Temecula, Riverside County, California	Rincon	
RI-11116		2019	Robert Cunningham and Wendy Blument	Cultural Resources Monitoring Report Circle K Pechanga Parkway and Temecula Parkway	ECORP Consulting Inc	
RI-11129		2019	Andrew J. Garrison and Brian F. Smith	A Section 106 (NHPA) Historic Resources Study for the Altair Project, SPL-2016-00641-PJB, City of Temecula, California	Brian F. Smith and Associates	
RI-11165		2015	Molly Valasik	Archaeological Survey Report for the Temecula Park and Ride Facility Project, City of Temecula, Riverside County, California	Cogstone Resource Management Inc	
RI-11166		2015	Molly L. Valasik	History Property Survey Report District 8, County Riverside, City of Temecula, northeast corner of Temecula Parkway and La Paz Road	Department of Transportation	
RI-11195		2004	Michael Mirro	Historical Resources Compliance Report; District 8; County Riverside; Route 79	Applie EarthWorks	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-000050	CA-RIV-000050	Other - Temecula Ranch; Other - Temecula asistencia; Other - UCLA Riv 50, 365; National Register - 1D	Site, Element of district	Prehistoric	AP02; AP04	1952 (Pilling, UCR ARU); 1965 (J&K Chartkoff, L Kona, UCR ARU); 1970 (Dorothy Luhrs, UCR ARU); 1981 (M. Stein, n/a); 1982 (L.L. Bowles, UCR ARU); 2002 (Cheryl Bowden, Renna EDAW, Inc.)	RI-01426, RI-02169, RI-02502, RI-02903, RI-03312, RI-07787
P-33-000270	CA-RIV-000270	National Register - 1D	Site, Element of district	Prehistoric	AP02; AP03; AP04	1966 (T. Blackburn, State of California Division of Beaches & Parks); 1982 (L.L. Bowles, UCR ARU)	RI-00004, RI-01426, RI-02169, RI-02502, RI-02903, RI-03312, RI-10114
P-33-000365	CA-RIV-000365	Other - UCLA 4-Riv-365; National Register - 1D	Site, Element of district	Prehistoric	AP02; AP04	1965 (D.S. Miller, J.L. Chartkoff, UCR ARU); 1965 (Joe and Kerry Chartkoff, Leuirc Kona, UCLA); 1972 (T.F. King, Department of Anthropology, UCR); 1988 (Daniel F. McCarthy, ARU UCR)	RI-00004, RI-02169, RI-02384, RI-02502, RI-02547, RI-02903, RI-03312, RI-05277
P-33-001071	CA-RIV-001071	Other - W-301A	Other	Prehistoric	AP01	1976 (Eastvold, n/a); 1987 (R.E. Parr, Archaeological Research Unit, U C Riverside); 1989 (C.E. Drover, D.M. Smith, n/a); 2006 (B. Sheets, K. McLean, A. Ruelas, Applied EarthWorks, Inc.)	RI-02471, RI-02502, RI-05880, RI-08609, RI-09272
P-33-004707	CA-RIV-004707	Other - ARU 1173-1		Prehistoric	AP02; AP03	1992 (C. J. Petersen, Archaeological Research Unit, U C Riverside); 1996 (Del James, S. Briggs, Joyce Clevenger, Ogdan Environmental and Energy Services Co.); 1997 (Philip de Barros, Professional Archaeological Services)	RI-03436, RI-03437, RI-03439, RI-03440
P-33-004949	CA-RIV-004949	Other - The Slaughter House; Other - JSA 6-H	Structure	Historic	HP08	1983 (Judy Stewart, Riverside County Historical Commission); 1992 (J. Russell, Jones & Stokes Associates, Inc.)	
P-33-007742		Other - Munoa House; Other - Ser. No. 33-2390-8; National Register - 7N	Building	Historic	HP02	1983 (Joy Sullivan, Riverside County Historical Comm.)	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-007761		Other - Al Otto House; Other - Ser. No. 33-2390-20; National Register - 5S2	Building	Historic	HP02	1983 (Judy Stewart, Riverside County Historical Comm.)	RI-08363
P-33-007762		Other - The Jordan Home; Other - Fred Ramirez House; Other - Ser. No. 33-2390-21; National Register - 5S2	Building	Historic	HP02	1983 (Mildred Tobin, Riverside County Historical Comm.)	
P-33-007763		Other - Angel Ramirez House; Other - Ser. No. 33-2390-22; National Register - 5S2	Building	Historic	HP02	1983 (Pauline Graham, Riverside County Historical Comm.)	
P-33-007764		Other - Ser. No. 33-2390-23; National Register - 5S2	Building	Historic	HP02	1983 (J. Stewart, Riverside County Historical Comm.)	
P-33-011222		Voided - 33-011220; Other - M 01.570A (Santa Margarita Outfall)	Site	Prehistoric	AP08; AP16	2001 (Jeanette A. McKenna, McKenna et al.)	RI-05012
P-33-011443		Other - Murrieta Canyon Archaeological Area; Other - Murrieta Creek Archaeological Area; National Register - 7J	Site, District	Prehistoric, Historic	AP02; AP03; AP04; AP09; AP10; AP15; AP16	1972 (Thomas F. King, UCR ARU)	RI-05880, RI-08552, RI-08609, RI-09272
P-33-012517		Other - VR-CBR-1	Site	Prehistoric	AP02; AP04	2002 (C. Bowden-Renna, S.Jenkins, L. Dreibelbis, EDAAW, Inc.)	RI-07787, RI-08609
P-33-012520		Other - VR-SD-2	Site	Prehistoric	AP04	2002 (C. Bowden-Renna, S. Jenkins, S. Diaz, L. Dreibelbis, EDAAW, Inc.)	RI-07787
P-33-012742			Site	Prehistoric	AP04	1988 (C. E. Drover, n/a); 2011 (David Brunzell, BCR Consulting)	RI-02343, RI-05880, RI-08609, RI-09272
P-33-013135		Other - C-Temecula-C-1; Other - Pala Road Bridge; Other - Temecula Bridge; Other - Temecula Creek Bridge	Other	Historic	HP19	1986 (Roger G. Hatheway, Scientific Resource Surveys, Inc.); 1999 (S. Ashkar, Jones & Stokes)	RI-02187
P-33-014928		Other - AE-TCH-ISO-1	Site	Prehistoric	AP16	2006 (McLean, K. and A. Ruelas, Applied EarthWorks, Inc.); 2011 (David Brunzell, BCR)	RI-05880, RI-08609, RI-09272
P-33-023889		Other - SC-ISO-1	Other	Prehistoric	AP02	2014 (Brad Comeau, Dudek)	
P-33-024153		Other - Rainbow Canyon Road; Other - Old U.S. Route 395	Other	Historic	AH07	2011 (David Brunzell, BCR Consulting)	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-025246		Other - Altair-Iso-002	Other	Prehistoric	AP16	2015 (Michael Vader, ESA)	RI-10114
P-33-029407		Other - MBI1901-I-1	Other	Prehistoric	AP16	2019 (Damien Tiejjen, BCR Consulting LLC)	
P-33-029766		Other - MBI1901-I-1	Other	Prehistoric	AP16	2019 (Damien Tiejjen, BCR Consulting LLC)	RI-10893

NATIVE AMERICAN HERITAGE COMMISSION

March 1, 2024

Jean A. Keller, Ph.D.
Cultural Resources Consultant

Via Email to: 4jakeller@gmail.com

Re: Development Plan No. PA23-0197 (APN 922-210-042) Project, Riverside 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 submitted for the above referenced project. The results were positive. Please contact the Pechanga Band of Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological 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. Please contact all of those listed; if they cannot supply information, they may 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 the NAHC. 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
Cultural Resources Analyst

Attachment



CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
Riverside County
3/1/2024**

Tribe Name	Contact Person	Contact Address	Email Address
Agua Caliente Band of Cahuilla Indians	Lacy Padilla, THPO Operations Manager	5401 Dinah Shore Drive Palm Springs, CA, 92264	ACBCI-THPO@aguacaliente.net
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	kaamalam@gmail.com
Juaneno Band of Mission Indians Acjachemen Nation 84A	Heidi Lucero, Chairperson, THPO	31411-A La Matanza Street San Juan Capistrano, CA, 92675	jbmian.chairwoman@gmail.com
La Jolla Band of Luiseno Indians	Norma Contreras, Chairperson	22000 Highway 76 Pauma Valley, CA, 92061	
Pala Band of Mission Indians	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	awallick@palatribe.com
Pala Band of Mission Indians	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	cnejo@palatribe.com
Pala Band of Mission Indians	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	sgaughen@palatribe.com
Pauma Band of Luiseno Indians	Temet Aguilar, Chairperson	P.O. Box 369 Pauma Valley, CA, 92061	bennaecalac@aol.com
Pechanga Band of Indians	Tuba Ebru Ozdil, Pechanga Cultural Analyst	P.O. Box 2183 Temecula, CA, 92593	eozdil@pechanga-nsn.gov
Pechanga Band of Indians	Steve Bodmer, General Counsel for Pechanga Band of Indians	P.O. Box 1477 Temecula, CA, 92593	sbodmer@pechanga-nsn.gov
Quechan Tribe of the Fort Yuma Reservation	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	historicpreservation@quechantribe.com
Quechan Tribe of the Fort Yuma Reservation	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	culturalcommittee@quechantribe.com
Quechan Tribe of the Fort Yuma Reservation	Jordan Joaquin, President,	P.O.Box 1899 Yuma, AZ, 85366	executivesecretary@quechantribe.com

	Quechan Tribal Council		
Rincon Band of Luiseno Indians	Joseph Linton, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	jlinton@rincon-nsn.gov
Rincon Band of Luiseno Indians	Laurie Gonzalez, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	lgonzalez@rincon-nsn.gov
Rincon Band of Luiseno Indians	Denise Turner Walsh, Attorney General	One Government Center Lane Valley Center, CA, 92082	dwalsh@rincon-nsn.gov
Rincon Band of Luiseno Indians	Cheryl Madrigal, Cultural Resources Manager/Tribal Historic Preservation Officer	One Government Center Lane Valley Center, CA, 92082	cmadrigal@rincon-nsn.gov
San Luis Rey Band of Mission Indians	Carmen Mojado, Secretary of Government Affairs		cjmojado@slrmissionindians.org
Santa Rosa Band of Cahuilla Indians	Lovina Redner, Tribal Chair	P.O. Box 391820 Anza, CA, 92539	lsaul@santarosa-nsn.gov
Soboba Band of Luiseno Indians	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	jvaldez@soboba-nsn.gov
Soboba Band of Luiseno Indians	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	jontiveros@soboba-nsn.gov
Soboba Band of Luiseno Indians	Isaiah Vivanco, Chairperson	P.O. Box 487 San Jacinto, CA, 92581	ivivanco@soboba-nsn.com

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Development Plan No. PA23-0197 (APN 922-210-042) Project, Riverside County.



Jean Keller <4jakeller@gmail.com>

Project Scoping Letters

THPO Consulting <ACBCI-THPO@aguacaliente.net>
To: Jean Keller <4jakeller@gmail.com>

Mon, Mar 11, 2024 at 8:46 AM

Greetings,

A records check of the Tribal Historic Preservation Office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,



Xitlaly Madrigal

Cultural Resources Analyst

xmladrigal@aguacaliente.net

C: (760) 423-3485 | D: (760) 883-6829

5401 Dinah Shore Drive, Palm Springs, CA 92264

From: Jean Keller <4jakeller@gmail.com>
Sent: Saturday, March 9, 2024 11:46 AM
To: THPO Consulting <ACBCI-THPO@aguacaliente.net>
Subject: Project Scoping Letters

**** This Email came from an External Source ****

This email has been scanned by Inbound Shield.

Rincon Band of Luiseño Indians

CULTURAL RESOURCES DEPARTMENT

One Government Center Lane | Valley Center | CA 92082
(760) 749-1092 | Fax: (760) 749-8901 | rincon-nsn.gov



March 27, 2024

Sent via email: 4jakeller@gmail.com

Re: PA23-0197 Carwash/Coffee Shop City of Temecula, Riverside County, California

Dear Ms. Keller,

This letter is written on behalf of the Rincon Band of Luiseño Indians (“Rincon Band” or “Tribe”), a federally recognized Indian tribe and sovereign government in response to your request for information pertaining to cultural and tribal cultural resources on the above referenced project. The identified location is within the Traditional Use Area of the Luiseño people and is also within the Tribe’s specific area of Historic interest. As such, the Rincon Band is traditionally and culturally affiliated to the project area.

After reviewing the provided documents and our internal information, the Rincon Band has no information on specific Tribal Cultural Resources (TCRs) or Traditional Cultural Properties (TCPs) within or surrounding the project area to share. However, this does not mean that none exists. The proposed project is in a culturally sensitive area and the Tribe believes that the potential exists for cultural resources to be identified during further research and survey work. We recommend working closely with the Pechanga Band as they may have pertinent information to provide. Please forward a final copy of the cultural resources study upon completion to the Rincon Band.

If you have additional questions or concerns, please do not hesitate to contact our office at your convenience at (760) 749 1092 ext. 320 or via electronic mail at slinton@rincon-nsn.gov. Thank you for the opportunity to protect our cultural assets.

Sincerely,

A handwritten signature in blue ink that reads "Shuuluk Linton". The signature is written in a cursive, flowing style.

Shuuluk Linton
Tribal Historic Preservation Coordinator
Cultural Resources Department



PECHANGA CULTURAL RESOURCES

Temecula Band of Luiseño Mission Indians

Post Office, Box 2183 • Temecula, CA 92593
Telephone (951) 770-6300 • Fax (951) 506-9491

April 1, 2024

VIA E-Mail and USPS

Jean A. Keller, Ph.D.
Cultural Resources Consultant
1042 N. El Camino Real, Suite B-244
Encinitas, CA. 92024

RE: Request for Information for the Development Plan No. PA23-0197 Project, City of Temecula, Riverside County, California

Dear Mr. Dr. Keller,

The Pechanga Band of Indians (“the Tribe”) appreciates your request for information regarding the above referenced Project. After reviewing the provided maps and our internal documents we have determined that the Project area is not within Reservation land’s but is located 1.44 miles away from our Reservation. This Undertaking is located in the very heart of Our Ancestral Territory. We are interested in participating in this Project based upon our ‘Ayékwish/Traditional Knowledge and especially considering the APE is *entirely within* our Luiseño Ancestral Origin Traditional Cultural Landscape—a Listed Property on the National Register of Historic Places. There is not a more culturally sensitive-area in our entire Ancestral Territory. Additionally, this Project is within the scope of our Creation-Placename and surrounded by 8 additional Ancestral Placenames, all under 1.15 miles away. Historic aerial records from 1938-to-present depict a property which has never been formally developed. In 1982 this Property most-likely served as a staging-area for a subdivision to the immediate southeast and prior to 1996 the property, is shown to have taken-on off-road traffic and served as parking for the adjacent Mobil Gas Station development. The Tribe maintains that beyond scarification this Property’s native soils remain intact.

The perennial Temecula and Murrieta Creeks once coursed through numerous Ancestral Communities, before becoming Táatamay/the Santa Margarita River, on its way to Móomat/the Pacific Ocean. The very flash-point for Creation of our Culture’s World occurs at the confluence of the Murrieta and Temecula Creeks. This Project is geographically-situated directly between these two NHD/National Hydrography Dataset blue-line Creeks respectively: the Murrieta at 275 yards due east and the Temecula is 319 yards south-southeast of the APE. For over four decades the Tribe has known of over two dozen Ancestral sacred-site burials in close proximity to this Project’s APE. Between 1979-2004 Ancestors were directly impacted by the construction of the 15 Freeway and Temecula Creek developments. When considering our Culture’s burial-practices, the immediate proximities of these Creeks to this Project is *very concerning* to the Tribe because—such an adjacency increases the likelihood for impacts to latent sacred-areas.

Chairperson:
Neal Ibanez

Vice Chairperson:
Bridgett Barcello

Committee Members:
Darlene Miranda
Richard B. Searce, III
Robert Villalobos
Shevon Torres
Juan Rodriguez

Director:
Gary DuBois

Coordinator:
Paul Macarre

Cultural Analyst:
Tuba Ebru Ozdil

Planning Specialist:
Molly Escobar

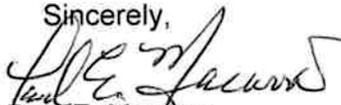
Considering the Project's immediate proximity to previously impacted Ancestral human remains, since this Project occurs *entirely within* our Traditional Cultural Landscape and the Project's-impacts within the TCL will require a proper-assessment due to its National Register Status. In light of the nearby perennial bluelines, bearing in mind the 16 previously recorded sites and 11 GPS'd Ancestral features, and because of all the concerns listed above the Tribe therefore, is interested in participating in this Project. Pechanga believes that the possibility of recovering sensitive subsurface resources during ground-disturbing activities for this Project is extremely high.

The Tribe is dedicated to providing comprehensive cultural information to you and your firm for inclusion in the archaeological study as well as to the Lead Agency for CEQA review. At this time, the Tribe requests the following so we may continue the consultation process and to provide adequate and appropriate recommendations for the Project:

- 1) Notification once the Project begins the entitlement process, if it has not already;
- 2) Copies of all applicable archaeological reports, site records, proposed grading plans and environmental documents (EA/IS/MND/EIR, etc);
- 3) Government-to-government consultation with the Lead Agency; and
- 4) The Tribe believes that monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving activities. Therefore, the Tribe reserves its right to make additional comments and recommendations once the environmental documents have been received and fully reviewed.
- 5) In the event that subsurface cultural resources are identified, the Tribe requests consultation with the Project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

As a Sovereign governmental entity, the Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed Project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the Project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this Project.

Please note that we are interested in participating in surveys within 'Atáaxum/Payómkawichum Ancestral Territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at pmacarro@pechanga-nsn.gov or 951-770-6306.

Sincerely,

Paul E. Macarro
Cultural Coordinator
Pechanga Reservation

Pechanga Cultural Resources • Pechanga Band of Indians

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Appendix E

Geotechnical Investigation

May 16, 2024

Project No. 224450-10B

Mr. Brandon Humann
Catalyst Commercial Group
38605 Calistoga Drive Suite 150
Murrieta, CA 92563

Subject: Updated Preliminary Geotechnical Interpretive Report, Proposed Drive-Thru Coffee Shop and Express Carwash, Assessor's Parcel Number 922-210-042, Located on Bedford Court, City of Temecula, Riverside County, California

Earth Strata Geotechnical Services is pleased to present our updated preliminary geotechnical interpretive report for the proposed drive-thru coffee shop and express carwash, Assessor's Parcel Number 922-210-042, located on Bedford Court southwest of Temecula Parkway in the City of Temecula, Riverside County, California. The purpose of this study is to evaluate the nature, distribution, engineering properties, and geologic strata underlying the site with respect to the proposed development.

Earth Strata Geotechnical Services appreciates the opportunity to offer our consultation and advice on this project. In the event that you have any questions, please do not hesitate to contact the undersigned at your earliest convenience.

Respectfully submitted,

EARTH STRATA GEOTECHNICAL SERVICES



Stephen M. Poole, PE, GE
Principal Engineer



Aaron G. Wood, PG, CEG
Principal Geologist



SMP/AGW/mw

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
INTRODUCTION	1
SITE DESCRIPTION	1
PROPOSED DEVELOPMENT AND GRADING	1
FIELD EXPLORATION AND LABORATORY TESTING	3
Field Exploration	3
Laboratory Testing	3
FINDINGS	3
Regional Geology	3
Local Geology	4
Faulting	4
Landslides	8
CONCLUSIONS AND RECOMMENDATIONS	8
General	8
Earthwork	8
Earthwork and Grading	8
Clearing and Grubbing	8
Excavation Characteristics	8
Groundwater	8
Ground Preparation for Fill Areas	9
Oversize Rock	9
Compacted Fill Placement	9
Import Earth Materials	9
Cut/Fill Transitions	10
Cut Areas	11
Shrinkage, Bulking and Subsidence	11
Geotechnical Observations	11
Post Grading Considerations	12
Slope Landscaping and Maintenance	12
Site Drainage	12
Utility Trenches	12
SEISMIC DESIGN CONSIDERATIONS	13
Ground Motions	13
Primary Seismic Hazards	14
Secondary Seismic Hazards	14
Liquefaction and Lateral Spreading	14
General	15
Allowable Bearing Values	15
Settlement	15
Lateral Resistance	15
Structural Setbacks and Building Clearance	16
Foundation Observations	17
Expansive Soil Considerations	17
Very Low Expansion Potential (Expansion Index of 20 or Less)	17
Footings	17

Building Floor Slabs	17
Corrosivity	18
RETAINING WALLS	19
Active and At-Rest Earth Pressures	19
Subdrain System	19
Temporary Excavations	20
Retaining Wall Backfill	20
CONCRETE FLATWORK	20
Thickness and Joint Spacing	20
Subgrade Preparation	20
GRADING PLAN REVIEW AND CONSTRUCTION SERVICES	21
REPORT LIMITATIONS	21

Attachments:

- Figure 1 – Vicinity Map (Page 2)
- Figure 2 – Regional Geologic Map (Page 5)
- Figure 3 – Regional Geologic Map (Page 6)
- Figure 4 – Regional Geologic Map (Page 7)
- APPENDIX A – References (Rear of Text)
- APPENDIX B – Exploratory Logs (Rear of Text)
- APPENDIX C – Laboratory Procedures and Test Results (Rear of Text)
- APPENDIX D – Seismicity (Rear of Text)
- APPENDIX E – General Earthwork and Grading Specifications (Rear of Text)
- Plate 1 – Geotechnical Map (Rear of Text)

INTRODUCTION

Earth Strata Geotechnical Services is pleased to present our updated 7preliminary geotechnical interpretive report for the proposed development. The purpose of this study was to evaluate the nature, distribution, engineering properties, and geologic strata underlying the site with respect to the proposed development, and then provide preliminary grading and foundation design recommendations based on the plans you provided. The general location of the subject property is indicated on the Vicinity Map, Figure 1. The plans you provided were used as the base map to show geologic conditions within the subject site, see Geotechnical Map, Plate 1.

SITE DESCRIPTION

The subject property is located on Bedford Court, southwest of Temecula Parkway in the City of Temecula, Riverside County, California. The approximate location of the site is shown on the Vicinity Map, Figure 1.

The subject property is comprised of an undeveloped parcel of land. Topographic relief at the subject property is relatively low with the terrain being generally flat. Elevations at the site range from approximately 1,015 to 1,020 feet above mean sea level (msl), for a difference of about 5± feet across the entire site. Drainage within the subject property generally flows to the west.

The site is currently bordered by Interstate 15 Freeway to the west, commercial development to the north, a gasoline station to the east, and residential development to the south. Most of the vegetation on the site consists of moderate amounts of annual weeds/grasses, along with small to large trees bordering the western portion of the subject site.

PROPOSED DEVELOPMENT AND GRADING

The proposed commercial development is expected to consist of concrete, wood or steel framed one-story structures utilizing slab on grade construction with associated streets, landscape areas, and utilities. The current development plans include two (2) building pads positioned throughout the site. The plans provided by you were utilized in our exploration and form the base for our Geotechnical Map, Plate 1.



224450-10A APPROXIMATE SITE LOCATION

FIELD EXPLORATION AND LABORATORY TESTING

Field Exploration

Subsurface exploration within the subject site was performed on October 24, 2022 for the exploratory excavations. A truck mounted hollow-stem-auger drill rig was utilized to drill six (6) borings throughout the site to a maximum depth of 16 feet. An underground utilities clearance was obtained from Underground Service Alert of Southern California, prior to the subsurface exploration.

Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions may have been reconciled to reflect laboratory test results with regard to ASTM D 2487.

Associated with the subsurface exploration was the collection of bulk (disturbed) samples and relatively undisturbed samples of earth materials for laboratory testing and analysis. The relatively undisturbed samples were obtained with a 3 inch outside diameter modified California split-spoon sampler lined with 1-inch-high brass rings. Samples obtained using a hollow stem auger drill rig, were mechanically driven with successive 30 inch drops of a 140-pound automatic trip safety hammer. The blow count per one-foot increment was recorded in the boring logs. The central portions of the driven samples were placed in sealed containers and transported to our laboratory for testing and analysis. The approximate exploratory locations are shown on Plate 1 and descriptive logs are presented in Appendix B.

Laboratory Testing

Maximum dry density/optimum moisture content, expansion potential, pH, resistivity, sulfate content, chloride content, and in-situ density/moisture content were determined for selected undisturbed and bulk samples of earth materials, considered representative of those encountered. An evaluation of the test data is reflected throughout the Conclusions and Recommendations section of this report. A brief description of laboratory test criteria and summaries of test data are presented in Appendix C.

FINDINGS

Regional Geology

Regionally, the site is located in the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges are characterized by northwest trending steep mountain ranges separated by sediment filled elongated valleys. The dominant structural geologic features reflect the northwest trend of the province. Associated with and subparallel to the San Andreas Fault are the San Jacinto Fault, Newport-Inglewood, and the Whittier-Elsinore Fault. The Santa Ana Mountains abut the west side of the Elsinore Fault while the Perris Block forms the other side of the fault zone to the east. The Perris Block is bounded to the east by the San Jacinto Fault. The northern perimeter of the Los Angeles basin forms part of a northerly dipping blind thrust fault at the boundary between the Peninsular Ranges Province and the Transverse Range Province.

The mountainous regions within the Peninsular Ranges Province are comprised of Pre-Cretaceous, metasedimentary, and metavolcanic rocks along with Cretaceous plutonic rocks of the Southern California

Batholith. The low lying areas are primarily comprised of Tertiary and Quaternary non-marine alluvial sediments consisting of alluvial deposits, sandstones, claystones, siltstones, conglomerates, and occasional volcanic units. A map illustrating the regional geology is presented on the Regional Geologic Map, Figure 2.

Local Geology

The earth materials on the site are primarily comprised of artificial fill and Quaternary alluvial materials. A general description of the dominant earth materials observed on the site is provided below:

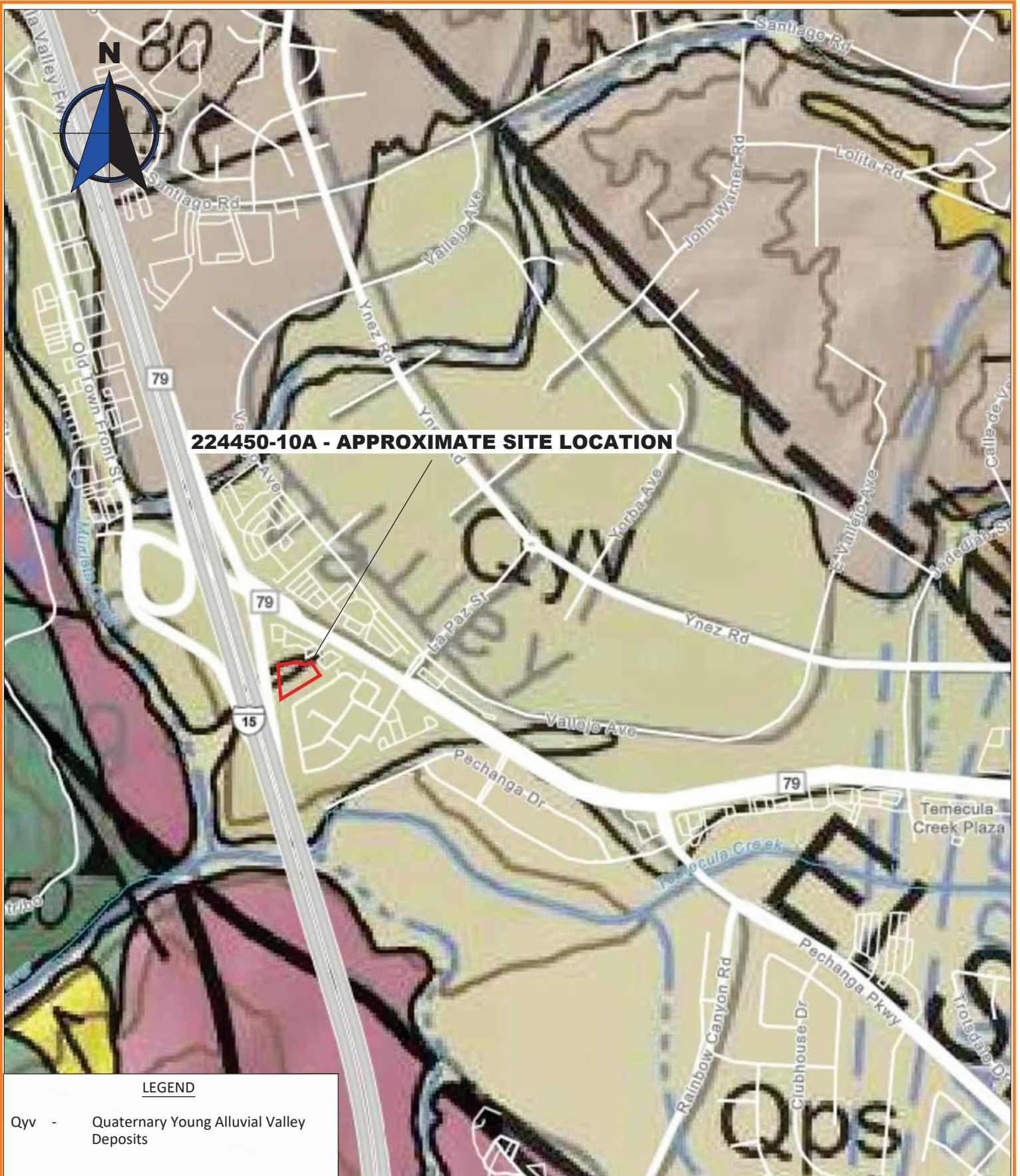
- Artificial Fill, Compacted (map symbol Afc): Compacted artificial fill materials were encountered throughout the site within the upper 7 to 10 feet during exploration. These materials are typically locally derived from the native materials and consist generally of brown to dark brown to reddish brown silty sand and sandy silt.
- Quaternary Young Alluvial Valley deposits (map symbol Qyv): Quaternary alluvial deposits were generally encountered below the artificial fill to the full depth of our exploration. These materials primarily consisted of light to dark brown, reddish brown, fine to coarse grained sand with varying amounts of silt and clay. These materials were generally noted to be slightly moist to moist, dense to very dense.

Faulting

The project is located in a seismically active region and as a result, significant ground shaking will likely impact the site within the design life of the proposed project. The geologic structure of the entire southern California area is dominated by northwest-trending faults associated with the San Andreas Fault system, which accommodates for most of the right lateral movement associated with the relative motion between the Pacific and North American tectonic plates. Known active faults within this system include the Newport-Inglewood, Whittier-Elsinore, San Jacinto and San Andreas Faults.

The site is not located within an Alquist-Priolo Earthquake Fault Zone, established by the State of California to restrict the construction of new habitable structures across identifiable traces of known active faults. An active fault is defined by the State of California as having surface displacement within the past 11,000 years or during the Holocene geologic time period. However, the site is located within the projected fault zone connecting two Riverside County Fault Zones associated with segments of the Willard Fault to the north, and the Murrieta Creek Wolf Valley Fault to the south (see Figure 3 – County Fault Map and Figure 4 – AP Fault Map).

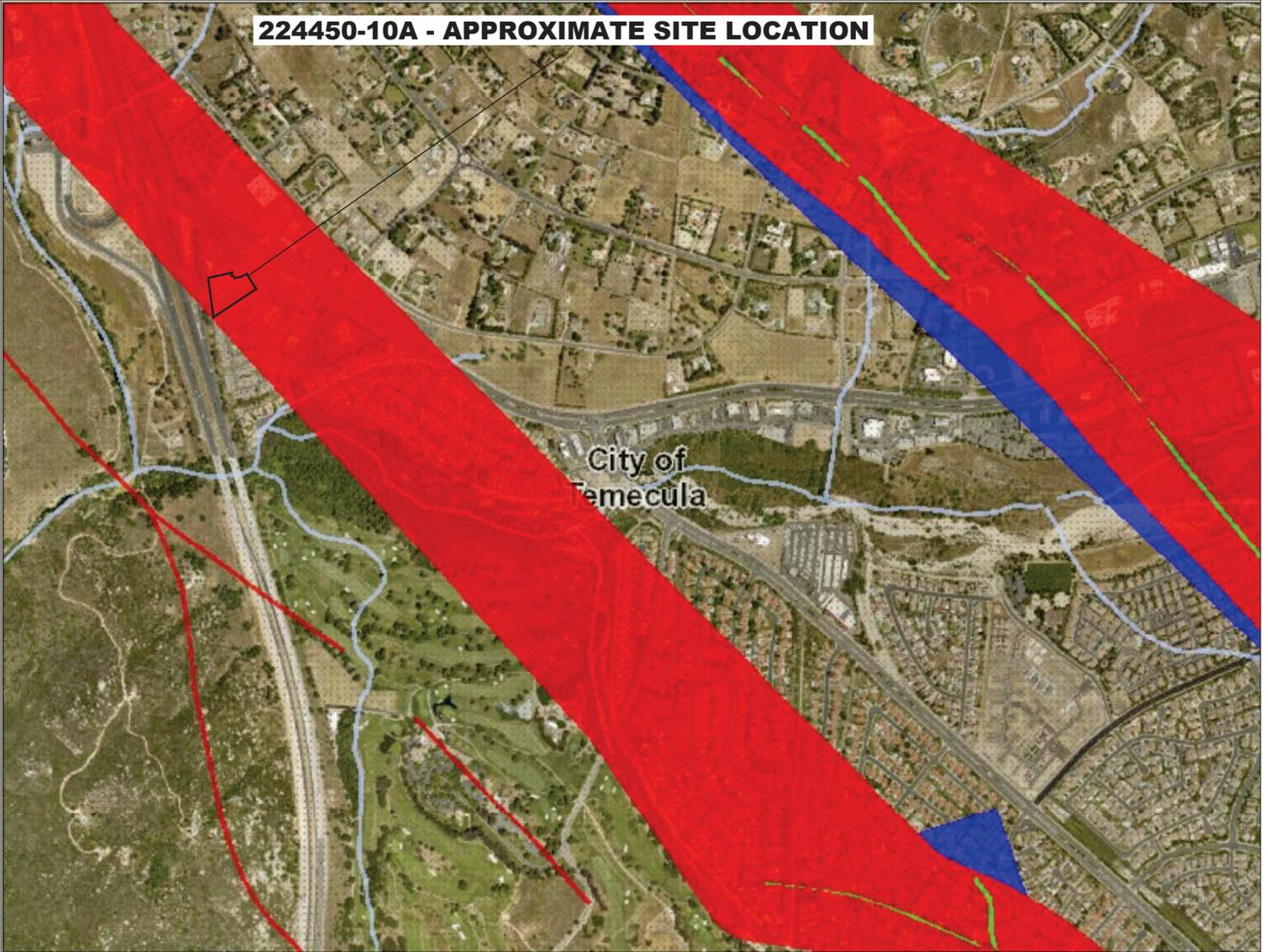
Based on our review of regional geologic maps and applicable computer programs (USGS Seismic Design Maps, Caltrans ARS online, and USGS Earthquake Hazard Programs), the Elsinore Fault with an approximate source to site distance of 1.25 kilometers is the closest known active fault anticipated to produce the highest ground accelerations, with an anticipated maximum modal magnitude of 7.74. A list of faults as well as a list of significant historical seismic events within a 100km radius of the subject site are included in Appendix D.



REFERENCES: Kennedy, M.P., Tan, S.S., Bovard, K.R., Alvarez, R.M., Watson, M.J., and Gutierrez, C.I., 2007, Geologic map of the Oceanside 30x60-minute quadrangle, California, California Geological Survey, Regional Geologic Map RGM-2, 1:100,000.

Earth Strata Geotechnical Services, Inc. Geotechnical, Environmental and Materials Testing Consultants www.ESGSINC.com (951) 397-8315	PROPOSED DRIVE-THRU COFFEE SHOP REGIONAL GEOLOGIC MAP	224450-10A SCALE 1:18,056 OCT 2022 FIGURE 2
--	--	---

224450-10A - APPROXIMATE SITE LOCATION



Legend

Faults

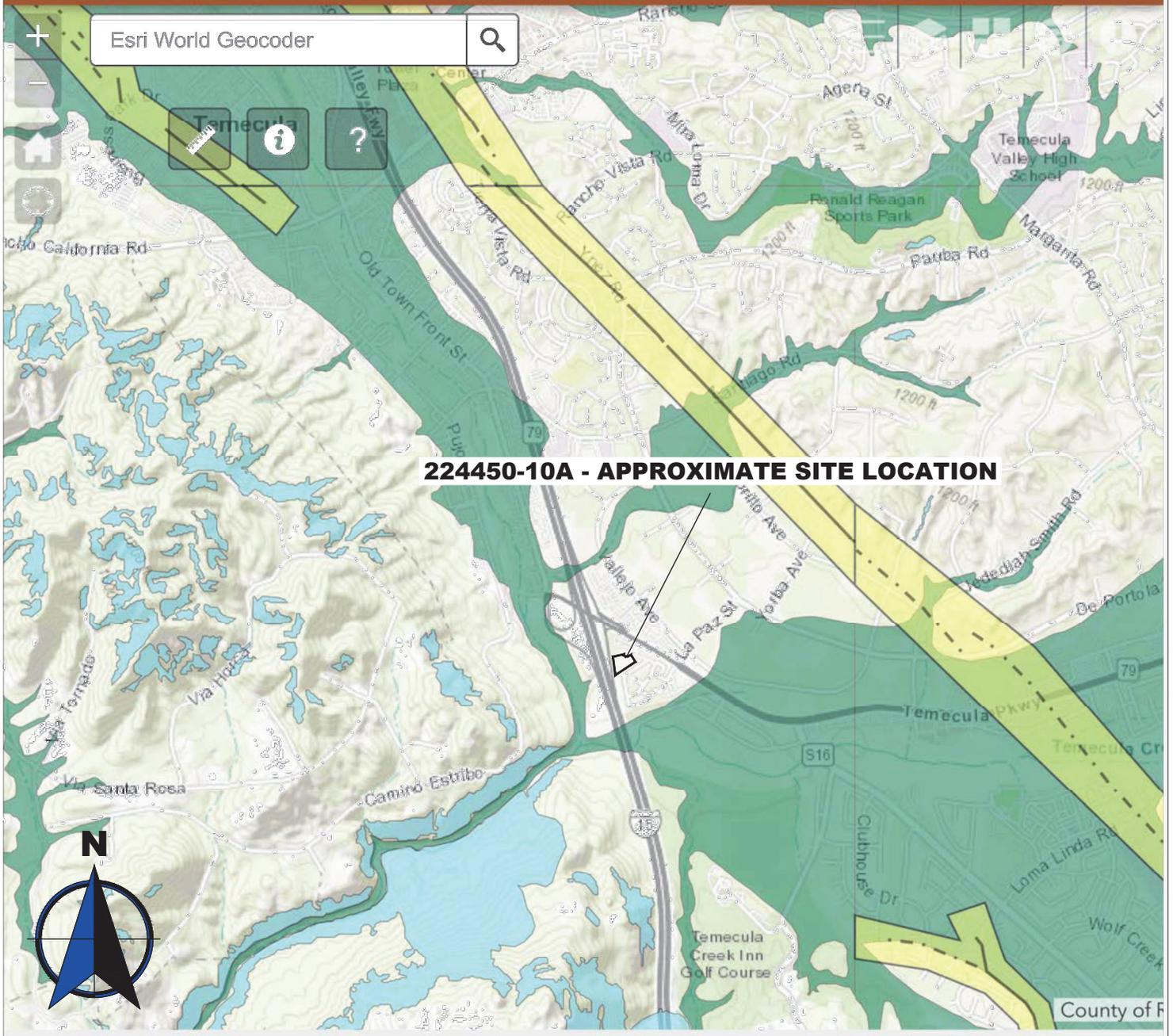
-  OTHER AUTHORITY
-  ALQUIST-PRIOLO
-  RIVERSIDE COUNTY

Fault Zones

-  OTHER FAULT ZONE
-  COUNTY FAULT ZONE
-  EL SINORE FAULT ZONE
-  SAN ANDREAS FAULT ZONE
-  SAN JACINTO FAULT ZONE

Earthquake Zones of Required Investigation

CGS Homepage



224450-10A - APPROXIMATE SITE LOCATION

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

PROPOSED DRIVE-THRU COFFEE SHOP

224450-10A

Alquist-Priolo Zone Maps

SEE BAR SCALE

OCT 2022

FIGURE 4

Landslides

Landslide debris was not observed during our subsurface exploration and no ancient landslides are known to exist on the site. No landslides are known to exist, or have been mapped, in the vicinity of the site. Geologic mapping of the site conducted during our investigation, and review of aerial imagery of the site, reveal no geomorphic expressions indicative of landsliding.

CONCLUSIONS AND RECOMMENDATIONS

General

From geotechnical and engineering geologic points of view, the subject property is considered suitable for the proposed development, provided the following conclusions and recommendations are incorporated into the plans and are implemented during construction.

Earthwork

Earthwork and Grading

The provisions of the 2022 California Building Code (CBC), including the General Earthwork and Grading Specifications in the last Appendix of this report, should be applied to all earthwork and grading operations, as well as in accordance with all applicable grading codes and requirements of the appropriate reviewing agency. Unless specifically revised or amended herein, grading operations should also be performed in accordance with applicable provisions of our General Earthwork and Grading Specifications within the last appendix of this report.

Clearing and Grubbing

Vegetation including trees, grasses, weeds, brush, shrubs, or any other debris should be stripped from the areas to be graded and properly disposed of offsite. In addition, laborers should be utilized to remove any roots, branches, or other deleterious materials during grading operations.

Earth Strata Geotechnical Services should be notified at the appropriate times to provide observation and testing services during Clearing and Grubbing operations. Any buried structures or unanticipated conditions should be brought to our immediate attention.

Excavation Characteristics

Based on the results of our exploration and experience with similar projects in similar settings, the near surface earth materials, will be readily excavated with conventional earth moving equipment.

Groundwater

Groundwater was not observed during our subsurface exploration. It should be noted that localized groundwater could be encountered during grading due to the limited number of exploratory locations or other factors.

Ground Preparation for Fill Areas

For each area to receive compacted fill, the removal of low density, compressible earth materials, such as disturbed artificial fill, should continue until firm competent artificial fill is encountered. Removal excavations are subject to verification by the project engineer, geologist or their representative. Prior to placing compacted fills, the exposed bottom in each removal area should be scarified to a depth of 6 inches or more, watered or air dried as necessary to achieve near optimum moisture conditions and then compacted to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557.

The intent of remedial grading is to diminish the potential for hydro-consolidation, slope instability, and/or settlement. Remedial grading should extend beyond the perimeter of the proposed structures a horizontal distance equal to the depth of excavation or a minimum of 5 feet, whichever is greater. For cursory purposes the anticipated removal depths are shown on the enclosed Geotechnical Map, Plate 1. In general, the anticipated removal depths should vary from 3 to 5 feet below existing grade.

Wet Removals

Wet alluvial materials will probably not be encountered within the low lying areas of the site. If removals of wet alluvial materials are required, special grading equipment and procedures can greatly reduce overall costs. Careful planning by an experienced grading contractor can reduce the need for special equipment, such as swamp cats, draglines, excavators, pumps, and top loading earthmovers. Possible solutions may include the placement of imported angular rock and/or geotextile ground reinforcement. More specific recommendations can be provided based on the actual conditions encountered. Drying or mixing of wet materials with dry materials will be needed to bring the wet materials to near optimum moisture prior to placing wet materials into compacted fills.

Oversize Rock

Oversize rock is not expected to be encountered during grading. Oversize rock that is encountered (i.e., rock exceeding a maximum dimension of 12 inches) should be disposed of offsite or stockpiled onsite and crushed for future use. The disposal of oversize rock is discussed in greater detail in General Earthwork and Grading Specifications within the last appendix of this report.

Compacted Fill Placement

Compacted fill materials should be placed in 6 to 8 inch maximum (uncompacted) lifts, watered or air dried as necessary to achieve uniform near optimum moisture content and then compacted to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557.

Import Earth Materials

Should import earth materials be needed to achieve final design grades, all potential import materials should be free of deleterious/oversize materials, non-expansive, and approved by the project geotechnical consultant prior to delivery onsite.

Fill Slopes

When properly constructed, fill slopes less than 30 feet high with inclinations of 2:1 (h:v) or flatter are considered to be grossly stable. Keyways are required at the toe of all fill slopes higher than 5 feet and steeper than 5:1 (h:v). Keyways should be a minimum of 10 feet wide and 2 feet into competent earth materials, as measured on the downhill side. In order to establish keyway removals, backcuts should be cut no steeper than 1:1 or as recommended by the geotechnical engineer or engineering geologist. Compacted fill should be benched into competent earth materials.

Cut Slopes

When properly constructed, cut slopes into alluvial materials up to 10 feet high with inclinations of 2:1 (h:v) or flatter are considered grossly stable. Cut slopes should be observed by the engineering geologist or his representative during grading, but are anticipated to be stable.

Stabilization Fills

Currently, stabilization fills will not be required for cut slopes in the bedrock. Our engineering geologist or his representative should be called to evaluate all slopes during grading. In the event that unfavorable geologic conditions are encountered, recommendations for stabilization fills or flatter slopes will be provided.

Fill Over Cut Slopes

The fill portion of fill over cut slopes should not be constructed until the cut portion of the slope has been cut to finish grade. The earth materials and geologic structure exposed along the cut slope should be evaluated with regard to suitability for compacted fills or foundations and for stability. If the cut materials are determined to be competent, then the construction of the keyway and subdrain system may commence or additional remedial recommendations will be provided.

Temporary Backcuts

It is the responsibility of the grading contractor to follow all Cal-OSHA requirements with regard to excavation safety. Where existing developments are upslope, adequate slope stability to protect those developments must be maintained. Temporary backcuts will be required to accomplish removals of unsuitable materials and possibly, to perform canyon removals, stabilization fills, and/or keyways. Backcuts should be excavated at a gradient of 1:1 (h:v) or flatter. Flatter backcuts may be required where geologic structure or earth materials are unfavorable. It is imperative that grading schedules minimize the exposure time of the unsupported excavations. All excavations should be stabilized within 30 days of initial excavation.

Cut/Fill Transitions

Cut/fill transitions should be eliminated from all building areas where the depth of fill placed within the "fill" portion exceeds proposed footing depths. This is to diminish distress to structures resulting from excessive differential settlement. The entire foundation of each structure should be

founded on a uniform bearing material. This should be accomplished by overexcavating the “cut” portion and replacing the excavated materials as properly compacted fill. Refer to the following table for recommended depths of overexcavation.

DEPTH OF FILL (“fill” portion)	DEPTH OF OVEREXCAVATION (“cut” portion)
Up to 5 feet	Equal Depth
5 to 10 feet	5 feet
Greater than 10 feet	One-half the thickness of fill placed on the “fill” portion (10 feet maximum)

Overexcavation of the “cut” portion should extend beyond the building perimeter a horizontal distance equal to the depth of overexcavation or a minimum of 5 feet, whichever is greater.

Cut Areas

In cut areas, an area a minimum of 5 feet beyond the footprint of the proposed structures should overexcavated until; competent bottoms are achieved; to a minimum 3 feet below the proposed foundations; or per the Overexcavation Table above; (whichever is greater) and replaced with compacted fill. Final determination of areas that require overexcavation should be determined in the field by a representative of Earth Strata Geotechnical Services.

Shrinkage, Bulking and Subsidence

Volumetric changes in earth material quantities will occur when poorly consolidated earth materials are replaced with properly compacted fill. Estimates of the percent shrinkage/bulking factors for the various geologic units observed on the subject property are based on in-place densities and on the estimated average percent of relative compaction achieved during grading.

GEOLOGIC UNIT	SHRINKAGE (%)
Artificial Fill	5 to 10
Alluvium	10 to 15

Subsidence from scarification and recompaction of exposed bottom surfaces is expected to be negligible to approximately 0.01 foot.

The estimates of shrinkage/bulking and subsidence are intended as an aid for project engineers in determining earthwork quantities. Since many variables can affect the accuracy of these estimates, they should be used with caution and contingency plans should be in place for balancing the project.

Geotechnical Observations

Clearing operations, removal of unsuitable materials, and general grading procedures should be observed by the project geotechnical consultant or his representative. No compacted fill should be placed without observations by the geotechnical consultant or his representative to verify the adequacy of the removals.

The project geotechnical consultant or his representative should be present to observe grading operations and to check that minimum compaction requirements and proper lift thicknesses are being met, as well as to verify compliance with the other recommendations presented herein.

Post Grading Considerations

Slope Landscaping and Maintenance

Adequate slope and building pad drainage is essential for the long term performance of the subject site. The gross stability of graded slopes should not be adversely affected, provided all drainage provisions are properly constructed and maintained. Engineered slopes should be landscaped with deep rooted, drought tolerant maintenance free plant species, as recommended by the project landscape architect.

Site Drainage

Control of site drainage is important for the performance of the proposed project. Roof gutters are recommended for the proposed structures. Pad and roof drainage should be collected and transferred to driveways, adjacent streets, storm-drain facilities, or other locations approved by the building official in non-erosive drainage devices. Drainage should not be allowed to pond on the pad or against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters located within retaining wall backfill should be sealed to prevent moisture intrusion into the backfill. Planters located next to structures should be sealed to the depth of the footings. Drainage control devices require periodic cleaning, testing and maintenance to remain effective.

At a minimum, pad drainage should be designed at the minimum gradients required by the CBC. To divert water away from foundations, the ground surface adjacent to foundations should also be graded at the minimum gradients required per the CBC.

Utility Trenches

All utility trench backfill should be compacted at near optimum moisture to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557. For utility trench backfill within pavement areas the upper 6 inches of subgrade materials should be compacted to 95 percent of the maximum dry density determined by ASTM D 1557. This includes within the street right-of-ways, utility easements, under footings, sidewalks, driveways and building floor slabs, as well as within or adjacent to any slopes. Backfill should be placed in approximately 6 to 8 inch maximum loose lifts and then mechanically compacted with a hydro-hammer, rolling with a sheepsfoot, pneumatic tampers, or similar equipment. The utility trenches should be tested by the project geotechnical engineer or their representative to verify minimum compaction requirements are obtained.

In order to minimize the penetration of moisture below building slabs, all utility trenches should be backfilled with compacted fill, lean concrete or concrete slurry where they undercut the perimeter foundation. Utility trenches that are proposed parallel to any building footings (interior and/or exterior trenches), should not be located within a 1:1 (h:v) plane projected downward from the outside bottom edge of the footing.

SEISMIC DESIGN CONSIDERATIONS

Ground Motions

Structures are required to be designed and constructed to resist the effects of seismic ground motions as provided in the 2022 California Building Code Section 1613. The design is dependent on the site class, occupancy category I, II, III, or IV, mapped spectral accelerations for short periods (S_s), and mapped spectral acceleration for a 1-second period (S_1).

In order for structural design to comply with the 2022 CBC, the USGS “US Seismic Design Maps” online tool was used to compile spectral accelerations for the subject property based on data and maps jointly compiled by the United States Geological Survey (USGS) and the California Geological Survey (CGS). The data found in the following table is based on the Maximum Considered Earthquake (MCE) with 5% damped ground motions having a 2% probability of being exceeded in 50 years (2,475 year return period).

The seismic design coefficients were determined by a combination of the site class, mapped spectral accelerations, and occupancy category. The following seismic design coefficients should be implemented during design of the proposed structures. Summaries of the Seismic Hazard Deaggregation graphs and test data are presented in Appendix D.

2022 CBC	FACTOR (ASCE 7-16)
Site Location	Latitude: 33.478368° (North) Longitude: -117.138550°(West)
Site Class	D - Default
Mapped Spectral Accelerations for short periods, S_s	1.574
Mapped Spectral Accelerations for 1-Second Period, S_1	0.584
Maximum Considered Earthquake Spectral Response Acceleration for Short Periods, S_{ms}	1.889
Maximum Considered Earthquake Spectral Response Acceleration for 1-Second Period, $S_{m1(+50\% \text{ increase})}^*$	1.577*
Design Spectral Response Acceleration for Short Periods, S_{Ds}	1.259
Design Spectral Response Acceleration for 1-Second Period, S_{D1}^*	1.051*
Seismic Design Category	D
Importance Factor Based on Occupancy Category	II

*See ASCE 7-16/Supplement 3

We performed the probabilistic seismic hazard assessment for the site in accordance with the 2022 CBC, Section 1803.5.11 and 1803.5.12. The probabilistic seismic hazard maps and data files were jointly prepared by the United States Geological Survey (USGS) and the California Geological Survey (CGS) and can be found at the CGS Probabilistic Seismic Hazards Mapping Ground Motion Page. Actual ground shaking intensities at the site may be substantially higher or lower based on complex variables such as the near source directivity effects, depth and consistency of earth materials, topography, geologic structure, direction of fault rupture, and seismic wave reflection, refraction, and attenuation rates. The mean peak ground acceleration was calculated to be 0.849g.

Primary Seismic Hazards

While the site is located within a Riverside County Fault Zone; that zone is a projection connecting two widely separated segments of the Willard Fault to the north, and the Murrieta Creek/Wolf Valley Fault to the south (see Figure 3 and Figure 4). Given that the primary trace of the Willard Fault continues southward approximately 0.26 miles southwest of the subject site; and that the trace of the Wolf Valley Fault projects westward approximately 1.17 miles southeast of the subject site, while the northward branching splay of the Elsinore Fault Zone in the area lies approximately 1.39 miles southeast of the subject site; it would seem the linear connection of these two widely separated fault zones is a tenuous projection of minimal certainty.

Given the uncertainty of the projected fault zone, the lack of geomorphic expression indicative of faulting through the subject site and the overall trend of established faults to project away from the subject site; and the lack of faulting discovered in the course of the developments which surround the subject site; it is our conclusion that the probability of surface fault rupture due to faulting is considered low. As such no fault related setbacks are required at this time..

Secondary Seismic Hazards

Secondary effects of seismic shaking considered as potential hazards include several types of ground failure as well as induced flooding. Different types of ground failure, which could occur as a consequence of severe ground shaking at the site, include landslides, ground lurching, shallow ground rupture, and liquefaction/lateral spreading. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from faults, topography, the state of subsurface earth materials, groundwater conditions, and other factors. Based on our experience, subsurface exploration, and laboratory testing, all of the above secondary effects of seismic activity are considered unlikely.

Seismically induced flooding is normally a consequence of a tsunami (seismic sea wave), a seiche (i.e., a wave-like oscillation of surface water in an enclosed basin that may be initiated by a strong earthquake) or failure of a major reservoir or retention system up gradient of the site. Since the site is at an elevation of more than 100 feet above mean sea level and is located more than 10 miles inland from the nearest coastline of the Pacific Ocean, the potential for seismically induced flooding due to a tsunami is considered nonexistent. Since no enclosed bodies of water lie adjacent to or up gradient of the site, the likelihood for induced flooding due to a dam failure or a seiche overcoming the dam's freeboard is considered nonexistent.

Liquefaction and Lateral Spreading

Liquefaction occurs as a result of a substantial loss of shear strength or shearing resistance in loose, saturated, cohesionless earth materials subjected to earthquake induced ground shaking. Potential impacts from liquefaction include loss of bearing capacity, liquefaction related settlement, lateral movements, and surface manifestation such as sand boils. Seismically induced settlement occurs when loose sandy soils become denser when subjected to shaking during an earthquake. The three factors determining whether a site is likely to be subject to liquefaction include seismic shaking, type and consistency of earth materials, and groundwater level. The proposed structures will be supported by compacted fill and competent alluvium, with groundwater at a depth greater than 17 feet. As such, the potential for earthquake induced liquefaction and lateral spreading beneath the proposed structures is

considered very low to remote due to the recommended compacted fill, relatively low groundwater level, and the dense nature of the deeper onsite earth materials.

TENTATIVE FOUNDATION DESIGN RECOMMENDATIONS

General

Provided grading is performed in accordance with the recommendations of this report, shallow foundations are considered feasible for support of the proposed structures. Tentative foundation recommendations are provided herein and graphic presentations of relevant recommendations may also be included on the enclosed map.

Allowable Bearing Values

An allowable bearing value of 2,500 pounds per square foot (psf) is recommended for design of 24-inch square pad footings and 12-inch-wide continuous footings founded at a minimum depth of 12 inches below the lowest adjacent final grade. This value may be increased by 20 percent for each additional 1-foot of width and/or depth to a maximum value of 3,500 psf. Recommended allowable bearing values include both dead and frequently applied live loads and may be increased by one third when designing for short duration wind or seismic forces.

Settlement

Based on the settlement characteristics of the earth materials that underlie the building sites and the anticipated loading, we estimate that the maximum total settlement of the footings will be less than approximately $\frac{3}{4}$ inch. Differential settlement is expected to be about $\frac{1}{2}$ inch over a horizontal distance of approximately 20 feet, for an angular distortion ratio of 1:480. It is anticipated that the majority of the settlement will occur during construction or shortly after the initial application of loading.

The above settlement estimates are based on the assumption that the grading and construction are performed in accordance with the recommendations presented in this report and that the project geotechnical consultant will observe or test the earth material conditions in the footing excavations.

Lateral Resistance

Passive earth pressure of 250 psf per foot of depth to a maximum value of 2,500 psf may be used to establish lateral bearing resistance for footings. For areas covered with hardscape, passive earth pressure may be taken from the surface. For areas without hardscape, the upper 12 inches of the soil profile must be neglected when calculating passive earth pressure. A coefficient of friction of 0.36 times the dead load forces may be used between concrete and the supporting earth materials to determine lateral sliding resistance. The above values may be increased by one-third when designing for short duration wind or seismic forces. When combining passive and friction for lateral resistance, the passive component should be reduced by one third. In no case shall the lateral sliding resistance exceed one-half the dead load for clay, sandy clay, sandy silty clay, silty clay, and clayey silt.

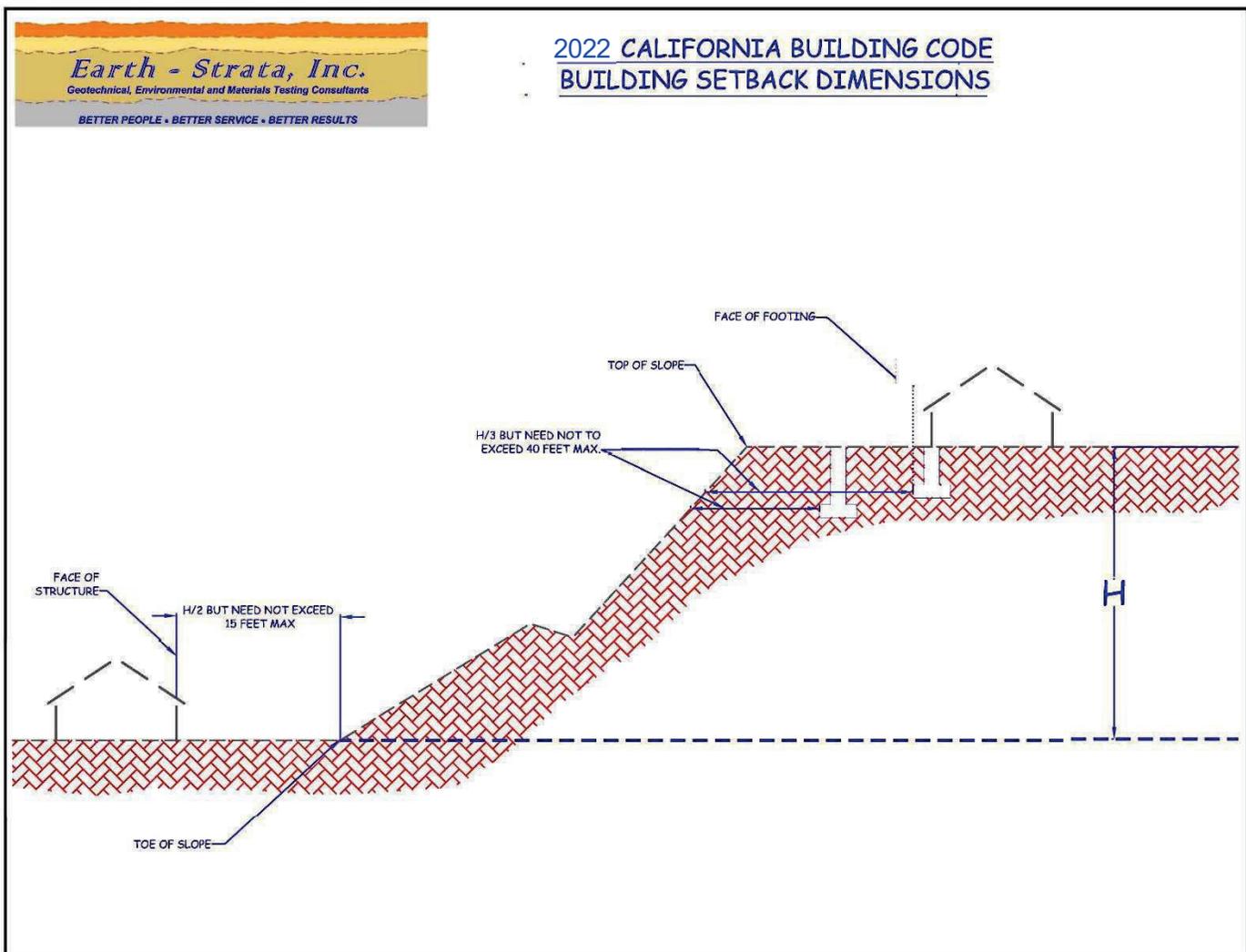
The above lateral resistance values are based on footings for an entire structure being placed directly against either compacted fill or competent bedrock.

Structural Setbacks and Building Clearance

Structural setbacks are required per the 2022 California Building Code (CBC). Additional structural setbacks are not required due to geologic or geotechnical conditions within the site. Improvements constructed in close proximity to natural or properly engineered and compacted slopes can, over time, be affected by natural processes including gravity forces, weathering, and long term secondary settlement. As a result, the CBC requires that buildings and structures be setback or footings deepened to resist the influence of these processes.

For structures that are planned near ascending and descending slopes, the footings should be embedded to satisfy the requirements presented in the CBC, Section 1808.7 as illustrated in the following Foundation Clearances from Slopes diagram.

FOUNDATION CLEARANCES FROM SLOPES



When determining the required clearance from ascending slopes with a retaining wall at the toe, the height of the slope shall be measured from the top of the wall to the top of the slope.

Foundation Observations

In accordance with the 2022 CBC and prior to the placement of forms, concrete, or steel, all foundation excavations should be observed by the geologist, engineer, or his representative to verify that they have been excavated into competent bearing materials. The excavations should be per the approved plans, moistened, cleaned of all loose materials, trimmed neat, level, and square. Any moisture softened earth materials should be removed prior to steel or concrete placement.

Earth materials from foundation excavations should not be placed in slab on grade areas unless the materials are tested for expansion potential and compacted to a minimum of 90 percent of the maximum dry density.

Expansive Soil Considerations

Preliminary laboratory test results indicate onsite earth materials exhibit an expansion potential of **VERY LOW** as classified in accordance with 2022 CBC Section 1803.5.3 and ASTM D 4829. Additional, testing for expansive soil conditions should be conducted upon completion of rough grading. The following recommendations should be considered the very minimum requirements, for the earth materials tested. It is common practice for the project architect or structural engineer to require additional slab thickness, footing sizes, and/or reinforcement.

Very Low Expansion Potential (Expansion Index of 20 or Less)

Our laboratory test results indicate that the earth materials onsite exhibit a **VERY LOW** expansion potential as classified in accordance with 2022 CBC Section 1803.5.3 and ASTM D 4829. Since the onsite earth materials exhibit expansion indices of 20 or less, the design of slab on ground foundations is exempt from the procedures outlined in Section 1808.6.1 or 1808.6.2.

Footings

- Exterior continuous footings may be founded at the minimum depths below the lowest adjacent final grade (i.e. 12-inch minimum depth for one-story, 18-inch minimum depth for two-story, and 24-inch minimum depth for three-story construction). Interior continuous footings for one-, two-, and three-story construction may be founded at a minimum depth of 12 inches below the lowest adjacent final grade. All continuous footings should have a minimum width of 12, 15, and 18 inches, for one-, two-, and three-story structures, respectively per Table 1809.7 of the 2022 CBC, and should be reinforced with a minimum of four (4) No. 4 bars, two (2) top and two (2) bottom.

Building Floor Slabs

- Building floor slabs should be a minimum of 5 inches thick and reinforced with a minimum of No. 4 bars spaced a maximum of 16 inches on center, each way. All floor slab reinforcement should be supported on concrete chairs or bricks to ensure the desired placement at mid-depth.
- Interior floor slabs, within moisture sensitive areas, should be underlain by a minimum 10-mil

thick moisture/vapor barrier to help reduce the upward migration of moisture from the underlying earth materials. The moisture/vapor barrier used should meet the performance standards of an ASTM E 1745 Class A material, and be properly installed in accordance with ACI publication 318. It is the responsibility of the contractor to ensure that the moisture/vapor barriers are free of openings, rips, or punctures prior to placing concrete. As an option for additional moisture reduction, higher strength concrete, such as a minimum 28-day compressive strength of 5,000 pounds per square inch (psi) may be used. Ultimately, the design of the moisture/vapor barrier system and recommendations for concrete placement and curing are the purview of the foundation engineer, taking into consideration the project requirements provided by the architect and owner.

- The subgrade earth materials below all floor slabs should be pre-watered to promote uniform curing of the concrete and minimize the development of shrinkage cracks, prior to placing concrete. The pre-watering should be verified by Earth Strata Geotechnical Services during construction.

Corrosivity

Corrosion is defined by the National Association of Corrosion Engineers (NACE) as “a deterioration of a substance or its properties because of a reaction with its environment.” From a geotechnical viewpoint, the “substances” are the reinforced concrete foundations or buried metallic elements (not surrounded by concrete) and the “environment” is the prevailing earth materials in contact with them. Many factors can contribute to corrosivity, including the presence of chlorides, sulfates, salts, organic materials, different oxygen levels, poor drainage, different soil types, and moisture content. It is not considered practical or realistic to test for all of the factors which may contribute to corrosivity.

The potential for concrete exposure to chlorides is based upon the recognized Caltrans reference standard “Bridge Design Specifications”, under Subsection 8.22.1 of that document, Caltrans has determined that “Corrosive water or soil contains more than 500 parts per million (ppm) of chlorides”. Based on limited preliminary laboratory testing, the onsite earth materials have chloride contents *less* than 500 ppm. As such, specific requirements resulting from elevated chloride contents are not required.

Specific guidelines for concrete mix design are provided in 2022 CBC Section 1904.1 and ACI 318, Section 4.3 Table 4.3.1 when the soluble sulfate content of earth materials exceeds 0.1 percent by weight. Based on limited preliminary laboratory testing, the onsite earth materials are classified in accordance with Table 4.3.1 as having a *negligible* sulfate exposure condition. Therefore, structural concrete in contact with onsite earth materials should utilize Type I or II.

Based on our laboratory testing of resistivity, the onsite earth materials in contact with buried steel should be considered *corrosive*. Additionally, pH values below 5.6 and above 9.1 are recognized as being corrosive to many common metallic components. The pH values for the earth materials tested were *lower* than 9.1 and *higher* than 5.6.

The preliminary test results for corrosivity are based on limited samples, and the initiation of grading may blend various earth materials together. This blending or imported material could alter and increase the detrimental properties of the onsite earth materials. Accordingly, additional testing for chlorides and

sulfates along with testing for pH and resistivity should be performed upon completion of grading. Laboratory test results are presented in Appendix C.

RETAINING WALLS

Active and At-Rest Earth Pressures

Foundations may be designed in accordance with the recommendations provided in the Tentative Foundation Design Recommendation section of this report. The following table provides the minimum recommended equivalent fluid pressures for design of retaining walls a maximum of 8 feet high. The active earth pressure should be used for design of unrestrained retaining walls, which are free to tilt slightly. The at-rest earth pressure should be used for design of retaining walls that are restrained at the top, such as basement walls, curved walls with no joints, or walls restrained at corners. For curved walls, active pressure may be used if tilting is acceptable and construction joints are provided at each angle point and at a minimum of 15 foot intervals along the curved segments.

MINIMUM STATIC EQUIVALENT FLUID PRESSURES (pcf)		
PRESSURE TYPE	BACKSLOPE CONDITION	
	LEVEL	2:1 (h:v)
Active Earth Pressure	40	63
At-Rest Earth Pressure	60	95

The retaining wall parameters provided do not account for hydrostatic pressure behind the retaining walls. Therefore, the subdrain system is a very important part of the design. All retaining walls should be designed to resist surcharge loads imposed by other nearby walls, structures, or vehicles should be added to the above earth pressures, if the additional loads are being applied within a 1.5:1 (h:v) plane projected up from the heel of the retaining wall footing. As a way of minimizing surcharge loads and the settlement potential of nearby buildings, the footings for the building can be deepened below the 1.5:1 (h:v) plane projected up from the heel of the retaining wall footing.

Upon request and under a separate scope of work, more detailed analyses can be performed to address equivalent fluid pressures with regard to stepped retaining walls, actual retaining wall heights, actual backfill inclinations, specific backfill materials, higher retaining walls requiring earthquake design motions, etc.

Subdrain System

We recommend a perforated pipe and gravel subdrain system be provided behind all proposed retaining walls to prevent the buildup of hydrostatic pressure behind the proposed retaining walls. The perforated pipe should consist of 4-inch minimum diameter Schedule 40 PVC or ABS SDR-35, placed with the perforations facing down. The pipe should be surrounded by 1 cubic foot per foot of ¾- or 1½ inch open graded gravel wrapped in filter fabric. The filter fabric should consist of Mirafi 140N or equivalent to prevent infiltration of fines and subsequent clogging of the subdrain system.

In lieu of a perforated pipe and gravel subdrain system, weep holes or open vertical masonry joints may be provided in the lowest row of block exposed to the air to prevent the buildup of hydrostatic pressure behind the proposed retaining walls. Weep holes should be a minimum of 3 inches in diameter and

provided at intervals at least every 6 feet along the wall. Open vertical masonry joints should be provided at a minimum of 32 inch intervals. A continuous gravel fill, a minimum of 1 cubic foot per foot, should be placed behind the weep holes or open masonry joints. The gravel should be wrapped in filter fabric consisting of Mirafi 140N or equivalent.

The retaining walls should be adequately coated on the backfilled side of the walls with a proven waterproofing compound by an experienced professional to inhibit infiltration of moisture through the walls.

Temporary Excavations

All excavations should be made in accordance with Cal-OSHA requirements. Earth Strata Geotechnical Services is not responsible for job site safety.

Retaining Wall Backfill

Retaining wall backfill materials should be approved by the geotechnical engineer or his representative prior to placement as compacted fill. Retaining wall backfill should be placed in lifts no greater than 6 to 8 inches, watered or air dried as necessary to achieve near optimum moisture contents. All retaining wall backfill should be compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D 1557. Retaining wall backfill should be capped with a paved surface drain.

CONCRETE FLATWORK

Thickness and Joint Spacing

Concrete sidewalks and patio type slabs should be at least 4 inches thick and provided with construction or expansion joints every 6 feet or less, to reduce the potential for excessive cracking. Concrete driveway slabs should be at least 5 inches thick and provided with construction or expansion joints every 10 feet or less.

Subgrade Preparation

In order to reduce the potential for unsightly cracking, subgrade earth materials underlying concrete flatwork should be compacted at near optimum moisture to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557 and then moistened to optimum or slightly above optimum moisture content. This moisture should extend to a depth of 12 inches below subgrade and be maintained prior to placement of concrete. Pre-watering of the earth materials prior to placing concrete will promote uniform curing of the concrete and minimize the development of shrinkage cracks. The project geotechnical engineer or his representative should verify the density and moisture content of the earth materials and the depth of moisture penetration prior to placing concrete.

Cracking within concrete flatwork is often a result of factors such as the use of too high a water to cement ratio and/or inadequate steps taken to prevent moisture loss during the curing of the concrete. Concrete distress can be reduced by proper concrete mix design and proper placement and curing of the concrete. Minor cracking within concrete flatwork is normal and should be expected.

GRADING PLAN REVIEW AND CONSTRUCTION SERVICES

This report has been prepared for the exclusive use of **CATALYST COMMERCIAL GROUP** and their authorized representative. It likely does not contain sufficient information for other parties or other uses. Earth Strata Geotechnical Services should be engaged to review the final design plans and specifications prior to construction. This is to verify that the recommendations contained in this report have been properly incorporated into the project plans and specifications. Should Earth Strata Geotechnical Services not be accorded the opportunity to review the project plans and specifications, we are not responsible for misinterpretation of our recommendations.

We recommend that Earth Strata Geotechnical Services be retained to provide geologic and geotechnical engineering services during grading and foundation excavation phases of the work. In order to allow for design changes in the event that the subsurface conditions differ from those anticipated prior to construction.

Earth Strata Geotechnical Services should review any changes in the project and modify and approve in writing the conclusions and recommendations of this report. This report and the drawings contained within are intended for design input purposes only and are not intended to act as construction drawings or specifications. In the event that conditions encountered during grading or construction operations appear to be different than those indicated in this report, this office should be notified immediately, as revisions may be required.

REPORT LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists, practicing at the time and location this report was prepared. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

Earth materials vary in type, strength, and other geotechnical properties between points of observation and exploration. Groundwater and moisture conditions can also vary due to natural processes or the works of man on this or adjacent properties. As a result, we do not and cannot have complete knowledge of the subsurface conditions beneath the subject property. No practical study can completely eliminate uncertainty with regard to the anticipated geotechnical conditions in connection with a subject property. The conclusions and recommendations within this report are based upon the findings at the points of observation and are subject to confirmation by Earth Strata Geotechnical Services based on the conditions revealed during grading and construction.

This report was prepared with the understanding that it is the responsibility of the owner or their representative, to ensure that the conclusions and recommendations contained herein are brought to the attention of the other project consultants and are incorporated into the plans and specifications. The owners' contractor should properly implement the conclusions and recommendations during grading and construction, and notify the owner if they consider any of the recommendations presented herein to be unsafe or unsuitable.

APPENDIX A
REFERENCES

APPENDIX A

References

California Building Standards Commission, 2022, *2022 California Building Code, California Code of Regulations Title 24, Part 2, Volume 2 of 2*, Based on 2018 International Building Code.

California Corrosion Guidelines

DeLorme, 2004, (www.delorme.com) *Topo USA*®.

Hart, Earl W. and Bryant, William A., 1997, *Fault Rupture Hazard Zones in California*, CDMG Special Publication 42, revised 2003.

Jenkins, Olaf P., 1978, *Geologic Map of California, Santa Ana Sheet*; CDMG, Scale 1:250,000.

Kennedy, M.P., 2000, Nelson, B., and R. Hauser, *Geologic Map of the Pechanga 7.5 Minute Quadrangle, Riverside and San Diego Counties, California, Version 1.0*: U.S. Geological Survey, CDMG.

Kennedy, M.P., 1977, *Regency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California*, California Division of Mines and Geology Special Report 131.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Southern California, Version 2.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Murrieta 7.5 Minute Quadrangle, Southern California, Version 1.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M. (compiler), and Fred K. Miller (compiler), 2006, *Geologic Map of the San Bernardino and Santa Ana 30' x 60' Quadrangles, California*: U.S. Geological Survey, Version 1, California.

National Association of Corrosion Engineers, 1984, *Corrosion Basics An Introduction*, page 191.

Per A.B. Chance® Recommendations, 2003

Southern California Earthquake Center (SCEC), 1999, *Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California*, March.

APPENDIX B
EXPLORATORY LOGS

Geotechnical Boring Log B-1

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					ML	Sandy SILT; brown, slightly moist, medium dense, fine sand
	24	2.5'	116.4	12.6		
5						Porous at 5 feet
	34	5'	115.4	14.7		Becomes dense below 5 feet
						Dark brown, fine gravel at 7.5 feet
	35	7.5'	123.3	9.7		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
					SM	Silty SAND; dark brown, slightly moist, very dense, fine to medium sand and gravel, poor recovery
	50/6"	10'	-	-		
15						No recovery and Practical Refusal 16 feet
						End of Boring: 16 feet
						No Groundwater
20						
25						
30						

Geotechnical Boring Log B-2

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0		0-5'				Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, fine to medium sand
	32	2.5'	122.8	9.4		
						Medium to coarse sand, porous at 5 feet
5						
	31	5'	112.0	13.4		
						Practical Refusal at 6.5 feet
						End of Boring: 6.5 feet
						No Groundwater
10						
15						
20						
25						
30						

Geotechnical Boring Log B-3

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, medium to coarse sand, fine gravel, porous
	29	2.5'	123.7	7.1		
						With cobbles, becomes dense at 5 feet
5						
	36	5'	132.2	4.9		
	65	7.5'	114.5	5.4		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to medium sand
					SM	Silty SAND; reddish brown, slightly moist, very dense, fine gravel
10						
	80/11"	10'	111.3	5.0	SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to coarse sand
						Practical refusal at 11 feet
						End of Boring: 11.5 feet
						No Groundwater
15						
20						
25						
30						

42184 Remington Avenue, Temecula, CA 92590

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

Geotechnical Boring Log B-4

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, medium to coarse sand, fine gravel
	31	2.5'	120.0	7.0		
5						Dark brown, medium dense, fine sand, porous below 5 feet
	26	5'	120.7	9.6		
	30	7.5'	124.3	11.3	ML	Sandy SILT; reddish brown, slightly moist, hard, fine to medium sand
10						
	68/11"	10'	122.0	6.6		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; white to light brown, slightly moist, very dense, fine to medium sand
15						
	50/6"	15'	109.4	7.1	SM	Silty SAND; white to brown, slightly moist, very dense, fine to coarse sand with cobble
						Practical refusal at 16 feet
						End of Boring: 16 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-5

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, very dense, fine to medium sand with fine gravel
	39	2.5'	122.0	5.9		
5						
	25	5'	125.9	4.4	SP	Poorly-graded SAND; brown, moist, medium dense, fine to medium sand, medium to coarse gravel
	50	7.5'	117.7	16.2	ML	Sandy SILT; brown, slightly moist, dense, fine grained sand
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	63	10'	120.3	6.1	SM	Silty SAND; white to brown, moist, very dense, medium to coarse sand, fine gravel
						Practical refusal at 13.5 feet
15						End of Boring: 13.5 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-6

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, fine to medium grained sand
	20	2.5'	121.2	5.6		
5						
	19	5'	116.4	18.6		
	11	7.5'	114.7	14.0		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	68	10'	120.1	7.0	SP	Poorly-graded SAND; white to brown, slightly moist, very dense, medium to coarse sand, fine gravel
15						
	50/5"	15'	106.9	6.7		
						End of Boring: 16 feet No Groundwater
20						
25						
30						

APPENDIX C

LABORATORY PROCEDURES AND TEST RESULTS

APPENDIX C

Laboratory Procedures and Test Results

Laboratory testing provided quantitative and qualitative data involving the relevant engineering properties of the representative earth materials selected for testing. The representative samples were tested in general accordance with American Society for Testing and Materials (ASTM) procedures and/or California Test Methods (CTM).

Soil Classification: Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions were reconciled to reflect laboratory test results with regard to ASTM D 2487.

Moisture and Density Tests: For select samples moisture content was determined using the guidelines of ASTM D 2216 and dry density determinations were made using the guidelines of ASTM D 2937. These tests were performed on relatively undisturbed samples and the test results are presented on the exploratory logs.

Maximum Density Tests: The maximum dry density and optimum moisture content of representative samples were determined using the guidelines of ASTM D 1557. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)
B-2 @ 0-5 feet	Clayey SAND	133.0	8.0

Expansion Index: The expansion potential of representative samples was evaluated using the guidelines of ASTM D 4829. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	EXPANSION INDEX	EXPANSION POTENTIAL
B-2 @ 0-5 feet	Clayey SAND	9	Very Low

Minimum Resistivity and pH Tests: Minimum resistivity and pH Tests of select samples were performed using the guidelines of CTM 643. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	pH	MINIMUM RESISTIVITY (ohm-cm)
B-2 @ 0-5 feet	Clayey SAND	7.5	1,400

Soluble Sulfate: The soluble sulfate content of select samples was determined using the guidelines of CTM 417. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	SULFATE CONTENT (% by weight)	SULFATE EXPOSURE
B-2 @ 0-5 feet	Clayey SAND	0.001	Negligible

Chloride Content: Chloride content of select samples was determined using the guidelines of CTM 422. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	CHLORIDE CONTENT (ppm)
B-2 @ 0-5 feet	Clayey SAND	50

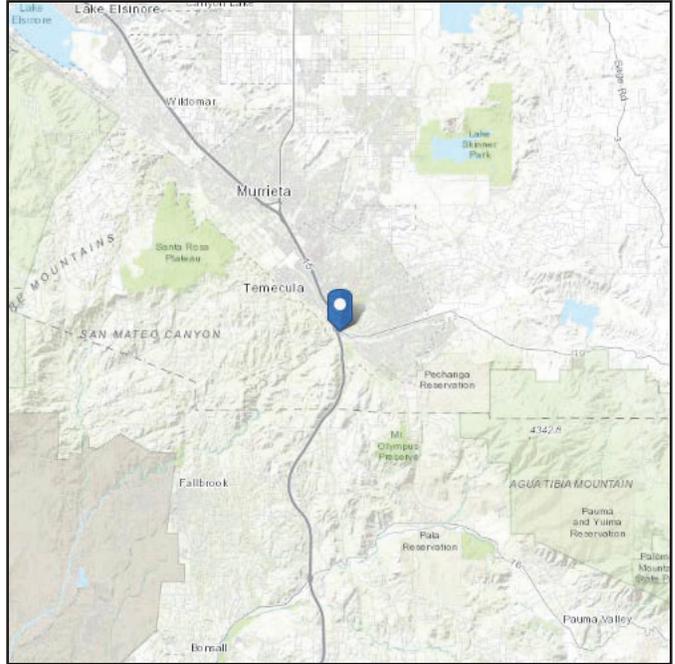
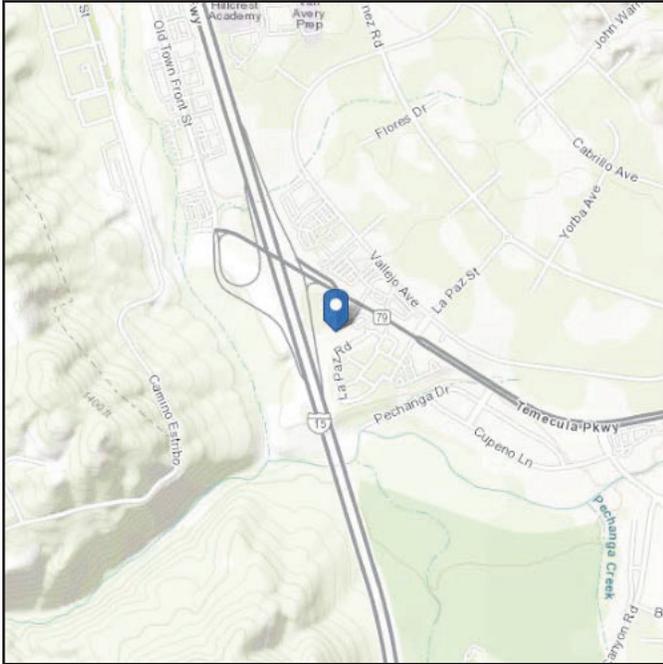
APPENDIX D
SEISMICITY

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 33.478368
Longitude: -117.13855
Elevation: 1005.1220992734862 ft (NAVD 88)



Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	1.574	S_{D1} :	N/A
S_1 :	0.584	T_L :	8
F_a :	1.2	PGA :	0.707
F_v :	N/A	PGA _M :	0.849
S_{MS} :	1.889	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	1.259	C_v :	1.415

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Fri May 17 2024

Date Source: [USGS Seismic Design Maps](#)

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

U.S. Geological Survey - Earthquake Hazards Program

2008 National Seismic Hazard Maps - Source Parameters

[New Search](#)

Distance in Kilometers	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
1.25	Elsinore;GI+T+J+CM	CA	n/a	86	NE	strike slip	0	16	195
1.25	Elsinore;T	CA	5	90	V	strike slip	0	14	52
1.25	Elsinore;GI+T+J	CA	n/a	86	NE	strike slip	0	17	153
1.25	Elsinore;GI+T	CA	5	90	V	strike slip	0	14	78
1.25	Elsinore;W+GI+T+J+CM	CA	n/a	84	NE	strike slip	0	16	241
1.25	Elsinore;W+GI+T+J	CA	n/a	84	NE	strike slip	0	16	199
1.25	Elsinore;W+GI+T	CA	n/a	84	NE	strike slip	0	14	124
1.25	Elsinore;T+J+CM	CA	n/a	85	NE	strike slip	0	16	169
1.25	Elsinore;T+J	CA	n/a	86	NE	strike slip	0	17	127
19.43	Elsinore;J	CA	3	84	NE	strike slip	0	19	75
19.43	Elsinore;J+CM	CA	3	84	NE	strike slip	0	17	118
20.77	Elsinore;GI	CA	5	90	V	strike slip	0	13	37
20.77	Elsinore;W+GI	CA	n/a	81	NE	strike slip	0	14	83
35.28	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
35.28	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
35.28	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118
35.28	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178

35.28	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
35.35	San Jacinto;SBV+SJV+A+CC	CA	n/a	90	V	strike slip	0	16	181
35.35	San Jacinto;SBV+SJV+A	CA	n/a	90	V	strike slip	0	16	134
35.35	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
35.35	San Jacinto;SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
35.35	San Jacinto;SJV+A+CC	CA	n/a	90	V	strike slip	0	16	136
35.35	San Jacinto;SJV+A+C	CA	n/a	90	V	strike slip	0	17	136
35.35	San Jacinto;SJV+A	CA	n/a	90	V	strike slip	0	17	89
35.35	San Jacinto;SBV+SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	215
35.35	San Jacinto;SBV+SJV+A+C	CA	n/a	90	V	strike slip	0	17	181
35.35	San Jacinto;SBV+SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
37.69	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
37.69	San Jacinto;SBV+SJV	CA	n/a	90	V	strike slip	0	16	88
43.61	Newport Inglewood Connected alt 1	CA	1.3	89		strike slip	0	11	208
43.61	Newport Inglewood Connected alt 2	CA	1.3	90	V	strike slip	0	11	208
43.61	Newport-Inglewood (Offshore)	CA	1.5	90	V	strike slip	0	10	66
47.58	Rose Canyon	CA	1.5	90	V	strike slip	0	8	70
51.53	San Joaquin Hills	CA	0.5	23	SW	thrust	2	13	27
55.21	Chino, alt 2	CA	1	65	SW	strike slip	0	14	29
55.28	San Jacinto;CC+B	CA	n/a	90	V	strike slip	0.2	14	77
55.28	San Jacinto;CC	CA	4	90	V	strike slip	0	16	43
55.28	San Jacinto;CC+B+SM	CA	n/a	90	V	strike slip	0.2	14	103

57.21	Elsinore;W	CA	2.5	75	NE	strike slip	0	14	46
58.04	San Jacinto;C	CA	14	90	V	strike slip	0	17	47
59.43	Chino, alt 1	CA	1	50	SW	strike slip	0	9	24
60.46	San Jacinto;SBV	CA	6	90	V	strike slip	0	16	45
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	548
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0.1	13	479
60.85	S. San Andreas;NSB+SSB+BG	CA	n/a	75		strike slip	0	14	136
60.85	S. San Andreas;NM+SM+NSB+SSB+BG+CO	CA	n/a	84		strike slip	0.1	13	340
60.85	S. San Andreas;NM+SM+NSB+SSB+BG	CA	n/a	83		strike slip	0	14	271
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0	14	442
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	449
60.85	S. San Andreas;BG+CO	CA	n/a	72		strike slip	0.3	12	125
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	85		strike slip	0	14	380
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	512
60.85	S. San Andreas;SSB+BG	CA	n/a	71		strike slip	0	13	101
60.85	S. San Andreas;NSB+SSB+BG+CO	CA	n/a	79		strike slip	0.2	12	206
60.85	S. San Andreas;BG	CA	n/a	58		strike slip	0	13	56
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	85		strike slip	0.1	13	390
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG	CA	n/a	84		strike slip	0	14	321
60.85	S. San Andreas;SSB+BG+CO	CA	n/a	77		strike slip	0.2	12	170
60.85	S. San Andreas;SM+NSB+SSB+BG+CO	CA	n/a	83		strike slip	0.1	13	303

60.85	S. San Andreas;SM+NSB+SSB+BG	CA	n/a	81		strike slip	0	13	234
60.93	S. San Andreas;SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	176
60.93	S. San Andreas;CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	322
60.93	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	384
60.93	S. San Andreas;NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	213
60.93	S. San Andreas;NSB+SSB	CA	n/a	90	V	strike slip	0	13	79
60.93	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0.1	13	421
60.93	S. San Andreas;SSB	CA	16	90	V	strike slip	0	13	43
60.93	S. San Andreas;BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	263
61.08	Earthquake Valley	CA	2	90	V	strike slip	0	19	20
71.40	Coronado Bank	CA	3	90	V	strike slip	0	9	186
71.40	Palos Verdes Connected	CA	3	90	V	strike slip	0	10	285
74.72	Pinto Mtn	CA	2.5	90	V	strike slip	0	16	74
74.92	S. San Andreas;CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	279
74.92	S. San Andreas;CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	341
74.92	S. San Andreas;NM+SM+NSB	CA	n/a	90	V	strike slip	0	13	170
74.92	S. San Andreas;NSB	CA	22	90	V	strike slip	0	13	35
74.92	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0.1	13	377
74.92	S. San Andreas;BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	220
74.92	S. San Andreas;SM+NSB	CA	n/a	90	V	strike slip	0	13	133
75.44	Newport-Inglewood, alt 1	CA	1	88		strike slip	0	15	65
75.78	Palos Verdes	CA	3	90	V	strike	0	14	99

						slip			
82.10	Puente Hills (Coyote Hills)	CA	0.7	26	N	thrust	2.8	15	17
82.48	Cucamonga	CA	5	45	N	thrust	0	8	28
85.80	Burnt Mtn	CA	0.6	67	W	strike slip	0	16	21
86.83	San Jose	CA	0.5	74	NW	strike slip	0	15	20
89.00	Cleghorn	CA	3	90	V	strike slip	0	16	25
89.57	S. San Andreas;CO	CA	20	90	V	strike slip	0.6	11	69
90.69	Sierra Madre Connected	CA	2	51		reverse	0	14	76
90.69	Sierra Madre	CA	2	53	N	reverse	0	14	57
91.12	Eureka Peak	CA	0.6	90	V	strike slip	0	15	19
91.90	San Jacinto;B+SM	CA	n/a	90	V	strike slip	0.4	12	61
91.90	San Jacinto;B	CA	4	90	V	strike slip	0.7	13	34
93.24	Elsinore;CM	CA	3	82	NE	strike slip	0	13	39
93.82	North Frontal (West)	CA	1	49	S	reverse	0	16	50
95.81	Puente Hills (Santa Fe Springs)	CA	0.7	29	N	thrust	2.8	15	11
98.53	Helendale-So Lockhart	CA	0.6	90	V	strike slip	0	13	114



Format	Sort
Magnitude	Newest First
6.3	The 1992 Big Bear Earthquak...
	1992-06-28 15:05:30 (UTC) 3.6 km
6.1	The 1992 Joshua Tree Earth...
	1992-04-23 04:50:23 (UTC) 11.6 km
6.0	6km SSW of Morongo Valley, ...
	1986-07-08 09:20:44 (UTC) 9.5 km
6.0	16km E of Desert Hot Spring...
	1948-12-04 23:43:16 (UTC) 6.0 km
6.0	16km WSW of Oasis, CA
	1937-03-25 16:49:02 (UTC) 6.0 km
6.4	Long Beach, California Earth...
	1933-03-11 01:54:09 (UTC) 6.0 km
6.2	3 km SE of San Bernardino, C...
	1923-07-23 07:30:23 (UTC) 5.0 km
6.7	1 km N of Hemet, California
	1918-04-21 22:32:30 (UTC) 10.0 km
6.7	Near San Jacinto, California
	1899-12-25 12:25:00 (UTC)
6.4	Cajon Pass area, northwest o...
	1899-07-22 20:32:00 (UTC)
6.1	East of San Diego, California
	1894-10-23 23:03:00 (UTC)
6.5	Near Borrego Springs, Calif...
	1892-05-28 11:15:00 (UTC)
6.8	Northeastern San Diego Cou...
	1890-02-09 12:06:00 (UTC)
6.2	Greater San Diego area, Calif...
	1862-05-27 20:00:00 (UTC)
6.0	Near San Bernardino, Califor...
	1858-12-16 10:00:00 (UTC)
6.3	Gulf of Santa Catalina, Calif...
	1888-11-22 00:00:00 (UTC)



APPENDIX E
GENERAL EARTHWORK AND GRADING
SPECIFICATIONS

EARTH-STRATA

General Earthwork and Grading Specifications

General

Intent: These General Earthwork and Grading Specifications are intended to be the minimum requirements for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These General Earthwork and Grading Specifications should be considered a part of the recommendations contained in the geotechnical report(s) and if they are in conflict with the geotechnical report(s), the specific recommendations in the geotechnical report shall supersede these more general specifications. Observations made during earthwork operations by the project Geotechnical Consultant may result in new or revised recommendations that may supersede these specifications and/or the recommendations in the geotechnical report(s).

The Geotechnical Consultant of Record: The Owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant), prior to commencement of grading or construction. 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 or construction.

Prior to commencement of grading or construction, the Owner shall coordinate with the Geotechnical Consultant, and Earthwork Contractor (Contractor) to schedule sufficient personnel for the appropriate level of observation, mapping, and compaction testing.

During earthwork and grading operations, the Geotechnical Consultant shall observe, map, and document the subsurface conditions to confirm assumptions made during the geotechnical design phase of the project. Should the observed conditions differ significantly from the interpretive assumptions made during the design phase, the Geotechnical Consultant shall recommend appropriate changes to accommodate the observed conditions, and notify the reviewing agency where required.

The Geotechnical Consultant shall observe the moisture conditioning and processing of the excavations and fill materials. The Geotechnical Consultant should perform periodic relative density testing of fill materials to verify that the attained level of compaction is being accomplished as specified.

The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of earth materials to receive compacted fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall be provided with the approved grading plans and geotechnical report(s) for his review and acceptance of responsibilities, prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the approved grading plans and geotechnical report(s). Prior to commencement of grading, 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. The Contractor shall inform the Owner and the Geotechnical Consultant of work schedule changes and revisions to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. No assumptions shall be made by the Contractor with regard to whether the Geotechnical Consultant is aware of all grading operations.

It is the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the earthwork operations 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). At the sole discretion of the Geotechnical Consultant, any unsatisfactory conditions, such as unsuitable earth materials, improper moisture conditioning, inadequate compaction, insufficient buttress keyway size, adverse weather conditions, etc., resulting in a quality of work less than required in the approved grading plans and geotechnical report(s), the Geotechnical Consultant shall reject the work and may recommend to the Owner that grading be stopped until conditions are corrected.

Preparation of Areas for Compacted Fill

Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed in a method acceptable to the Owner, Geotechnical Consultant, and governing agencies.

The Geotechnical Consultant shall evaluate the extent of these removals on a site by site basis. Earth materials to be placed as compacted fill shall not contain more than 1 percent organic materials (by volume). No compacted fill lift shall contain more than 10 percent organic matter.

Should potentially hazardous materials be encountered, the Contractor shall stop work in the affected area, and a hazardous materials specialist shall immediately be consulted to evaluate the potentially hazardous materials, prior to continuing to work in that area.

It is our understanding that the State of California defines most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) as hazardous waste. As such, indiscriminate dumping or spillage of these fluids may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall be prohibited. The contractor is responsible for all hazardous waste related to his operations. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Owner should contract the services of a qualified environmental assessor.

Processing: Exposed earth materials that have been observed to be satisfactory for support of compacted fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Exposed earth materials that are not observed to be satisfactory shall be removed or alternative recommendations may be provided by the Geotechnical Consultant. Scarification shall continue until the exposed earth materials are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction. The earth materials should be moistened or air dried to near optimum moisture content, prior to compaction.

Overexcavation: The Cut Lot Typical Detail and Cut/Fill Transition Lot Typical Detail, included herein provides a graphic illustration that depicts typical overexcavation recommendations made in the approved geotechnical report(s) and/or grading plan(s).

Keyways and Benching: Where fills are to be placed on slopes steeper than 5:1 (horizontal to vertical units), the ground shall be thoroughly benched as compacted fill is placed. Please see the three Keyway and Benching Typical Details with subtitles Cut Over Fill Slope, Fill Over Cut Slope, and Fill Slope for a graphic illustration. The lowest bench or smallest keyway shall be a minimum of 10 feet wide (or ½ the proposed slope height) and at least 2 feet into competent earth materials as advised by the Geotechnical Consultant. Typical benches shall be excavated a minimum height of 4 feet into competent earth materials or as recommended by the Geotechnical Consultant. Fill placed on slopes steeper than 5:1 should be thoroughly benched or otherwise excavated to provide a flat subgrade for the compacted fill.

Evaluation/Acceptance of Bottom Excavations: All areas to receive compacted fill (bottom excavations), including removal excavations, processed areas, keyways, and benching, shall be observed, mapped, general elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive compacted fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to placing compacted fill. A licensed surveyor shall provide the survey control for determining elevations of bottom excavations, processed areas, keyways, and

benching. The Geotechnical Consultant is not responsible for erroneously located, fills, subdrain systems, or excavations.

Fill Materials

General: Earth material to be used as compacted fill should to a large extent be free of organic matter and other deleterious substances as evaluated and accepted by the Geotechnical Consultant.

Oversize: Oversize material is rock that does not break down into smaller pieces and has a maximum diameter greater than 12 inches. Oversize rock shall not be included within compacted fill unless specific methods and guidelines acceptable to the Geotechnical Consultant are followed. For examples of methods and guidelines of oversize rock placement see the enclosed Oversize Rock Disposal Detail. The inclusion of oversize materials in the compacted fill shall only be acceptable if the oversize material is completely surrounded by compacted fill or thoroughly jetted granular materials. No oversize material shall be placed within 10 vertical feet of finish grade or within 2 feet of proposed utilities or underground improvements.

Import: Should imported earth materials be required, the proposed import materials shall meet the requirements of the Geotechnical Consultant. Well graded, very low expansion potential earth materials free of organic matter and other deleterious substances are usually sought after as import materials. However, it is generally in the Owners best interest that potential import earth materials are provided to the Geotechnical Consultant to determine their suitability for the intended purpose. At least 48 hours should be allotted for the appropriate laboratory testing to be performed, prior to starting the import operations.

Fill Placement and Compaction Procedures

Fill Layers: Fill materials shall be placed in areas prepared to receive fill in nearly horizontal layers not exceeding 8 inches in loose thickness. Thicker layers may be accepted by the Geotechnical Consultant, provided field density testing indicates that the grading procedures can adequately compact the thicker layers. Each layer of fill shall be spread evenly and thoroughly mixed to obtain uniformity within the earth materials and consistent moisture throughout the fill.

Moisture Conditioning of Fill: Earth materials to be placed as compacted fill shall be watered, dried, blended, and/or mixed, as needed to obtain relatively uniform moisture contents that are at or slightly above optimum. The maximum density and optimum moisture content tests should be performed in accordance with the American Society of Testing and Materials (ASTM test method D1557-00).

Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it should be uniformly compacted to a minimum of 90 percent of maximum dry density as determined by ASTM test method D1557-00. Compaction equipment shall be adequately sized and be either specifically designed for compaction of earth materials or be proven to consistently achieve the required level of compaction.

Compaction of Fill Slopes: In addition to normal compaction procedures specified above, additional effort to obtain compaction on slopes is needed. This may be accomplished by backrolling of slopes with sheepsfoot rollers as the fill is being placed, by overbuilding the fill slopes, or by other methods producing results that are satisfactory to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill and the slope face shall be a minimum of 90 percent of maximum density per ASTM test method D1557-00.

Compaction Testing of Fill: Field tests for moisture content and relative density of the compacted fill earth materials shall be periodically performed by the Geotechnical Consultant. The location and frequency of tests shall be at the Geotechnical Consultant's discretion based on field observations. Compaction test locations will not necessarily be random. The test locations may or may not be selected to verify minimum compaction requirements in areas that are typically prone to inadequate compaction, such as close to slope faces and near benching.

Frequency of Compaction Testing: Compaction tests shall be taken at minimum intervals of every 2 vertical feet and/or per 1,000 cubic yards of compacted materials placed. Additionally, as a guideline, at least one (1) test shall be taken on slope faces for each 5,000 square feet of slope face and/or for each 10 vertical feet of slope. The Contractor shall assure that fill placement is such that the testing schedule described herein can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork operations to a safe level so that these minimum standards can be obtained.

Compaction Test Locations: The approximate elevation and horizontal coordinates of each test location shall be documented by the Geotechnical Consultant. The Contractor shall coordinate with the Surveyor to assure that sufficient grade stakes are established. This will provide the Geotechnical Consultant with sufficient accuracy to determine the approximate test locations and elevations. The Geotechnical Consultant can not be responsible for staking erroneously located by the Surveyor or Contractor. A minimum of two grade stakes should be provided at a maximum horizontal distance of 100 feet and vertical difference of less than 5 feet.

Subdrain System Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the approved grading plan, and the typical details provided herein. The Geotechnical Consultant may recommend additional subdrain systems and/or changes to the subdrain systems described herein, with regard to the extent, location, grade, or material depending on conditions encountered during grading or other factors. All subdrain systems shall be surveyed by a licensed land surveyor (except for retaining wall subdrain systems) to verify line and grade after installation and prior to burial. Adequate time should be allowed by the Contractor to complete these surveys.

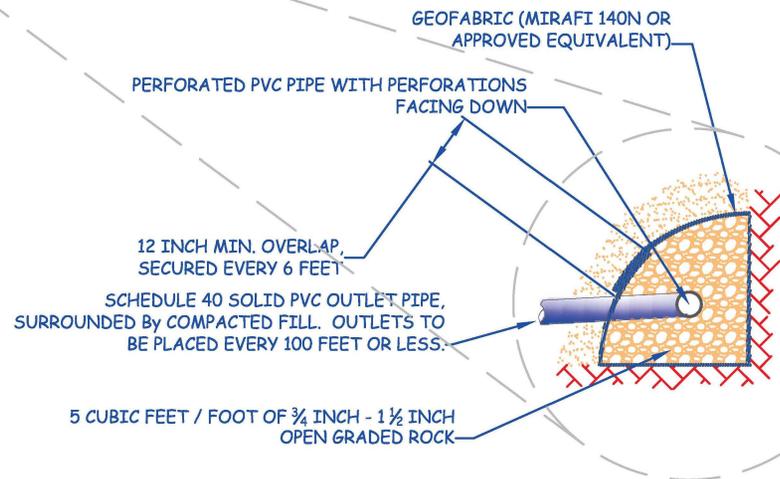
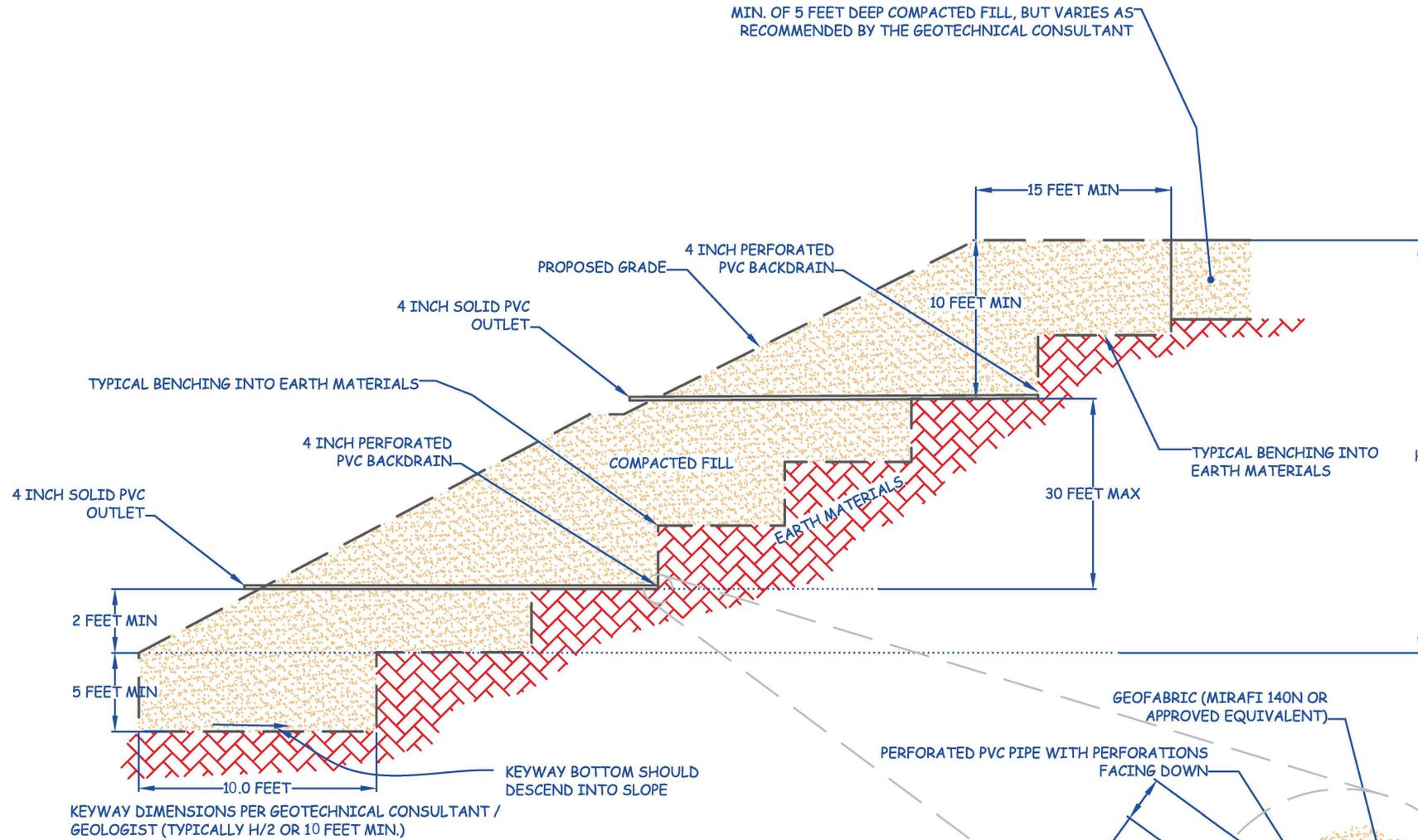
Excavation

All excavations and over-excavations for remedial purposes shall be evaluated by the Geotechnical Consultant during grading operations. Remedial removal depths indicated on the geotechnical plans are estimates only. The actual removal depths and extent shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading operations. Where fill over cut slopes are planned, the cut portion of the slope shall be excavated, evaluated, and accepted by the Geotechnical Consultant prior to placement of the fill portion of the proposed slope, unless specifically addressed by the Geotechnical Consultant. Typical details for cut over fill slopes and fill over cut slopes are provided herein.

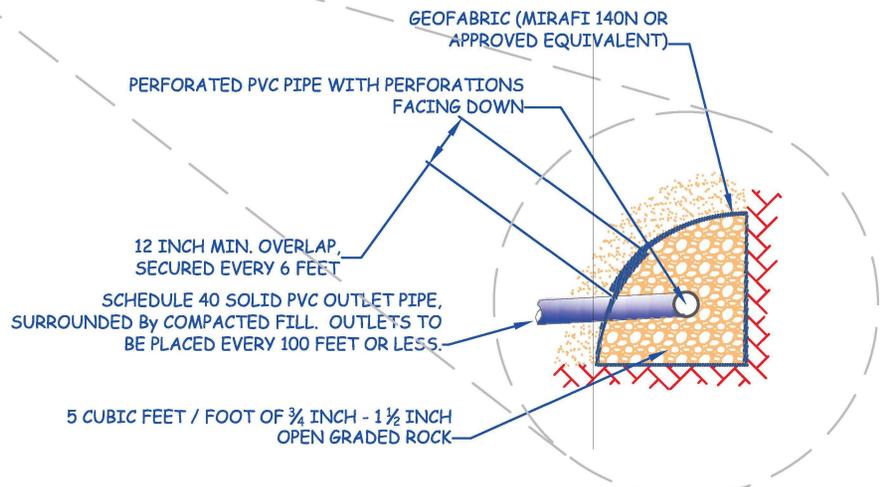
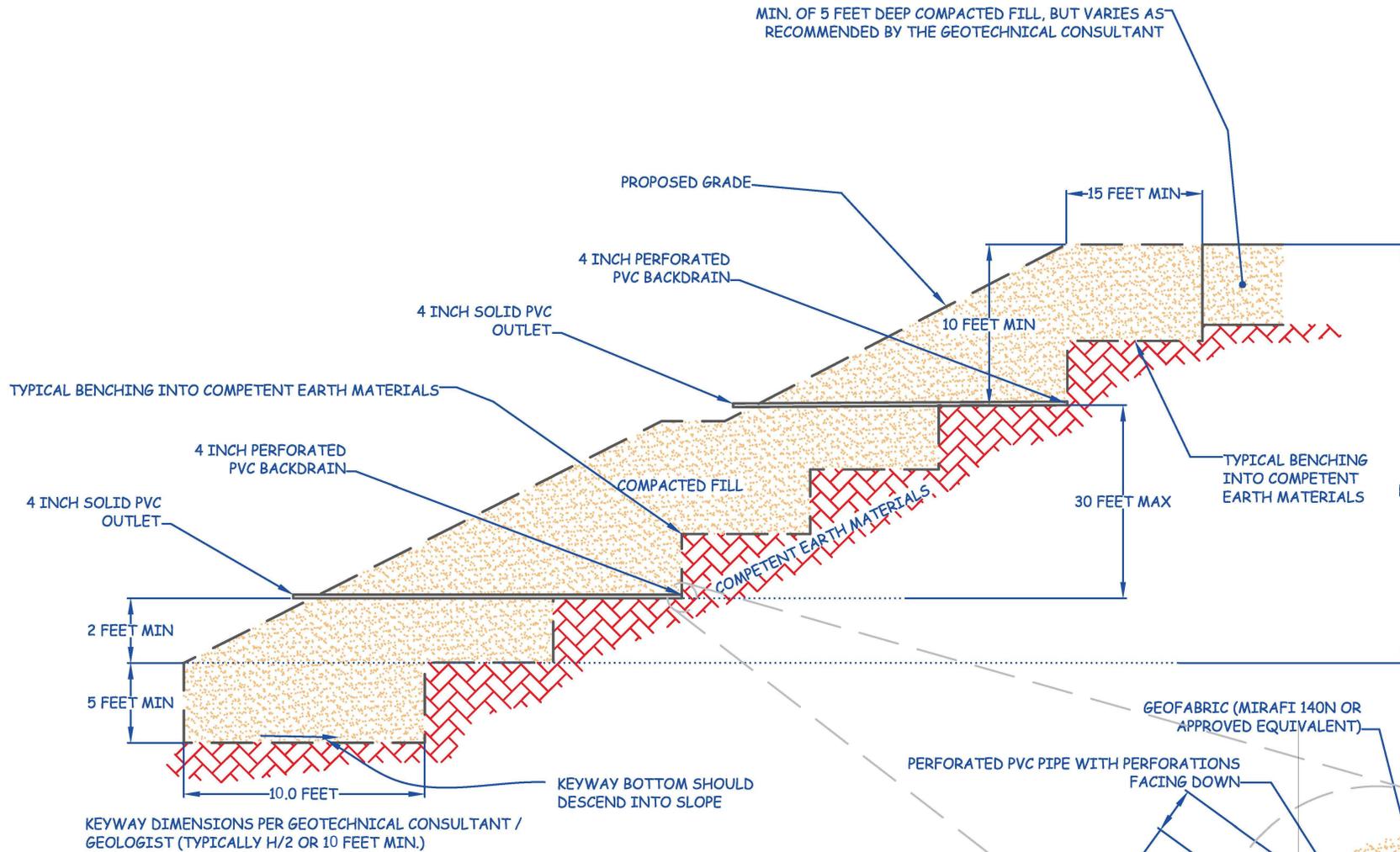
Trench Backfill

- 1) The Contractor shall follow all OSHA and Cal/OSHA requirements for trench excavation safety.
- 2) Bedding and backfill of utility trenches shall be done in accordance with the applicable provisions in the Standard Specifications of Public Works Construction. Bedding materials shall have a Sand Equivalency more than 30 (SE>30). The bedding shall be placed to 1 foot over the conduit and thoroughly jetting to provide densification. Backfill should be compacted to a minimum of 90 percent of maximum dry density, from 1 foot above the top of the conduit to the surface.
- 3) Jetting of the bedding materials around the conduits shall be observed by the Geotechnical Consultant.
- 4) The Geotechnical Consultant shall test trench backfill for the minimum compaction requirements recommended herein. At least one test should be conducted for every 300 linear feet of trench and for each 2 vertical feet of backfill.
- 5) For trench backfill the lift thicknesses 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 or method.

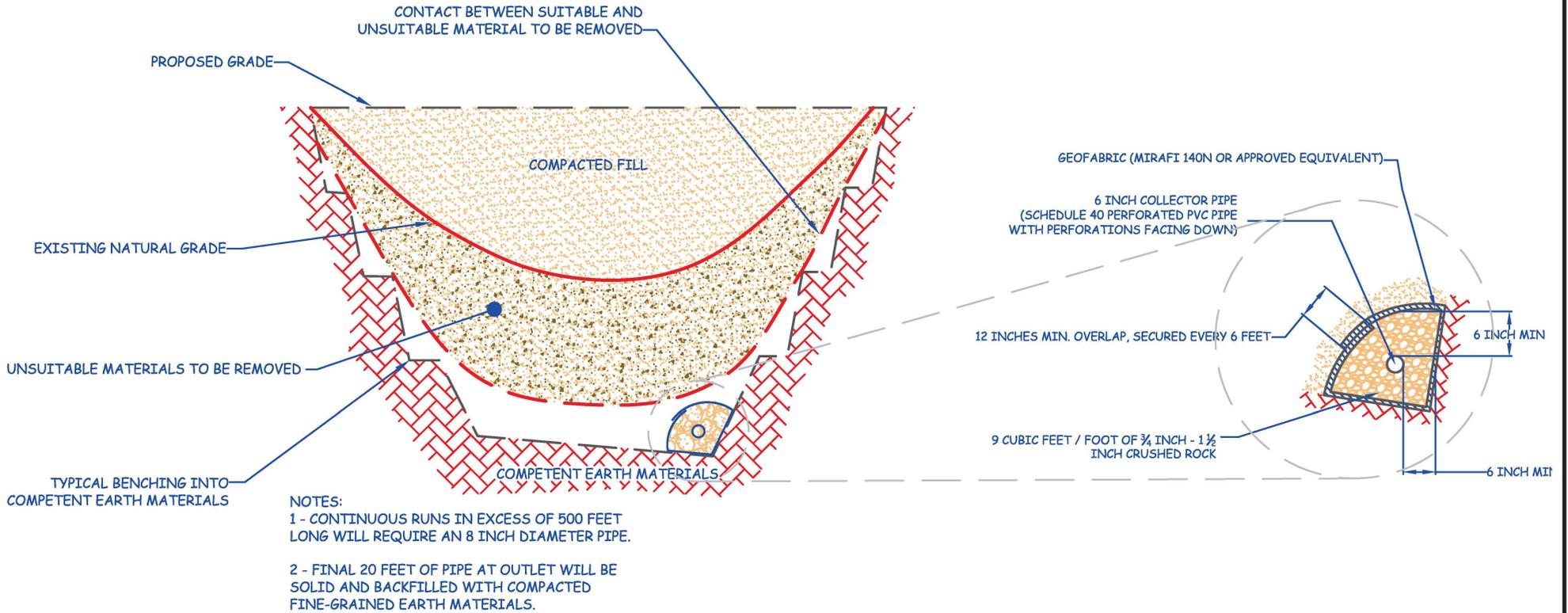
STABILIZATION FILL TYPICAL DETAIL



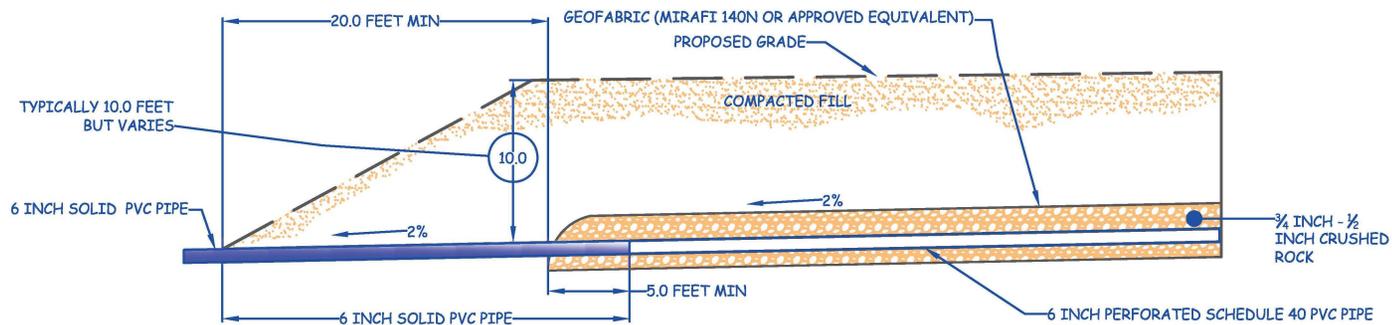
BUTTRESS TYPICAL DETAIL



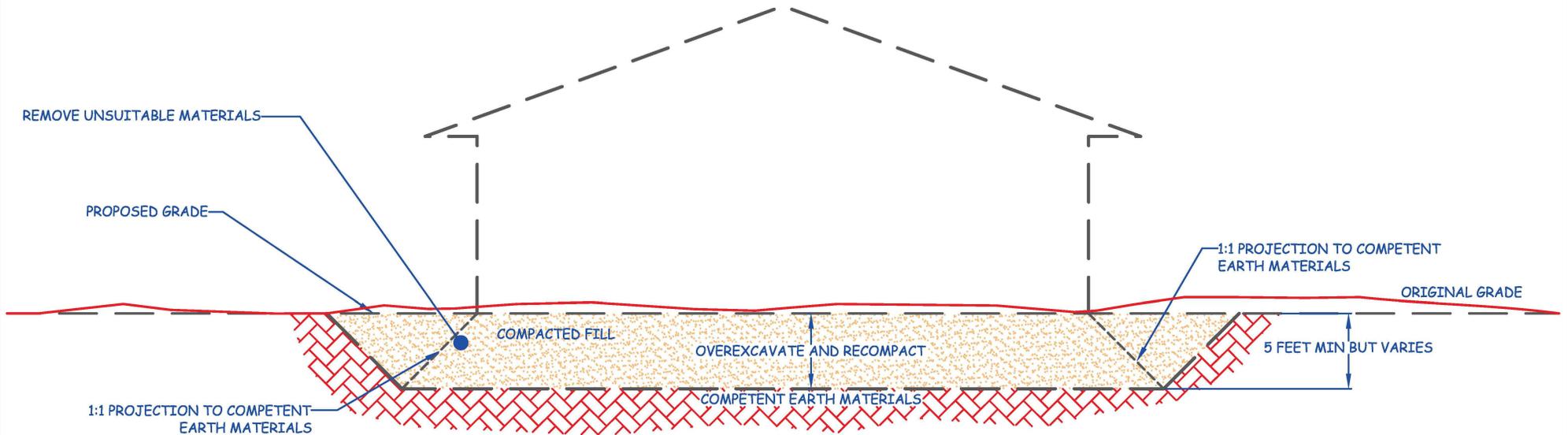
CANYON SUBDRAIN SYSTEM TYPICAL DETAIL



CANYON SUBDRAIN TYPICAL OUTLET



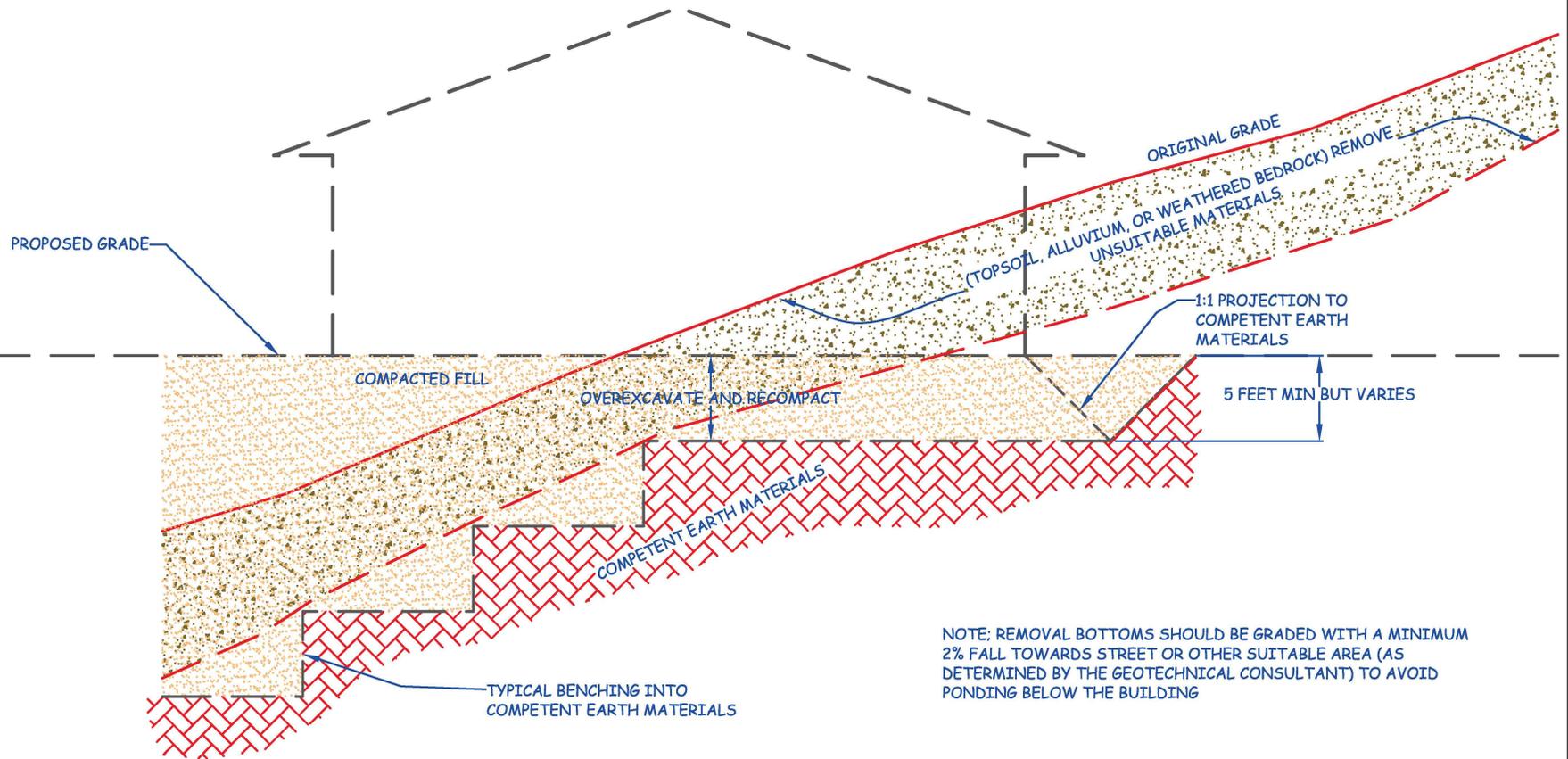
CUT LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

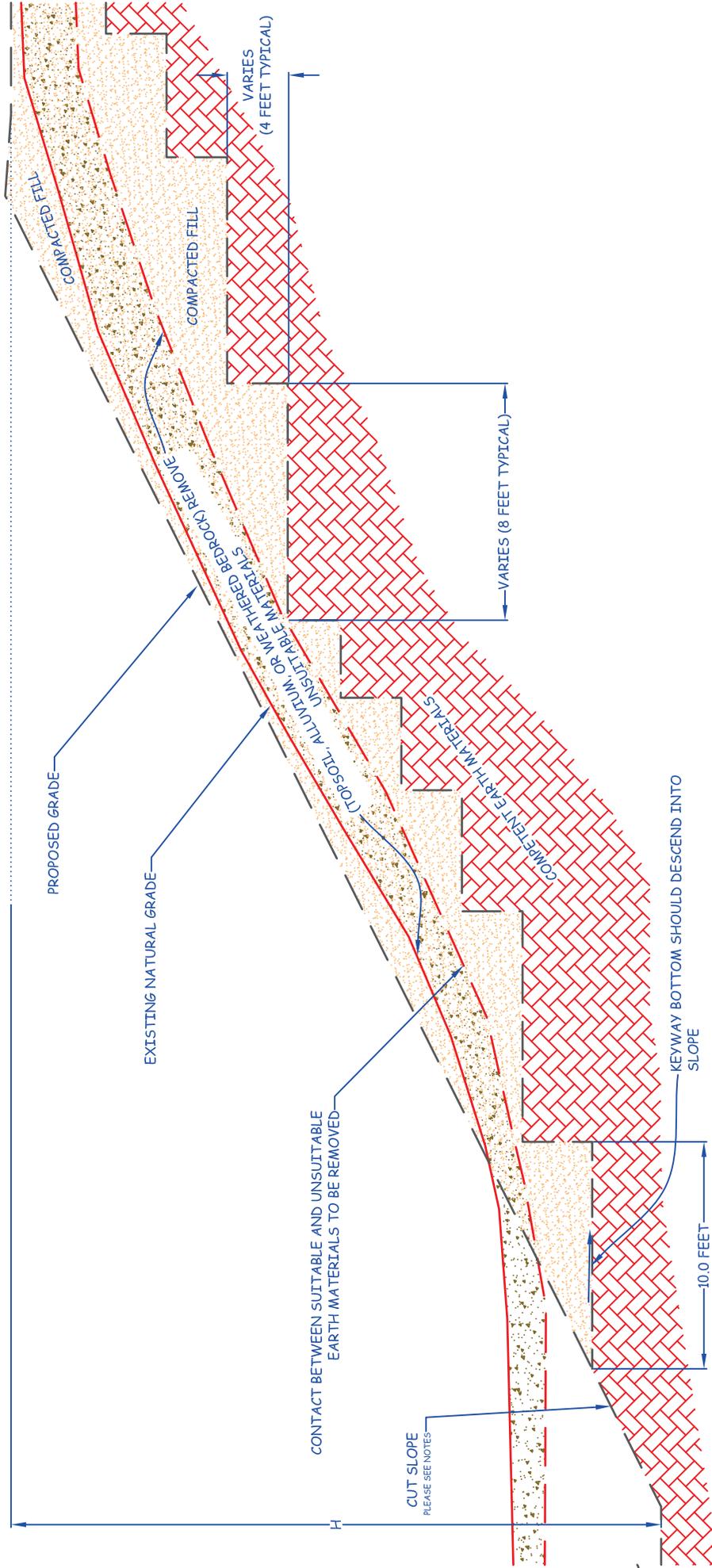
CUT / FILL TRANSITION LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

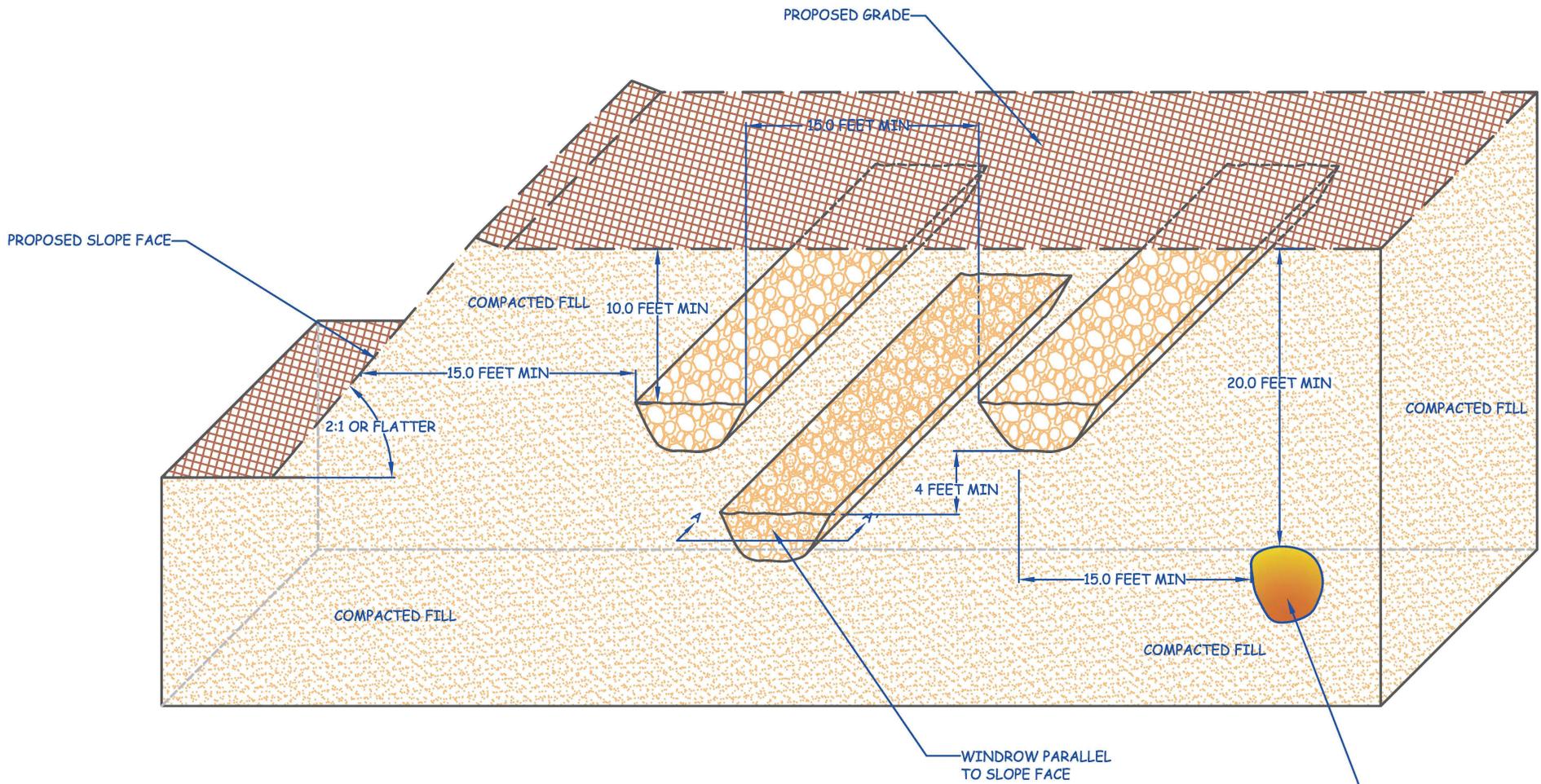
KEYWAY & BENCHING TYPICAL DETAILS FILL OVER CUT SLOPE



- NOTES:
- NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE BENCHED INTO COMPETENT EARTH MATERIALS
 - THE CUT SLOPE MUST BE CONSTRUCTED FIRST

KEYWAY DIMENSIONS PER GEOTECHNICAL CONSULTANT / GEOLOGIST (TYPICALLY H/2 OR 10 FEET MIN.)

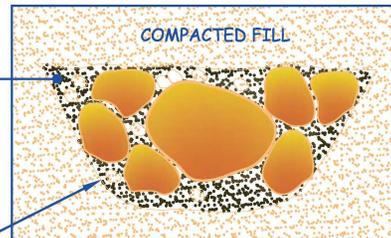
OVERSIZE ROCK TYPICAL DETAIL



CROSS SECTION A-A'

JETTING OF APPROVED GRANULAR MATERIAL

EXCAVATED TRENCH OR DOZER V-CUT



NOTES:

OVERSIZE ROCK IS LARGER THAN 8 INCHES IN MAX DIAMETER

LEGEND
Locations are Approximate

Geologic Units

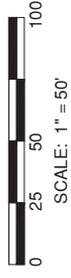
- Afc - Artificial Fill, Compacted
- Qyv - Quaternary Young Alluvial Valley Deposits (Circled Where Buried)

Symbols

— Limits of Report

⊕ Boring Location
Including Total Depth and Depth to Groundwater

⊞ Recommended Removal Depths



GEOTECHNICAL MAP

LOCATED ON BEDFORD COURT
CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA
APN 922-210-042

PROJECT	PROPOSED DRIVE-THRU COFFEE SHOP
CLIENT	MR. BRANDON HUMANN
PROJECT NO.	224450-10A
DATE	OCTOBER 2022
SCALE	1" = 50'
DIWG XREFS	
REVISION	
DRAWN BY	JDG
PLATE	1 OF 1

Earth Strata Geotechnical Services, Inc.
Geotechnical, Environmental and Materials Testing Consultants
www.ESGSINC.com (951) 397-8315



Appendix F

Phase I ESA

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Of

**UNDEVELOPED PROPERTY
ASSESSOR'S PARCEL NUMBER
APN 922-210-042**

**BEDFORD COURT AND TEMECULA PARKWAY
TEMECULA, CALIFORNIA 92592**

Prepared for:

**Mr. Brandon Humann
CATALYST COMMERCIAL GROUP
38605 Calistoga Drive, Suite 150
Murrieta, CA 92563**

Prepared by:

**Earth Strata Geotechnical Services
42184 Remington Avenue
Temecula, California 92590
(951) 461-4028
www.earth-strata.com
ESGS Project P224450-60**

Issue Date: August 5, 2022

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY & RECOMMENDATIONS 5

II. SECTION II 7

III. SCOPE OF WORK & LIMITATIONS 7

 Purpose 7

 Protocol 7

 Scope of Work 7

 Limitations..... 8

IV. GENERAL SITE DESCRIPTION 9

 A. Client Provided Information..... 9

 B. Adjoining and Adjacent Properties 9

 C. USGS Topographic Map..... 10

 D. Physical and General Hydrogeologic Characteristics 10

V. HISTORICAL REVIEW..... 11

 A. Aerial Photograph Review 11

 B. Building Permit Review 12

 C. Sanborn Fire Insurance Map Review 12

 D. Historical Topographic Map Review 12

 E. Interviews 12

 G. Recorded Land Title Records..... 12

 H. Data Gaps..... 13

VI. AGENCY RECORDS REVIEW..... 14

 A. Review of Federally Reported Environmental Data 15

 B. Review of State-Reported Environmental Data 19

 C. Local Agency Records Search..... 26

 D. Tribal Records Search..... 26

VII. SITE VISIT OBSERVATIONS 27

 A. Site Structure Characteristics 27

 B. Wastewater and Stormwater Management 27

 C. Potable Water Supply..... 27

 The subject site does not utilize water due to the lack of structures. 27

 E. Business Operations Description 27

VIII. HAZARDOUS MATERIAL/WASTE OBSERVATIONS..... 28

 A. Hazardous Materials Handling and Storage 28

 B. Wastestream Generation, Storage and Disposal 28

 C. Solid Waste Disposal 28

 D. Aboveground Storage Tanks (ASTs)..... 28

 E. Underground Storage Tanks (USTs)..... 28

IX. OTHER POTENTIAL ISSUES OF CONCERN..... 29

 A. PCB-Containing Exterior Electrical Transformers 29

 B. Other PCB-Containing Interior or Exterior Equipment..... 29

 C. Suspect Asbestos-Containing Materials (ACMs) 29

 D. Lead-Based Paint (LBP) 29

 E. Lead in Drinking Water..... 29

 F. Air Quality..... 29

G. Radon.....	29
H. Railroad RightS-of-Way	30
I. Vapor Encroachment Condition (VEC).....	30
X. <u>ADJOINING PROPERTY OBSERVATIONS</u>	30
A. Adjoining Properties Materials Storage	30
B. Adjoining Properties Wastestream Disposal	30
XI. <u>STATEMENT OF THE ENVIRONMENTAL PROFESSIONALS</u>	31
Statement of Quality Assurance.....	31
Statement of Quality Control.....	31

Appendices:

- A. Site Maps and Site Photographs
- B. Aerial Photo Decade Report
- C. Regulatory Database Search and Radius Map Report
- D. File Review Information
- E. Site Questionnaire

PHASE I ESA EXECUTIVE SUMMARY OVERVIEW
Undeveloped Property
Temecula, CA

Section Topic	No RECs, CRECs, HRECs, or de minimis conditions Identified	Non-REC Issue Identified	RECs Identified	Comments
Historical Usage	✓			
Regulatory Database Review (on-site)	✓			
Regulatory Database Review (nearby sites)	✓			
On-site Operations	✓			
Haz. Mat. Handling	✓			
Haz. Waste Handling	✓			
USTs/ASTs	✓			
ACMs	✓			
LBP	✓			
PCBs	✓			
Radon	✓			
VEC	✓			
Other	✓			

SECTION I.
EXECUTIVE SUMMARY & RECOMMENDATIONS

Earth Strata Geotechnical Services, (ESGS) was retained by Catalyst Commercial Group (Client) to perform a Phase I Environmental Assessment (Phase I ESA or Assessment) of a site located at the cul-de-sac of Bedford Court, south of Temecula Parkway, Temecula, California. At the time of the July 21, 2022 site visit, the subject site consisted of one undeveloped parcel of land, totaling approximately 1.88-Acres.

This Phase I ESA was performed in accordance with the scope and limitations of the *American Society for Testing and Materials (ASTM) Phase I ESA Standard E1527-2021* (equivalent to the USEPA's All Appropriate Inquiry [AAI] Standard) and the *All Appropriate Inquiry Standards found at 40 C.F.R Part 312*, the scope of work defined in this report, as well as the signed service agreement. The following summarizes ESGS's independent conclusions and best professional judgment based upon information available to us during the course of this Assessment.

A site reconnaissance was performed on July 21, 2022. The ESGS Assessor was not accompanied by anyone due to the vacant state of the property and Covid-19 protocols. The site is currently undeveloped. The "Key Site Manager" was identified as Brandon Humann, principal of Catalyst Commercial Group (client).

As defined by ASTM E1527, the Key Site Manager is that person having good knowledge of the uses and physical characteristics of the subject site, and in a position to provide reasonably accurate information for the Key Site Manager Environmental Questionnaire. The questioner was performed by ESGS. The questionnaire can be found in appendix E.

In summary, the following findings and conclusions were noted:

- The subject site is undeveloped land from at least 1939 to current. The site was developed by 1987. The site vicinity has been developed with residential and commercial retail buildings from at least 1978 to the date of this report.
- Groundwater is reported in the site vicinity to occur at a depth approximately 35 feet below the ground surface (bgs) and is anticipated to flow in the southwesterly direction.
- No buildings were present; therefore, asbestos containing building materials (ACMs) and lead-based paint (LBP) are not likely present.
- No on- or off-site environmental concerns were noted.

RECOMMENDATIONS

Based on this Phase I ESA, no evidence or indication of RECs, historical-RECs (HRECs), controlled-RECs (CRECs), or conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the site has been identified. Therefore, no further investigation is recommended for this site.

An Executive Summary Overview is also included in the previous section. However, when making any decisions concerning the findings of this Assessment, please also refer to the entirety of this report, which may present other items of interest that are not discussed in the Executive Summary, or further details regarding the above items. In addition, please refer to the Data Gaps section (IV-H) of this report regarding information that may have been unavailable or incomplete which may have a bearing on the findings or usage of this report.

A summary of the pertinent dates contained in this report are as follows:

- Environmental liens were searched on July 19, 2022.
- A visual inspection of the subject site was conducted on July 21, 2022.
- The database searches were conducted on July 19, 2022.
- The declaration made by Mr. William Doyle is dated as of August 4, 2022.
- The owner's questionnaire from ESGS is dated as of July 22, 2022.

RELIANCE:

This report has been prepared for the benefit of the Client. The report may not be relied upon by any other person or entity without the express written consent of E-S and the Client. ESGS and Client expressly authorize Catalyst Commercial Group and their respective successors and/or assigns to rely upon this report to the same extent as the Client.

SECTION II.

SCOPE OF WORK & LIMITATIONS

PURPOSE

The primary goal of this Phase I Environmental Site Assessment is to assist the client in satisfying one of the requirements to qualify for the “innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability” (42 U.S.C. § 9601 et. seq.). Qualification for these limitations is predicated on the assumption that “...the defendant must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice in an effort to minimize liability....” The secondary goal of this Assessment is to provide information that will assist in evaluating the risk of potential significant value impairment of the security interest due to environmental impacts.

PROTOCOL

The *American Society for Testing and Materials (ASTM) Phase I ESA Standard E1527* is the most current method used in attempting to perform the due diligence required to achieve the above purpose. The E1527 Standard was created by the ASTM “...in an effort to define good commercial and customary practice in the United States of America for conducting an environmental site assessment....” and is equivalent to the USEPA’s All Appropriate Inquiry [AAI] Standard. The ASTM Standard E1527 is intended to identify recognized environmental conditions (RECs) in connection with a given property. The term recognized environmental conditions is not intended to include “*de minimus*” conditions that generally do not present a material risk of harm or that are unlikely to be the subject of enforcement actions by governmental agencies. Other conditions or issues that are beyond the ASTM scope may also be discussed in this report, as detailed within each section.

SCOPE OF WORK

Utilizing ASTM Standard E1527, as well as the scope of work discussed below and in the work authorization document, this Assessment involved: A site reconnaissance of the subject site, limited observations of adjoining properties, a review of the historical usage of the subject site, and a review of relevant documentation provided by various public and private sources (including the client and/or owner of the subject site) to identify conditions indicative of releases or threatened releases of hazardous substances, as defined in CERCLA Section 101 (14) U.S.C. § 312.1(c) evaluate the presence or likely existence of:

- ◆ Recognized environmental conditions, specified by ASTM E1527 as: “the presence or likely presence of any hazardous substances or petroleum products in, on, or at the subject property due to any release, a past release to the environment; under conditions indicative of a release to the environment; the likely 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. *De Minimis Conditions are not recognized environmental conditions.*”

- ◆ A brief evaluation and assessment of potential environmental issues which may not rise to the level of recognized environmental conditions, such as: obviously improper hazardous material or waste handling, suspect asbestos-containing materials, lead-based paint, polychlorinated bi-phenyls, and radon gas.

LIMITATIONS

As discussed in ASTM E1527, no Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a subject site. This investigation is simply intended to reduce uncertainty within reasonable limits of time and cost.

Refer to Section VI-A for a brief discussion of some (but not necessarily all) specific limitations to ESGS's subject site observations at the time of the site visit. The observations contained within this Assessment are based upon conditions readily observable during the site visit. These observations are typically unable to address conditions of areas not inspected, hidden from view, subsurface soil, groundwater, underground storage tanks, neighboring properties, and the like, unless specifically mentioned. It is not the purpose of this Assessment to determine the actual presence, or degree or extent of contamination (if any) at the subject site. Unless specifically noted within this report, this Assessment does not include observations, testing, coring, or sampling analysis to address groundwater, soil, or extraneous materials contamination (including mold, bio-hazardous or radiologic issues) in or on the subject site. ESGS also is not providing geological interpretations or recommendations. Electromagnetic issues (e.g., proximity to high-voltage power lines) are also not included. This Assessment does not include or address reasonably ascertainable environmental liens recorded against the subject site, unless stated.

ESGS makes no warranties or guarantees as to the accuracy or completeness of information obtained from or compiled by others. Information may also exist which was beyond the scope of this investigation or was not provided to ESGS that may have an impact on the conclusions of this Assessment. This Assessment does not attempt to address past or forecast future site conditions. ESGS also cannot forecast or be responsible for changes in regulatory guidelines or protocols, industry standards or the like, which may affect the conclusions and/or future usage of this report.

This Assessment has been conducted and prepared in accordance with generally accepted practices and procedures exercised by reputable professionals under similar circumstances. ESGS makes no other warranties or guarantees, either expressed or implied, as to the findings, opinions, or recommendations contained in the report, or as to the existence or non-existence of RECs or other issues at the subject site.

SECTION III.
GENERAL SITE DESCRIPTION

Earth Strata Geotechnical Services performed a Phase I Environmental Site Assessment at site located at the cul-de-sac of Bedford Court, south of Temecula Parkway, Temecula, California. At the time of the July 21, 2022 site visit, the subject site consisted of one parcel of undeveloped land. The subject site is located within a commercial retail and residential area. Pictures of the site can be found in Appendix A.

A. CLIENT PROVIDED INFORMATION

As discussed in ASTM E1527, the user (e.g., Client) is required to perform certain tasks or provide certain information to ESGS in order to identify potential RECs. Tasks or information to be provided by the Client include: 1) review of judicial and title records for environmental liens, environmental deed restrictions or activity and use limitations (AULs); 2) provide specialized, actual, commonly known or reasonably ascertainable knowledge regarding the property; and 3) identify reasons for a significantly lower purchase price (if applicable). The client has provided a title report and can be found in Appendix E.

B. ADJOINING AND ADJACENT PROPERTIES

As discussed in ASTM E1527, an adjoining property is any real property whose border is contiguous or partially contiguous with the subject site or would be if the properties were not separated by a roadway, street or other public thoroughfare. For the purposes of this report, an adjacent property is any real property located within approximately one block or less of the subject site's border.

Specifically, the subject site is bordered by the following:

West: Interstate 15 Freeway.

East: Immediately by Mobile Gasoline Station and multi-family residential complex, beyond which is Temecula Parkway.

South: Multi-family residential complex.

North: Immediately by Bedford Court and commercial retail development consisting of 7-Eleven and restaurants, beyond which is Temecula Parkway.

C. USGS TOPOGRAPHIC MAP

The subject site's physical setting was researched employing a United States Geological Survey (USGS) 7.5 Minute Topographic Quadrangle (Quad) Map relevant to the subject site. The USGS 7.5 Minute Quad Map has an approximate scale of 1 inch to 2,000 feet, and shows physical features such as wetlands, roadways, mines, and buildings. The USGS 7.5 Minute Quad Map was used as the Standard Physical Setting Source and is sufficient as a single reference. The USGS, California Quad Map shows no physical features that are likely to environmentally impact the subject site. The subject site is identified as vacant, rectangular property. No mines, aboveground storage tanks, or wetlands were depicted in the immediate area of the subject site. The elevation of the subject site is approximately 1,006 feet above mean sea level with a gentle topographic gradient to the southwest (USGS 7.5' Quadrangle). A copy of the map can be found in the Radius Map Report in Appendix C.

D. PHYSICAL AND GENERAL HYDROGEOLOGIC CHARACTERISTICS

The property is located within the lower Peninsular Range region of Riverside County (County), a subset of the greater Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges Geomorphic Province is approximately bounded to the east by the Elsinore Fault Zone, to the north by the Transverse Ranges, to the south by Baja California, and to the west by the Pacific Ocean. This portion of the Peninsular Ranges is underlain by Jurassic and Cretaceous plutonic rocks of the Peninsular Ranges Batholith, which contains screens of variably metamorphosed Mesozoic supracrustal rocks. Late Jurassic and Early Cretaceous volcanic and volcanoclastic rocks exposed southwest of the Elsinore Fault Zone represent an older superjacent part of the Peninsular Ranges magmatic arc. These basement rocks are non-conformably overlain by a thick sequence of relatively undisturbed sedimentary rocks ranging from upper Cretaceous to Pleistocene in age. Hydrologic and soil type information can be in the Radius map report in Appendix C.

SECTION IV. **HISTORICAL REVIEW**

The site historical review is used to develop an understanding of the previous uses of the subject site and surrounding area in an effort to identify the likelihood of past uses, or activities having environmentally impacted, the subject site. The historical review consisted of a search of various public and private Standard Historical Sources, as detailed in the sections below.

As defined by ASTM E1527, a Standard Historical Source is considered complete if the information contained within the source identifies all uses of the subject site from the time the property was first used for residential, agricultural, commercial, industrial or governmental purposes. Ideally, the information should be available in either five-year intervals or site milestone events (i.e., initial construction activities, demolition activities, etc.). However, available public and private historical sources do not always fulfill this goal, in which case, the closest approximation is made based upon the sources readily available at the time of historical review.

Historical Review Summary: From the historical information review discussed below, ESGS concludes that no structures have been developed on the subject site and the site has been undeveloped. The property is currently undeveloped and vacant. No dry cleaners, gasoline stations, major landfills, military bases, or heavy industrial businesses were historically identified on the subject site.

A. AERIAL PHOTOGRAPH REVIEW

Aerial photographs were reviewed by ESGS to evaluate past land-use patterns of the subject site and vicinity. The photos were supplied by EDR and are from the following years 1939, 1947, 1949, 1953, 1961, 1967, 1978, 1985, 1989, 1996, 2002, 2006, 2009, 2012 and 2016. Copies of representative aerial photographs can be found in Appendix B. This review revealed the following:

1939 to 1967

The subject site appears to be vacant. The site vicinity consists of vacant land. A dirt road, likely Old Highway 395, is noted north-northeast of the site. By at least 1947, a single-family residence is noted northwest of the site. Interstate 15 is noted in the 1949 aerial photograph. By at least 1967, roads associated with single family residences are noted northeast of the site.

1978 to 1989

The site remains vacant. The site vicinity consists of an apartment complex southeast of the site, vacant land, and sporadic residences located north to east of the site. By at least 1978, Interstate 15 Freeway is extended. A golf course is noted southeast of the site in the 1978 aerial photograph. By at least 1985, the apartment complex located southeast of the site has expanded. A residential housing development is noted

immediately southeast of the apartment complex by at least 1989. Additionally, a commercial development appears northwest to north of the site by at least 1989.

1996

The site remains vacant. The properties located immediately north and east of the site are developed by at least 1996.

2002 to 2016

The site remains vacant. The site vicinity consists of commercial retail and residential development.

B. BUILDING PERMIT REVIEW

No buildings have been historically noted on the subject site. No addresses have been given to the subject site and therefore, building permit records were not available by Riverside County Building and Safety. Review of information provided by the County of Riverside Arc GIS website indicated the Assessor's Parcel Number for the subject site is 922-210-042. The recorded lot size for the above is approximately 1.88 acres. The legal description can be found in the Title report. No other information significant to this report was obtained from the Assessor's data. The data can be found in the Appendix D.

C. SANBORN FIRE INSURANCE MAP REVIEW

ESGS requested Sanborn Fire Insurance Maps for the subject site; however, no maps were available for the subject site. The report can be found in Appendix D.

D. HISTORICAL TOPOGRAPHIC MAP REVIEW

Historical topographic maps were reviewed online by ESGS. No significant additional information was revealed after review.

E. INTERVIEWS

As specified in ASTM E1527, interviews will be conducted with parties including present landowners and occupants, past landowners and occupants, and adjoining property owners, as appropriate and as available. ESGS interviewed Riverside County Department of Environmental Health, Riverside County Building and Safety, and the proposed buyer/property developer. No significant additional information was revealed after the interviews. The questionnaire can be found in Appendix E.

G. RECORDED LAND TITLE RECORDS

As specified in ASTM E1527 *recorded land title records* mean records of historical fee ownership, which may include leases, land contracts and AULs on or of the *property* recorded in the place where land title records are, by law or custom, recorded for the local jurisdiction in which the *property* is located (often such records are kept by a municipal or county

recorder or clerk). Such records may be obtained from title companies or directly from the local government agency. Information about the title to the *property* that is recorded in a U.S. district court or any place other than where land title records are, by law or custom, recorded for the local jurisdiction in which the *property* is located, are not considered part of *recorded land title records*, because often this source will provide only names of previous *owners*, lessees, easement holders, etc., and little or no information about uses or occupancies of the *property*, but when employed in combination with another source *recorded land title records* may provide helpful information about uses of the *property*. This source cannot be the sole historical source consulted. If this source is consulted, at least one additional standard historical source must also be consulted. ESGS's performed a search of the Riverside County Assessor's office, the assessor's report and parcel map can be found in Appendix D.

A title report was provided, and such a report typically does not list all documents related to the subject site, simply those that the title insurer wants to exclude from coverage and/or that are of potential interest to the transaction. Title reports may also be one method to evaluate the environmental liens search required by the ASTM E1527 standard, which is required to be performed by the report User. A liens/use limitation search by the User is required by the ASTM/AAI standard 180 days or less prior to acquisition of a property, but a general review of the above title report performed by ESGS did not reveal any significant additional information on the subject site. The title report can be found in Appendix D.

H. DATA GAPS

As specified in ASTM E1527, data gaps are defined as “a lack or inability to obtain information required by the standards and practices listed in the regulation despite good faith efforts by the Environmental Professional or prospective landowner to gather such information”. Data failure occurs when historical research does not identify standard historical sources that are “reasonably ascertainable” and “likely to provide useful information to identify prior uses of the property”. Per ASTM E1527, the assessment must document data failure and give reasons why historical sources were not available or excluded (if applicable). Based on ESGS's research, no significant data gaps were identified for the subject site.

SECTION V.
AGENCY RECORDS REVIEW

In an effort to evaluate whether the subject site and/or nearby sites have reported USTs, hazardous waste generation, or hazardous material releases, regulatory information from the federal, state, and local agencies listed below were reviewed. The database report was compiled by a third-party database provider and is reportedly the most recent database information available from each agency. A copy of the database report is included in the Appendix D. According to the database provider, their search of the various databases conforms to ASTM E1527 Standards. However, the accuracy of the information provided by the agencies is not without error or omission, and the information listed is limited to that which was reported to or gathered by that agency. A limited discussion of the number of sites identified, and of their potential impact to the subject site, follows this page. In addition, ESGS may request state and/or local regulatory agency information for the subject site, targeting those agencies most likely to provide information useful for this Assessment. The primary databases reviewed, and their general search range criteria are below:

Federal Database	Search Range
USEPA NPL/Superfund databases:	Target Property to 1.0 mile
USEPA CERCLIS databases:	Target Property to 0.5 mile
USEPA RCRIS facilities databases	
Corrective Action Sites:	1.0 mile
TSD Facilities:	0.5 mile
Generators:	0.25 mile
USEPA ERNS database:	Target Property
US Engineering Controls:	0.5 mile
US Institutional Controls:	0.5 mile
US DOD/FUDS databases:	1.0 mile
US Brownfields:	0.5 mile
State/Local Database	Search Range
State Superfund databases:	
Hist Cal-Sites:	1.0 mile
CA Bond Exp. Plan	1.0 mile
State Landfills database:	0.5 mile
State Cortese	0.5 mile
State/Local LUST databases:	0.5 mile
State Spills databases:	
SLIC:	0.5 mile
CHMIRS:	Target Property
State/Local UST/AST databases:	0.25 mile
State Liens database:	Target Property
State Deed database:	0.5 mile
State VCP database:	0.5 mile
State EnviroStor/Response databases:	1.0 mile
State HAZNET database:	Target Property
Local Haz-Mat/Cleanup databases:	Target Property

A. REVIEW OF FEDERALLY REPORTED ENVIRONMENTAL DATA

The review of the federal environmental databases listed below attempts to identify environmental problem sites, activities, and occurrences from the records of the U.S. Environmental Protection Agency (USEPA). The detailed listing, and a map showing the location of the sites relative to the subject site, is included in the Appendix.

National Priorities List (NPL) of Superfund Sites:

The NPL is the USEPA's database of hazardous waste sites currently identified and targeted for priority cleanup action under the Superfund program. This search includes Proposed NPL sites, Delisted NPL sites, and NPL Recovery sites. NPL sites may encompass relatively large areas. As such, polygon coverage for the site boundaries (for a majority of the NPL sites), as produced by the EPA may be provided. A search of the NPL database identified the following number of Superfund sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

National Priorities List Liens (NPL Liens):

The NPL Liens database contains a list of filed notices of 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. A search of the NPL Liens database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980:

Mandated as part of the 1980 Superfund Act, the CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) list is an EPA compilation of the sites investigated, or currently being investigated, for a release or potential release of a regulated hazardous substance under the CERCLA regulations. A search of the CERCLIS and CERCLIS-NFRAP (no further remedial action planned) databases identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

RCRIS Corrective Action (RCRIS-CA) Sites:

The RCRIS-CA report contains information pertaining to hazardous waste handling facilities which have conducted, or are currently conducting corrective actions, as regulated by the Resource Conservation and Recovery Act. A search of the RCRIS-CA list identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Resource Conservation and Recovery Act Information System (RCRIS) Treatment, Storage, and Disposal (TSD) Facilities:

The RCRA program identifies and tracks hazardous waste from generation source to the point of ultimate disposal. The RCRIS-TSD facilities database is the composite of reporting facilities that transport, store, or dispose of controlled or hazardous waste. Identification on this list does not indicate that a site has impacted the environment. A search of the RCRIS-TSD database identified the following number of facilities within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

RCRIS Generator Facilities:

The RCRIS program identifies and tracks hazardous waste from generation source to the point of ultimate disposal. The RCRIS generator facilities database (large and small quantity generators and various derivations) is the composite of reporting facilities that generate hazardous waste. Identification on these lists does not indicate that a site has impacted the environment. A search of the RCRIS facilities databases identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
Eleven	None

Nine of these facilities are listed on the database as RCRA Non-Generators. These facilities are located potentially cross-gradient of the site. Based on the location and regulatory listing, these facilities would not be considered an environmental concern to the site.

Two facilities, Circle K Stores Inc., Site #2709417 and Mobil Oil Corporation No. HJ4, located at 44520 Bedford Court are listed as small quantity generators (RCRA-SQG) and located upgradient of the site. The type of waste generated was not provided; however, no violations were noted. Based on the regulatory status, these facilities would not be considered an environmental concern to the site.

Emergency Response Notification System (ERNS):

The ERNS database is the historical record of releases of hazardous substances reported to the USEPA. A search of the ERNS database identified the following number of releases within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

EPA Engineering and Institutional Controls (US ENG/INST CONTROL) Sites:

These databases include listings of sites with engineering or institutional 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. 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 required as part of the institutional controls. A search of the US ENG/INST CONTROL database(s) identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Department of Defense (DOD) Sites:

The United States Geological Survey (USGS) maintains the DOD database, which consists of federally owned or administered lands, administered by the DOD, that have an area equal to or greater than 640 acres of the United States, Puerto Rico, and the US Virgin Islands. A search of the DOD database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Formerly Used Defense Sites (FUDS):

The U.S. Army Corps of Engineers database contains a listing of locations of Formerly Used Defense Sites (FUDS) where the U.S. Army Corps of Engineers is actively working or will take necessary cleanup actions. A search of the FUDS database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

US Brownfields Sites (Brownfields):

The US Brownfields site includes brownfields properties addressed by Cooperative Agreement Recipients (CAR) and brownfields properties addressed by Targeted Brownfields Assessments (TBA). EPA’s TBA program is designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with brownfields. Cooperative Agreement Recipients (states, political subdivisions, territories, and Indian tribes) become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the USEPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities. A search of the Brownfields database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

CERCLA Lien Information (LIENS 2):

A Federal 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. A search of the LEINS 2 database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Facility Index System (FINDS) sites:

The FINDS Report is a computerized inventory of all facilities that are regulated or tracked by the U.S. Environmental Protection Agency. These facilities are assigned a unique identification number that serves as a cross-reference for databases in the EPA’s program system. Identification on this database does not indicate that a site has impacted the environment. A search of the FINDS database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

B. REVIEW OF STATE-REPORTED ENVIRONMENTAL DATA

Results of the state regulatory records search follow. Each section begins with a general description of the databases searched and the corresponding responsible state or local agency. The detailed listing, and a map showing the location of the sites relative to the subject site, is included in the appendix.

State Hazardous Waste Site (SHWS) Databases:

State Hazardous Waste Site records are the states’ equivalent to CERCLIS. The Department of Toxic Substances Control (DTSC) Hist Cal-Sites database contains potential or confirmed hazardous substance release properties. The Calsites database was created by the Department of Toxic Substances and Control (DTSC), but DTSC no longer up-dates the Calsites database. The Calsites database was replaced by the EnviroStor database (see EnviroStor section below). The CA Bond Expenditure Plan database contains the Department of Health Services site-specific expenditure plan, which is the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. A search of the State Hazardous Waste Site database(s) identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Solid Waste Facilities, Landfills and Recycling Facilities:

The State Solid Waste Facilities and Landfills and Recycling databases include an inventory of active, closed, and inactive solid waste disposal facilities, landfills, refuse transfer stations, and recycling facilities (non-landfill sites). A search of these databases identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Historical Cortese Database:

The Historical Cortese list contains hazardous waste and substance sites compiled pursuant to Assembly Bill 3750 (Cortese, Chapter 1048, Statutes of 1986). The information included in this list was compiled with information from the California DTSC, the State Water Resources Control Board, and the California Waste Management Board. This database contains primarily LUST sites, although other types of sites may be included. A search of the Cortese database identified the following number of sites within the specified search range:

Number of Facilities	Number Listed at Subject Site
Three	None

Two facilities are located potentially cross gradient and at a distance greater than 0.25-mile of the site. Based on the distance and direction, these facilities would not be considered an environmental concern to the site.

One facility, Circle K Stores Inc., Site #2709417, located immediately upgradient from the site is listed on the database due to the Leaking Underground Storage Tank (LUST) listing, which was closed in December 2009. Based on the regulatory status, this listing would not be considered an environmental concern to the site.

Leaking Underground Storage Tanks (LUSTs):

State and/or local agencies maintain inventories of LUSTs (also known as LTANKS) in a statewide database. A search of the LUST database identified the following number of reported LUST sites within the specified search range:

Number of Facilities	Number Listed at Subject Site
Three	None

Two of the three facilities listed on the database are located at a distance greater than 0.25-miles northwest of and potentially cross gradient from the site. Based on the distance and direction, these facilities would not be considered an environmental concern to the site.

One facility, listed as Circle K Stores Inc., Site #2709417 (44520 Bedford Court), is located immediately east-northeast and upgradient of the site. This facility is listed on the database as Mobil #18-HJ4 for a LUST case that was closed in December 2009. Based on the regulatory statute, this facility would not be considered an environmental concern to the site.

State/Local Spills Databases:

The Spills, Leaks, Investigations, and Cleanup (SLIC) Cost Recovery Listing program is designed to protect and restore water quality from spills, leaks, and similar discharges. The database(s) included in this section are the states' equivalent to the ERNS report and generally contain information for reported hazardous material/waste surface or groundwater contamination release investigations reported in that state or locality. The California Hazardous Material Incident Report System (CHMIRS) database contains information on reported hazardous waste material incidents (accidental releases or spills). A search of these databases identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Underground Storage Tanks (USTs)/Aboveground Storage Tanks (ASTs):

USTs are regulated under Subtitle I of the RCRA (as well as various state regulations) and must be registered with the State Underground Storage Tank Program. These are registered USTs only, and identification on this list(s) does not necessarily indicate that the site has impacted the environment. This search includes review of the Active UST Facilities (UST) database, Facility Inventory Database (CA FID UST), Hazardous Substance Storage Container Database (HIST UST), and SWEEPS UST Listing database (SWEEPS UST). Also potentially included in this section are sites identified on historic UST databases that are no longer maintained. The AST database is the State Water Resources Control Board's Hazardous Substance Storage Container Database for registered ASTs. A search of these UST and AST databases identified the following number of sites within the specified search range:

Adjoining Properties	Number Listed at Subject Site
Three	None

Three facilities, located at 44520 Bedford Court, are listed on the database for operating a UST associated with the operation of the gasoline station. Although the address associated with a LUST case is located immediately east-northeast of the site, there are no known violations, active investigations, or LUST cases. Based on the regulatory status, these facilities would not be considered an environmental concern to the site.

Environmental Liens Listing (LIENS):

The Department of Toxic Substances Control’s (DTSC) LIENS database includes a listing of property locations with environmental liens for California where DTSC is a lien holder. A search of the LIENS database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Deed Restriction Listing (DEED):

The Department of Toxic Substances Control’s (DTSC) DEED database includes a listing of Site Mitigation and Brownfields Reuse Program (SMBRP) Facility Sites with Deed Restrictions and Hazardous Waste Management Program Facility Sites with Deed/Land Use Restrictions. The 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, and 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. A search of the DEED database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Voluntary Cleanup Program (VCP):

The Department of Toxic Substances Control's (DTSC) VCP database contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee the investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs. A search of the VCP database identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

State Response/EnviroStor Databases:

The Department of Toxic Substances Control's (DTSC) RESPONSE database 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. The DTSC's Site Mitigation and Brownfields Reuse Program's (SMBRPs) EnviroStor database identifies sites that have reported contamination or sites for which there may be reason 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 Cal-Sites, 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. A search of the Response and EnviroStor databases identified the following number of sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

State and/or Local Agency Generators (HAZNET):

The HAZNET data is extracted from copies of hazardous waste manifests kept by the Cal-EPA, DTSC. These manifests track hazardous wastes from generation source to the point of ultimate disposal. Permit data is generally culled from local agency database(s) for hazardous material handlers and generators. Identification on these lists does not indicate that a site has impacted the environment and the data has not always been verified for accuracy by the DTSC or local agencies. A

search of the HAZNET and Permit data identified the following number of reported sites within the specified database search range:

Number Listed at Subject Site	
None	None

National Pollutant Discharge Elimination System (NPDES) Database:

The National Pollutant Discharge Elimination System (NPDES) includes sites that have had or have a permit for the discharge of wastewater or stormwater issued by the Regional Water Quality Control Board or a local agency (e.g., Public Works Department). The NPDES data identified the following number of reported sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

State and/or Local Agency Air Emissions Database (EMI):

The EMI data is extracted from permits for air emissions kept by the state or local air resources agency. Identification on these lists does not indicate that a site has impacted the environment. A search of the EMI database identified the following number of reported sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

Notify 65 Database:

Notify 65 listings generally indicate that some type of release and/or groundwater impact have occurred which was required to be reported under Proposition 65 rules. A search of the Notify 65 data identified the following number of reported sites within the specified database search range:

Number of Facilities	Number Listed at Subject Site
None	None

EDR Historical Auto Stations, Historical Cleaners, & Manufactured Gas Plants Databases:

These databases include former gas stations, auto repair shops, dry cleaners, Laundromats, and manufactured gas plants that are typically no longer active. Identification on these databases does not necessarily indicate that such activities actually occurred at that site or that a site has impacted the environment. A search of these databases identified the following number of sites within the specified database search range:

Type of Facility	Number of Facilities	Number Listed at Subject Site
Historical Auto Stations	One	None
Historical Cleaners	One	None
Historical Manufactured Gas	None	None

One facility listed as Exxon Mobil Corporation (44520 Bedford Court) is located immediately east-northeast of the site. The facility is listed on the database as a Historical Auto Station. The facility operated as a “Auto Station” from 2004 to 2014. This address/facility was not listed on databases indicative of a release, besides the LUST case, which was closed in December 2009. Based on this information, this facility would not be considered an environmental concern to the site.

One facility listed as Kare Cleaners (44535 Bedford Court) is located immediately north of and potentially cross gradient from the site. This facility was listed as a Dry Cleaner in 1992 and 1993. This facility was not listed on other databases. Based on the direction and lack of listings indicating a possible release, this facility would not be considered an environmental concern to the site.

Orphan Unplottable Sites:

“Orphan” sites are those which could not be plotted by the database provider using conventional geo-coding methods, typically because the information provided in the original government database was unclear, incorrect or missing. A listing of orphan sites (if any) appears at the end of the database, immediately after the last plottable site description.

ESGS reviewed the orphan list for sites with the same name as the subject site (if applicable) and/or the same or similar property address. This review is inherently limited by the incomplete and/or possibly incorrect data reported in the orphan listings. For orphans apparently not related to the subject site, only those obviously located adjoining or within a short distance that may affect the property are discussed. Orphan sites which are also listed in the plotted section are not re-discussed. ESGS’s review of the orphan list revealed no obvious sites of concern listed at or adjoining the subject site.

C. LOCAL AGENCY RECORDS SEARCH

The following is a discussion of the results of ESGS's written records requests, online regulatory database review, and/or personal/telephone contacts (as applicable) made to state and/or local government agencies in an effort to obtain potential information relevant to the subject site:

Riverside County Department of Environmental Health:

ESGS contacted the Riverside County Department of Environmental Health in an effort to evaluate whether hazardous material incidents, USTs, and/or LUSTs have been reported at the subject site. According to Riverside County Department of Environmental Health, USTs and ASTs have not been utilized and no hazardous materials have been stored. The subject site does not maintain a legal address; therefore, records were not obtained. Based on this information, this would not be considered an environmental concern.

California EPA - Department of Toxic Substances Control (DTSC):

ESGS also reviewed CalEPA-DTSC's Hazardous Waste Tracking System (HWTS) online database (<http://hwts.dtsc.ca.gov>) in an effort to identify potentially hazardous waste generation/disposal activities associated with the subject site address. Because the property does not have an HWTS identification number, there is no way to track hazardous material incidents.

GeoTracker – State Water Board incident tracking system:

ESGS also reviewed the GeoTracker Tracking System online database (<http://geotracker.waterboards.ca.gov>) in an effort to identify potential environmental activities associated with the subject site. According to GeoTracker, the Mobil Gasoline station located immediately east-northeast of the site at 44520 Bedford Court was listed as a LUST site. As noted in Section V.B., the LUST case was closed in December 2009; therefore, this property would not be considered an environmental concern to the site.

California Department of Water Resources:

ESGS contacted the California Department of Water Resources in an effort to evaluate whether any state listed water wells or water resources are located on the subject site address. According to the website, there are no water wells located on the subject site.

D. TRIBAL RECORDS SEARCH

According to ASTM E1527, records for local and tribal records shall be checked to satisfy all appropriate inquiry for this assessment. The following is a discussion of the results of ESGS's written records requests, online regulatory database review, and/or personal/telephone

contacts (as applicable) made to tribal governmental agencies in an effort to obtain potential information relevant to the subject site: The subject site is not located on tribal property and therefore no inquiry was necessary.

SECTION VI. **SITE VISIT OBSERVATIONS**

A. SITE STRUCTURE CHARACTERISTICS

At the time of the site visit, the site consists of an undeveloped parcel of land. Pictures of the site can be found in Appendix A.

B. WASTEWATER AND STORMWATER MANAGEMENT

No wastewater was observed at the subject site.

Storm water and surface run-off from the subject site and adjacent properties enter the natural storm water and flood control conveyance systems.

C. POTABLE WATER SUPPLY

The subject site does not utilize water due to the lack of structures.

E. BUSINESS OPERATIONS DESCRIPTION

According to the Riverside County Building and Safety, the subject site zone is mixed used. ESGS's research indicates no dry cleaners, gasoline stations, military bases, or major manufacturing operations have occupied the subject site.

SECTION VII.
HAZARDOUS MATERIAL/WASTE OBSERVATIONS

A. HAZARDOUS MATERIALS HANDLING AND STORAGE

No hazardous materials were observed at the subject site. No significant staining or spillage was observed in any of the areas inspected. No other significant hazardous materials handling, or storage were observed on the subject site during the site visit.

B. WASTESTREAM GENERATION, STORAGE AND DISPOSAL

During the inspection, no hazardous waste generation, storage, or improper hazardous waste disposal was observed on the subject site. Stained or discolored sinks, drains, drip pads, or sumps were not observed. Additionally, significant spills or staining were not observed at the subject site.

C. SOLID WASTE DISPOSAL

During the inspection, no solid waste generation, storage, or improper solid waste disposal was observed on the subject site.

D. ABOVEGROUND STORAGE TANKS (ASTs)

Visual or physical indicators of current or former ASTs were not observed at the subject site during the site visit.

E. UNDERGROUND STORAGE TANKS (USTs)

As discussed in the Section V (Agency Records Review) of this report, no USTs were reported at the subject site. In addition, no visual or physical evidence of current or past USTs were discovered during the site visit in the readily visible areas of the property. In particular, ESGS searched for: fill pipes, vent pipes, manways, manholes, access covers, and or concrete pads not homogeneous with surrounding surfaces, concrete built-up areas potentially indicating pump islands, abandoned pumping equipment, or fuel pumps.

SECTION VIII.
OTHER POTENTIAL ISSUES OF CONCERN

A. PCB-CONTAINING EXTERIOR ELECTRICAL TRANSFORMERS

No pad or pole mounted transformers were observed at the subject site. However, a pad mounted transformer was noted at the property boundary of the adjacent properties to the north and east. No odors or stained soil were noted. Based on this information, no environmental concerns were identified.

B. OTHER PCB-CONTAINING INTERIOR OR EXTERIOR EQUIPMENT

During the on-site inspection, no evidence was observed of any equipment likely containing PCB-contaminated fluid (e.g., interior electric transformers, hydraulic elevators, hydraulic hoists/lifts, hydraulic loading dock ramps, other fluid containing equipment, etc.).

C. SUSPECT ASBESTOS-CONTAINING MATERIALS (ACMs)

No buildings were present; therefore, asbestos-containing materials (ACMs) are not likely present.

D. LEAD-BASED PAINT (LBP)

No buildings were present; therefore, lead-based paint (LBP) is not likely present.

E. LEAD IN DRINKING WATER

Federal regulations limit lead in publicly supplied water to no more than 15 parts per billion (ppb), however, the most common source of lead in tap water is from interior plumbing systems (piping, connections, faucets, etc.). Children are the most susceptible to possible health effects from consuming lead-tainted drinking water. Due to the nature of the property being undeveloped, no observations of these sources were observed. The presence or absence of elevated lead concentrations in the water can only be confirmed through laboratory testing, and such analysis is beyond the scope of this assessment.

F. AIR QUALITY

Unusual smells, noxious odors, or visual emissions were not observed during the inspection of the subject site. However, these observations are general in nature and should not be construed as an air quality assessment

G. RADON

According to the USEPA, the general area of the site has a predicted average indoor screening level of less than the EPA guideline action level of 4.0 picoCuries per liter of air (EPA Radon

Zone Level of 1). Therefore, based upon the reported subsurface characteristics of the area, the subject site exhibits no potential for high-level radon exposure.

H. RAILROAD RIGHTS-OF-WAY

There are several potential environmental risks associated with railroad rights-of-way, including the usage of herbicides, pesticides, petroleum materials and related heavy metals (e.g. arsenic) to maintain the tracks, as well as the potential spillage of hazardous materials from railcars. During the site visit, no railroad rights-of-way, spurs, or related features were observed immediately adjoining the subject site.

I. VAPOR ENCROACHMENT CONDITION (VEC)

ESGS completed a VEC study for the site using Tier 1 criteria as recommended by ASTM. The Tier 1 screening identifies surrounding facilities that pose a possible vapor intrusion source to the site based on the results of the Phase I ESA investigations, as well as certain criteria outlined by ASTM, which include a certain distance from the target site (referred to by ASTM as within the “area of concern”); the types of chemicals used (referred to by ASTM as the “chemicals of concern”); and a plume test to determine if the plume associated with a source of contamination is within the vicinity of the site to impact indoor air quality. Based on our review of regulatory records, files, databases, client furnished data, and site reconnaissance activities, a possible vapor intrusion issue is not present at the site.

SECTION IX. ADJOINING PROPERTY OBSERVATIONS

As discussed below, based upon limited observations of the adjoining properties from publicly accessible locations, as well as a review of federal, state, and local environmental databases, none of the adjoining properties appeared to have significantly environmentally impacted the subject site at this time.

A. ADJOINING PROPERTIES MATERIALS STORAGE

Visual observations of the portions of the adjoining properties visible from the subject site or public roadways did not indicate the exterior storage of hazardous materials or wastes. No indications of spillage or staining were observed in the observable exterior areas of these sites. Additionally, no obvious indications of improper hazardous material storage or unusual or suspicious materials handling, or storage practices were observed.

B. ADJOINING PROPERTIES WASTESTREAM DISPOSAL

No unusual or suspicious waste stream disposal activities were observed on the portions of the adjoining properties visible from the subject site or public roadways.

SECTION X.
STATEMENT OF THE ENVIRONMENTAL PROFESSIONALS

This Assessment has been performed for the exclusive use and benefit of the addressee(s) identified on the cover of this report, or agents directly specified by it (them), for the transaction at issue concerning the subject site described in this report. This Assessment shall not be used or relied upon by others without the prior written consent of Earth-Strata, Inc. and of the addressee(s) named on the cover of this report.

STATEMENT OF QUALITY ASSURANCE

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in § 312.10 of 40 CFR 312 and 12.13.2. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. The conclusions contained within this Assessment are based upon site conditions I readily observed and were reasonably ascertainable and present at the time of the site visit. The findings and conclusions represent my best professional opinion and judgment. In addition, the conclusions and recommendations stated in this report are based upon personal observations made by E-S and upon information provided by others. I have no reason to suspect or believe that the information provided is inaccurate.

STATEMENT OF QUALITY CONTROL

The objective of this Phase I ESA was to ascertain the potential presence or absence of RECs that could impact the subject site, as delineated in the scope of services and limitations identified in this report and in the service agreement. The procedure was to perform reasonable steps in accordance with the existing regulations, currently available technology, and generally accepted environmental consulting practices, in order to accomplish the stated objective.

Signature of Professional Geologist – *William T. Doyle, #8601:*

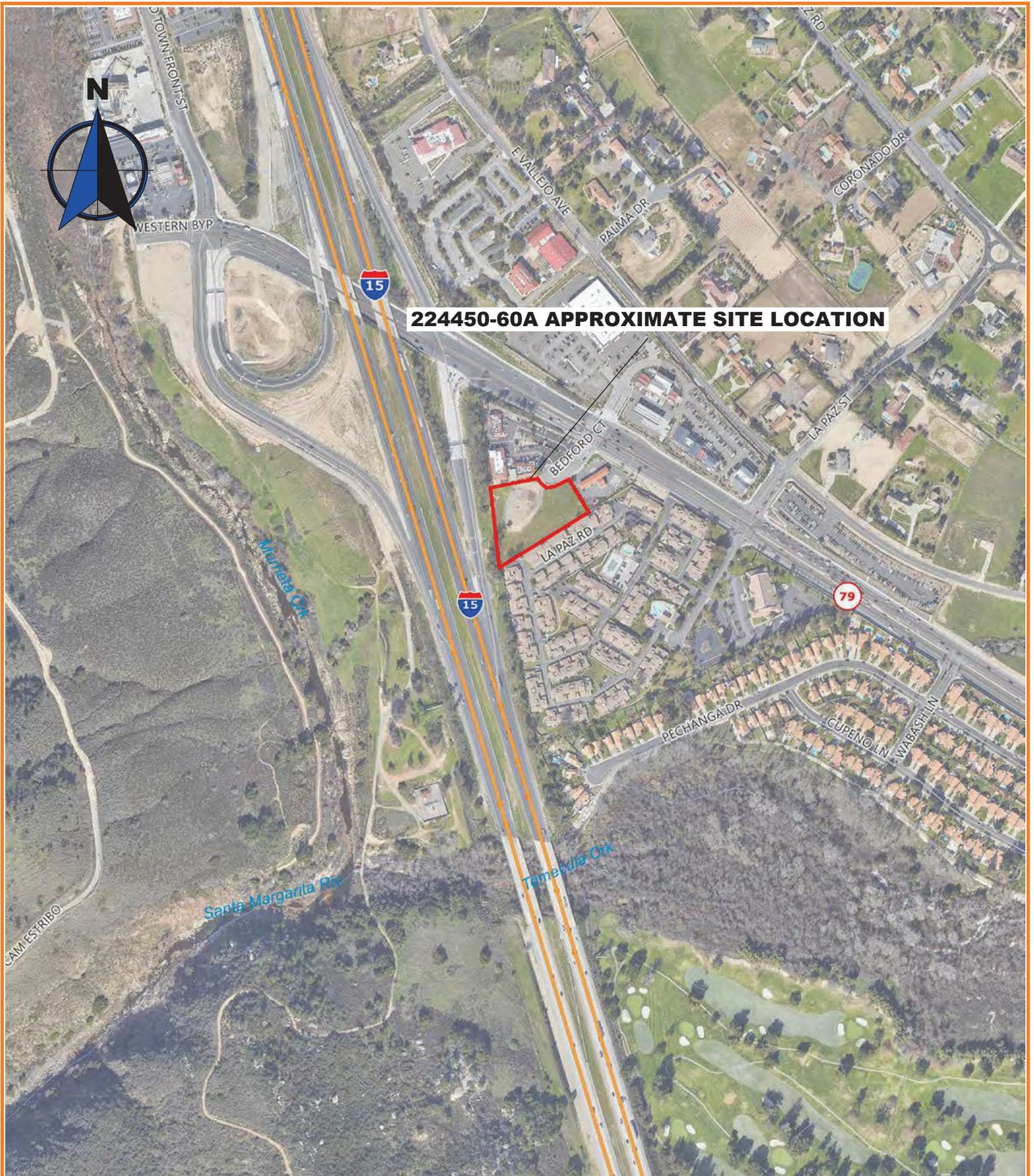
William T. Doyle
Signature/Environmental Assessor

Acronyms and Abbreviations

Below are several abbreviations that E-S uses to describe various projects.

ACM	Asbestos-containing material
AQMD	Air Quality Management District
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
BTEX	Benzene-toluene-ethylbenzene-xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS System	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
CHMIRS	California Hazardous Material Incident Report System
COC's	Chemicals of Concern
CDL	Clandestine Drug Labs
DEP	Department of Environmental Protection
DOD	Department of Defense
DOE	Department of Energy
DTSC	Department of Toxic Substance Control
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FINDS	Facility Index System
FUDS	Formerly Used Defense Sites
HMIRS	Hazardous Materials Information Reporting System
ICIS	Integrated Compliance Information System
LBP	Lead Based Paint
LDL	Laboratory Detection Limit
LEL	Lower Explosion Limit
LUCIS	Land Use Control Information System
LUST	leaking underground storage tank
MCL	Maximum Contaminant Level
MLTS	Material License Tracking System
mg/L	Milligrams per liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
NFA	No Further Action
NPL	National Priority List
ODI	Open Dump Inventory
PADS	PCB Activity Database System
PCB	Poly Chlorinated Biphenyl
PEL	Permissible Exposure Limit
Ppb	Parts per billion
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized environmental condition
RWQCB	Regional Water Quality Control Board
SVE	Soil Vapor Extraction
Ug/L	Micrograms per Liter
UST	Underground storage tank
VOC	Volatile Organic Compound

Appendix A



Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

PROPOSED COFFEE SHOP DRIVE-THRU AND EXPRESS CARWASH

224450-60A

VICINITY MAP

SEE BAR SCALE

JULY 2022

FIGURE 1

SITE PHOTOS

PHASE I ENVIRONMENTAL SITE ASSESSMENT

BEDFORD COURT AND TEMECULA PARKWAY, TEMECULA, CALIFORNIA



Site along the northern boundary, looking west-southwest.



Site along the northern boundary, looking west with Interstate 15 Freeway in the background.



Site at the western boundary, looking east-southeast.



Northeastern corner of the site, looking southwest.



Eastern boundary of the site, looking south.



Gasoline station located immediately west of the site. The underground storage tanks are not located along the adjoining eastern property boundary.



Commercial retail and restaurants located immediately north of the site.



Drainage system located in the northwestern portion of the site.



Pad-mounted transformer located along the northern property boundary.

Appendix B



Temecula Parkway

Temecula Parkway and Bedford Court

Temecula, CA 92592

Inquiry Number: 7059016.8

July 19, 2022

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

07/19/22

Site Name:

Temecula Parkway
Temecula Parkway and Bedfor
Temecula, CA 92592
EDR Inquiry # 7059016.8

Client Name:

Earth Strata Geotechnical Services, Inc
42184 Remington Avenue
Temecula, CA 92590
Contact: Stephanie Jones



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:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2002	1"=500'	Acquisition Date: January 01, 2002	USGS/DOQQ
1996	1"=500'	Acquisition Date: September 30, 1996	USGS/DOQQ
1989	1"=500'	Flight Date: August 15, 1989	USDA
1985	1"=500'	Flight Date: July 28, 1985	USDA
1978	1"=500'	Flight Date: September 20, 1978	USDA
1967	1"=500'	Flight Date: July 15, 1967	USDA
1961	1"=500'	Flight Date: June 17, 1961	USDA
1953	1"=500'	Flight Date: August 28, 1953	USDA
1949	1"=500'	Flight Date: May 23, 1949	USDA
1947	1"=500'	Flight Date: January 16, 1947	USGS
1939	1"=500'	Flight Date: April 16, 1939	USDA

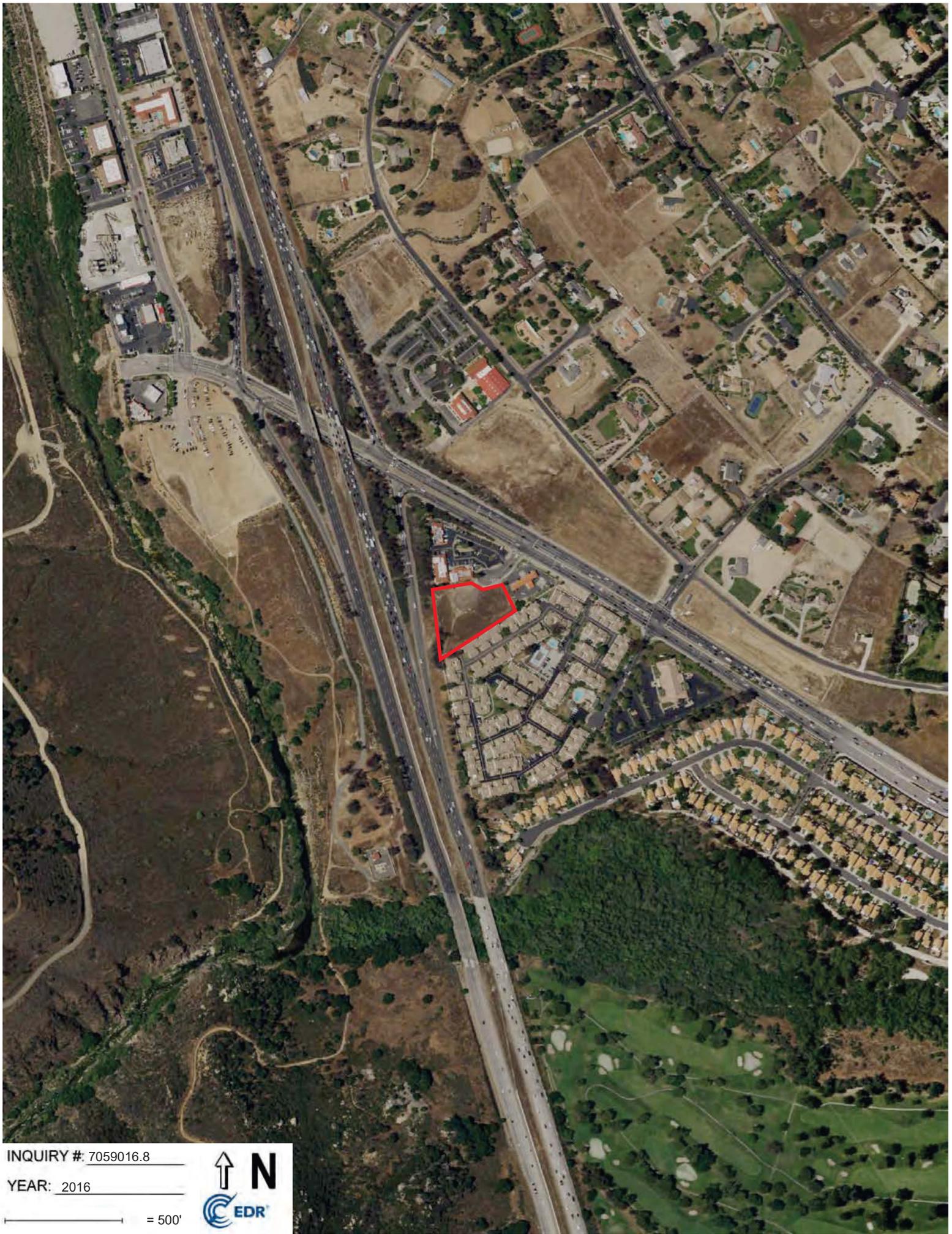
When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2022 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



INQUIRY #: 7059016.8

YEAR: 2016

— = 500'





INQUIRY #: 7059016.8

YEAR: 2012

— = 500'





INQUIRY #: 7059016.8

YEAR: 2009

— = 500'





INQUIRY #: 7059016.8

YEAR: 2006

— = 500'





INQUIRY # 7059016.8

YEAR: 2002

— = 500'





INQUIRY #: 7059016.8

YEAR: 1996

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 7059016.8

YEAR: 1989

— = 500'





INQUIRY #: 7059016.8

YEAR: 1985

— = 500'





INQUIRY #: 7059016.8

YEAR: 1978

— = 500'





INQUIRY #: 7059016.8

YEAR: 1967

— = 500'





INQUIRY #: 7059016.8

YEAR: 1961

— = 500'





INQUIRY #: 7059016.8

YEAR: 1953

— = 500'





INQUIRY #: 7059016.8

YEAR: 1949

— = 500'





INQUIRY #: 7059016.8

YEAR: 1947

— = 500'



4-16-39



INQUIRY #: 7059016.8

YEAR: 1939



500'

Appendix C

Temecula Parkway

Temecula Parkway and Bedford Court
Temecula, CA 92592

Inquiry Number: 7059016.2s

July 19, 2022

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	126
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-23
Physical Setting Source Map Findings	A-25
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

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 (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

TEMECULA PARKWAY AND BEDFORD COURT
TEMECULA, CA 92592

COORDINATES

Latitude (North): 33.4784340 - 33° 28' 42.36"
Longitude (West): 117.1385520 - 117° 8' 18.78"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 487127.1
UTM Y (Meters): 3704144.0
Elevation: 1005 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 12015929 TEMECULA, CA
Version Date: 2018

Southeast Map: 12015905 PECHANGA, CA
Version Date: 2018

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140603, 20140530
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 TEMECULA PARKWAY AND BEDFORD COURT
 TEMECULA, CA 92592

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	CIRCLE K STORES INC.	44520 BEDFORD CT	RCRA-SQG, FINDS, ECHO	Higher	83, 0.016, ENE
A2	CIRCLE K STORES, INC	44520 BEDFORD CT	UST	Higher	83, 0.016, ENE
A3	MOBIL OIL CORPORATIO	44520 BEDFORD CT AND	RCRA-SQG, SWEEPS UST, CA FID UST, CHMIRS, FINDS	Higher	83, 0.016, ENE
A4	MOBIL STATION #18-HJ	44520 BEDFORD CT	UST	Higher	83, 0.016, ENE
A5	CIRCLE K STORE #2709	44520 BEDFORD CT	RCRA NonGen / NLR	Higher	83, 0.016, ENE
A6	EXXON MOBIL CORPORAT	44520 BEDFORD CT	EDR Hist Auto	Higher	83, 0.016, ENE
A7	CIRCLE K STORES INC.	44520 BEDFORD CT	LUST, CERS HAZ WASTE, CERS TANKS, CHMIRS, Cortese,...	Higher	83, 0.016, ENE
A8	CIRCLE K STORES INC.	44520 BEDFORD CT	UST	Higher	83, 0.016, ENE
9	KARE CLEANERS	44535 BEDFORD CT	EDR Hist Cleaner	Higher	83, 0.016, NNW
10	KEITH BUTLER	44525 LA PAZ ROAD	RCRA NonGen / NLR	Higher	399, 0.076, ESE
B11	SHERRY THOMASON	44626 LA PAZ ROAD	RCRA NonGen / NLR	Higher	480, 0.091, South
B12	LIZA CABIGTING	44621 LA PAZ RD	RCRA NonGen / NLR	Higher	481, 0.091, SSE
B13	LIZA CABINGTING	44621 LA PAZ RD	RCRA NonGen / NLR	Higher	481, 0.091, SSE
14	UP2 HOLDINGS, LLC 02	29980 TEMECULA PKWY	CERS HAZ WASTE, CERS TANKS, CERS, HWTS	Higher	521, 0.099, NE
C15	MELISSA URIBE AND BY	44582 LA PAZ RD.	RCRA NonGen / NLR	Higher	539, 0.102, SE
C16	ANTHONY VIRAVONG	44602 LA PAZ ROAD	RCRA NonGen / NLR	Lower	703, 0.133, SSE
C17	NADER SHAABAN	44605 LA PAZ ROAD	RCRA NonGen / NLR	Lower	704, 0.133, SSE
C18	NADER SHAABAN	44605 LA PAZ ROAD	RCRA NonGen / NLR	Lower	704, 0.133, SSE
D19	UP2 HOLDINGS, LLC 02	29980 TEMECULA PKWY	UST	Higher	721, 0.137, East
D20	UNITED PACIFIC 0249	29980 TEMECULA PKWY	UST	Higher	721, 0.137, East
21	TEMECULA FUEL CENTER	44987 FRONT ST	LUST, Cortese, ENF, HIST CORTESE, CERS	Lower	1454, 0.275, WNW
22	C.L. PHARRIS READY-M	29065 FRONT ST	LUST, CERS HAZ WASTE, CERS TANKS, Cortese, EMI,...	Lower	1997, 0.378, NW

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

EXECUTIVE SUMMARY

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

CPS-SLIC..... Statewide SLIC Cases

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 Brownfields 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

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

EXECUTIVE SUMMARY

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
AQUEOUS FOAM.....	Former Fire Training Facility Assessments Listing
PFAS.....	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

HIST UST.....	Hazardous Substance Storage Container 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
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

EXECUTIVE SUMMARY

UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
FINDS.....	Facility Index System/Facility Registry System
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
ECHO.....	Enforcement & Compliance History Information
UXO.....	Unexploded Ordnance Sites
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN.....	Bond Expenditure Plan
CUPA Listings.....	CUPA Resources List
DRYCLEANERS.....	Cleaner Facilities
EMI.....	Emissions Inventory Data
ENF.....	Enforcement Action Listing
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
ICE.....	ICE
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
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
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
CIWQS.....	California Integrated Water Quality System
CERS.....	CERS
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)
MINES MRDS.....	Mineral Resources Data System
HWTS.....	Hazardous Waste Tracking System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

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 06/20/2022 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CIRCLE K STORES INC.</i> EPA ID:: CAL922334280	<i>44520 BEDFORD CT</i>	<i>ENE 0 - 1/8 (0.016 mi.)</i>	<i>A1</i>	<i>9</i>
<i>MOBIL OIL CORPORATIO</i> EPA ID:: CAD983642380	<i>44520 BEDFORD CT AND</i>	<i>ENE 0 - 1/8 (0.016 mi.)</i>	<i>A3</i>	<i>12</i>

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 3 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CIRCLE K STORES INC.</i> Database: RIVERSIDE CO. LUST, Date of Government Version: 03/31/2022 Database: LUST, Date of Government Version: 05/23/2022 Status: Completed - Case Closed Facility Id: 200521232	<i>44520 BEDFORD CT</i>	<i>ENE 0 - 1/8 (0.016 mi.)</i>	<i>A7</i>	<i>20</i>

EXECUTIVE SUMMARY

Global Id: T0606543882
Facility Status: 0

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TEMECULA FUEL CENTER Database: LUST REG 9, Date of Government Version: 03/01/2001 Database: RIVERSIDE CO. LUST, Date of Government Version: 03/31/2022 Database: LUST, Date of Government Version: 05/23/2022 Status: Completed - Case Closed Closed Date: 2/28/94 Status: Case Closed Facility Id: 87592 Global Id: T0606501146 Facility Status: 9 Case Number: 9UT805	44987 FRONT ST	WNW 1/4 - 1/2 (0.275 mi.)	21	99
C.L. PHARRIS READY-M Database: LUST REG 9, Date of Government Version: 03/01/2001 Database: RIVERSIDE CO. LUST, Date of Government Version: 03/31/2022 Database: LUST, Date of Government Version: 05/23/2022 Status: Completed - Case Closed Status: Post remedial action monitoring Facility Id: 90657 Global Id: T0606501122 Facility Status: 9 Case Number: 9UT1807	29065 FRONT ST	NW 1/4 - 1/2 (0.378 mi.)	22	106

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 are 5 UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CIRCLE K STORES, INC Database: RIVERSIDE CO. UST, Date of Government Version: 03/31/2022	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A2	11
MOBIL STATION #18-HJ Database: UST, Date of Government Version: 03/07/2022 Facility Id: 521	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A4	17
CIRCLE K STORES INC. Database: UST, Date of Government Version: 03/07/2022 Facility Id: FA0036715	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A8	49
UP2 HOLDINGS, LLC 02 Database: RIVERSIDE CO. UST, Date of Government Version: 03/31/2022 Database: UST, Date of Government Version: 03/07/2022 Facility Id: FA0046956	29980 TEMECULA PKWY	E 1/8 - 1/4 (0.137 mi.)	D19	98
UNITED PACIFIC 0249 Database: UST, Date of Government Version: 03/07/2022	29980 TEMECULA PKWY	E 1/8 - 1/4 (0.137 mi.)	D20	99

EXECUTIVE SUMMARY

Facility Id: FA0046956

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 04/18/2022 has revealed that there are 2 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CIRCLE K STORES INC.	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A7	20
UP2 HOLDINGS, LLC 02	29980 TEMECULA PKWY	NE 0 - 1/8 (0.099 mi.)	14	60

Local Lists of Registered Storage Tanks

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MOBIL OIL CORPORATIO Status: A Tank Status: A Comp Number: 1909	44520 BEDFORD CT AND	ENE 0 - 1/8 (0.016 mi.)	A3	12

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MOBIL OIL CORPORATIO Facility Id: 33006843 Status: A	44520 BEDFORD CT AND	ENE 0 - 1/8 (0.016 mi.)	A3	12

EXECUTIVE SUMMARY

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.

A review of the CERS TANKS list, as provided by EDR, and dated 04/18/2022 has revealed that there are 2 CERS TANKS sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CIRCLE K STORES INC.</i>	<i>44520 BEDFORD CT</i>	<i>ENE 0 - 1/8 (0.016 mi.)</i>	<i>A7</i>	<i>20</i>
<i>UP2 HOLDINGS, LLC 02</i>	<i>29980 TEMECULA PKWY</i>	<i>NE 0 - 1/8 (0.099 mi.)</i>	<i>14</i>	<i>60</i>

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 06/20/2022 has revealed that there are 9 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CIRCLE K STORE #2709 EPA ID:: CAL000369446	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A5	18
KEITH BUTLER EPA ID:: CAC003022331	44525 LA PAZ ROAD	ESE 0 - 1/8 (0.076 mi.)	10	50
SHERRY THOMASON EPA ID:: CAC003020628	44626 LA PAZ ROAD	S 0 - 1/8 (0.091 mi.)	B11	52
LIZA CABINGTING EPA ID:: CAC003102579	44621 LA PAZ RD	SSE 0 - 1/8 (0.091 mi.)	B12	55
LIZA CABINGTING EPA ID:: CAC003102620	44621 LA PAZ RD	SSE 0 - 1/8 (0.091 mi.)	B13	57
MELISSA URIBE AND BY EPA ID:: CAC003125200	44582 LA PAZ RD.	SE 0 - 1/8 (0.102 mi.)	C15	88

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ANTHONY VIRAVONG EPA ID:: CAC003130925	44602 LA PAZ ROAD	SSE 1/8 - 1/4 (0.133 mi.)	C16	91
NADER SHAABAN EPA ID:: CAC002979907	44605 LA PAZ ROAD	SSE 1/8 - 1/4 (0.133 mi.)	C17	93
NADER SHAABAN EPA ID:: CAC002979910	44605 LA PAZ ROAD	SSE 1/8 - 1/4 (0.133 mi.)	C18	96

EXECUTIVE SUMMARY

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 03/21/2022 has revealed that there are 3 Cortese sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CIRCLE K STORES INC. Cleanup Status: COMPLETED - CASE CLOSED	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A7	20

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TEMECULA FUEL CENTER Cleanup Status: COMPLETED - CASE CLOSED	44987 FRONT ST	WNW 1/4 - 1/2 (0.275 mi.)	21	99
C.L. PHARRIS READY-M Cleanup Status: COMPLETED - CASE CLOSED	29065 FRONT ST	NW 1/4 - 1/2 (0.378 mi.)	22	106

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 [CALSTITES]. 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 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TEMECULA FUEL CENTER Reg Id: 9UT805	44987 FRONT ST	WNW 1/4 - 1/2 (0.275 mi.)	21	99
C.L. PHARRIS READY-M Reg Id: 9UT1807	29065 FRONT ST	NW 1/4 - 1/2 (0.378 mi.)	22	106

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.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EXXON MOBIL CORPORAT	44520 BEDFORD CT	ENE 0 - 1/8 (0.016 mi.)	A6	20

EXECUTIVE SUMMARY

EDR Hist Cleaner: 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.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there is 1 EDR Hist Cleaner site within approximately 0.125 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KARE CLEANERS	44535 BEDFORD CT	NNW 0 - 1/8 (0.016 mi.)	9	49

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 7 records.

<u>Site Name</u>	<u>Database(s)</u>
PALA RD TEMECULA LANE	CIWQS
TEMECULA COUNTY OF RIVERSIDE JOHNS	CIWQS
TEMECULA CREEK EST	CIWQS
TEMECULA CREEK & REDHAWK	CIWQS
	CDL
HOEHN AUDI TEMECULA INC DBA AUDI T	RCRA NonGen / NLR
HOEHN AUDI TEMECULA INC DBA AUDI T	FINDS, ECHO

OVERVIEW MAP - 7059016.2S



N 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

■ 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: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula CA 92592
 LAT/LONG: 33.478434 / 117.138552

CLIENT: Earth Strata Geotechnical Services, Inc
 CONTACT: Stephanie Jones
 INQUIRY #: 7059016.2s
 DATE: July 19, 2022 7:11 pm

DETAIL MAP - 7059016.2S



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

Indian Reservations BIA

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: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula CA 92592
 LAT/LONG: 33.478434 / 117.138552

CLIENT: Earth Strata Geotechnical Services, Inc
 CONTACT: Stephanie Jones
 INQUIRY #: 7059016.2s
 DATE: July 19, 2022 7:12 pm

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								
<i>Lists of Federal NPL (Superfund) sites</i>								
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
<i>Lists of Federal Delisted NPL sites</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Lists of Federal CERCLA sites with NFRAP</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA facilities undergoing Corrective Action</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Lists of Federal RCRA TSD facilities</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA generators</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		2	0	NR	NR	NR	2
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
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
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>Lists of state- and tribal (Superfund) equivalent sites</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>Lists of state- and tribal hazardous waste facilities</i>								
ENVIROSTOR	1.000		0	0	0	0	NR	0
<i>Lists of state and tribal landfills and solid waste disposal facilities</i>								
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
<i>Lists of state and tribal leaking storage tanks</i>								
LUST	0.500		1	0	2	NR	NR	3
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal registered storage tanks</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		3	2	NR	NR	NR	5
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>Lists of state and tribal voluntary cleanup sites</i>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal brownfield sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
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
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
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
CERS HAZ WASTE	0.250		2	0	NR	NR	NR	2
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
AQUEOUS FOAM	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		1	0	NR	NR	NR	1
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		1	0	NR	NR	NR	1

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
CERS TANKS	0.250		2	0	NR	NR	NR	2
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
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
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		6	3	NR	NR	NR	9
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
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
-----------------	--	----------------------------	-----------------	------------------	------------------	----------------	---------------	--------------------------

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

A1
ENE
< 1/8
0.016 mi.
83 ft.

CIRCLE K STORES INC. SITE #2709417
44520 BEDFORD CT
TEMECULA, CA 92592

RCRA-SQG **1007200463**
FINDS **CAL922334280**
ECHO

Site 1 of 8 in cluster A

Relative:
Higher

RCRA-SQG:

Actual:
1015 ft.

Date Form Received by Agency:	20020228
Handler Name:	EXXON MOBIL OIL CORP
Handler Address:	44520 BEDFORD CT
Handler City,State,Zip:	TEMECULA, CA 92590
EPA ID:	CAL922334280
Contact Name:	JOHN HOOVER
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	800-254-8054
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:	Not reported
State District:	Not reported
Mailing Address:	12265 W BAYAUD AVE
Mailing City,State,Zip:	LAKEWOOD, CO 80228
Owner Name:	Not reported
Owner Type:	Not reported
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

1007200463

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	20060905
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

Biennial: List of Years

Year: 2001

[Click Here for Biennial Reporting System Data:](#)

Historic Generators:

Receive Date:	20020228
Handler Name:	EXXON MOBIL OIL CORP
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

Receive Date:	20020228
Handler Name:	EXXON MOBIL OIL CORP
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

1007200463

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: 44711
NAICS Description: GASOLINE STATIONS WITH CONVENIENCE STORES

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

FINDS:

Registry ID: 110055872854

[Click Here for FRS Facility Detail Report:](#)

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1007200463
Registry ID: 110055872854
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110055872854>
Name: CIRCLE K STORES INC. SITE #2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592

A2
ENE
< 1/8
0.016 mi.
83 ft.

CIRCLE K STORES, INC#2709417
44520 BEDFORD CT
TEMECULA, CA 92592

UST U003791005
N/A

Site 2 of 8 in cluster A

Relative:
Higher
Actual:
1015 ft.

RIVERSIDE CO. UST:
Name: CIRCLE K STORES, INC#2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592
Region: RIVERSIDE
Total Tanks: 4

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

A3
ENE
 < 1/8
 0.016 mi.
 83 ft.

MOBIL OIL CORPORATION NO HJ4
44520 BEDFORD CT AND HWY 79
TEMECULA, CA 92590

Site 3 of 8 in cluster A

RCRA-SQG 1000818372
SWEEPS UST CAD983642380
CA FID UST
CHMIRS
FINDS

Relative:
Higher

RCRA-SQG:

Actual:
1015 ft.

Date Form Received by Agency:	19920629
Handler Name:	MOBIL OIL CORPORATION NO HJ4
Handler Address:	44520 BEDFORD CT AND HWY 79
Handler City,State,Zip:	TEMECULA, CA 92590
EPA ID:	CAD983642380
Contact Name:	ROBIN BUNN
Contact Address:	3225 GALLOWS RD ENVIRON
Contact City,State,Zip:	FAIRFAX, VA 22037-0001
Contact Telephone:	703-849-3330
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
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:	GALLOWS RD ENVIRON
Mailing City,State,Zip:	FAIRFAX, VA 22037-0001
Owner Name:	MOBIL OIL CORPORATION
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRR Permit Baseline:	Not on the Baseline
2018 GPRR Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MOBIL OIL CORPORATION NO HJ4 (Continued)

1000818372

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	MOBIL OIL CORPORATION
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	3225 GALLOWS RD
Owner/Operator City,State,Zip:	FAIRFAX, VA 22037-0001
Owner/Operator Telephone:	703-849-3330
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19920629
Handler Name:	MOBIL OIL CORPORATION NO HJ4
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL OIL CORPORATION NO HJ4 (Continued)

1000818372

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

SWEEPS UST:

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD CT
City: TEMECULA
Status: Active
Comp Number: 1909
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-15-92
Action Date: 06-15-92
Created Date: 06-15-92
Owner Tank Id: 18HJ4
SWRCB Tank Id: 33-000-001909-000001
Tank Status: A
Capacity: 10000
Active Date: 06-15-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 4

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD CT
City: TEMECULA
Status: Active
Comp Number: 1909
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-15-92
Action Date: 06-15-92
Created Date: 06-15-92
Owner Tank Id: 18HJ4-2
SWRCB Tank Id: 33-000-001909-000002
Tank Status: A
Capacity: 10000
Active Date: 06-15-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Name: MOBIL #18-HJ4

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL OIL CORPORATION NO HJ4 (Continued)

1000818372

Address: 44520 BEDFORD CT
City: TEMECULA
Status: Active
Comp Number: 1909
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-15-92
Action Date: 06-15-92
Created Date: 06-15-92
Owner Tank Id: 18HJ4-4
SWRCB Tank Id: 33-000-001909-000003
Tank Status: A
Capacity: 10000
Active Date: 06-15-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD CT
City: TEMECULA
Status: Active
Comp Number: 1909
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-15-92
Action Date: 06-15-92
Created Date: 06-15-92
Owner Tank Id: 18HJ4-3
SWRCB Tank Id: 33-000-001909-000004
Tank Status: A
Capacity: 10000
Active Date: 06-15-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

CA FID UST:

Facility ID: 33006843
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 7146991276
Mail To: Not reported
Mailing Address: 3225 GALLOW RD
Mailing Address 2: Not reported
Mailing City,St,Zip: TEMECULA 92590
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL OIL CORPORATION NO HJ4 (Continued)

1000818372

CHMIRS:

Name:	Not reported
Address:	44520 BEDFORD COURT
City,State,Zip:	TEMECULA, CA 92592
OES Incident Number:	10-3092
OES notification:	05/18/2010
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:	No
Waterway:	Not reported
Spill Site:	Service Station
Cleanup By:	Service Station Personnel
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Cup(s)
Other:	Not reported
Date/Time:	1310
Year:	2010
Agency:	Veeder Root
Incident Date:	5/18/2010
Admin Agency:	Riverside County Environmental Health
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Diesel
Quantity Released:	0.5
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MOBIL OIL CORPORATION NO HJ4 (Continued)

1000818372

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 leaky nozzle caused this small release

FINDS:

Registry ID: 110008283785

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

A4
ENE
 < 1/8
 0.016 mi.
 83 ft.

MOBIL STATION #18-HJ4
44520 BEDFORD CT
TEMECULA, CA 92592
Site 4 of 8 in cluster A

UST U004349316
N/A

Relative:
Higher
Actual:
1015 ft.

UST:
 Name: MOBIL STATION #18-HJ4
 Address: 44520 BEDFORD CT
 City,State,Zip: TEMECULA, CA 92592
 Facility ID: 521
 Permitting Agency: RIVERSIDE COUNTY
 CERSID: Not reported
 Latitude: 33.480062
 Longitude: -117.136144

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CIRCLE K STORE #2709417 (Continued)

1024831872

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	KRISTI HODGE
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	255 E. RINCON ST. SUITE 100
Owner/Operator City,State,Zip:	CORONA, CA 92879
Owner/Operator Telephone:	951-270-5153
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	CIRCLE K STORES INC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	255 E RINCON ST STE 100
Owner/Operator City,State,Zip:	CORONA, CA 92879-0000
Owner/Operator Telephone:	951-270-5153
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CIRCLE K STORE #2709417 (Continued)

1024831872

Historic Generators:

Receive Date:	20111201
Handler Name:	CIRCLE K STORE #2709417
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:	44719
NAICS Description:	OTHER GASOLINE STATIONS

Facility Has Received Notices of Violations:

Violations:	No Violations Found
-------------	---------------------

Evaluation Action Summary:

Evaluations:	No Evaluations Found
--------------	----------------------

A6
ENE
 < 1/8
 0.016 mi.
 83 ft.
 Relative:
 Higher

EXXON MOBIL CORPORATION
44520 BEDFORD CT
TEMECULA, CA 92592
 Site 6 of 8 in cluster A

EDR Hist Auto **1021820035**
 N/A

Actual:
1015 ft.

EDR Hist Auto

Year:	Name:	Type:
2004	EXXONMOBIL INC	Gasoline Service Stations
2005	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2006	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2007	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2008	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2009	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2010	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2011	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC
2014	EXXON MOBIL CORPORATION	Gasoline Service Stations, NEC

A7
ENE
 < 1/8
 0.016 mi.
 83 ft.
 Relative:
 Higher
 Actual:
 1015 ft.

CIRCLE K STORES INC. SITE #2709417
44520 BEDFORD CT
TEMECULA, CA 92592
 Site 7 of 8 in cluster A

LUST **S105675759**
CERS HAZ WASTE **N/A**
CERS TANKS
CHMIRS
Cortese
HAZNET
CERS
HWTS

LUST:

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD COURT
City,State,Zip: TEMECULA, CA 92590
Lead Agency: SAN DIEGO RWQCB (REGION 9)
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606543882
Global Id: T0606543882
Latitude: 33.478803761
Longitude: -117.137751845
Status: Completed - Case Closed
Status Date: 12/03/2009
Case Worker: SM
RB Case Number: 9UT4170
Local Agency: Not reported
File Location: Regional Board
Local Case Number: 200521232
Potential Media Affect: Aquifer used for drinking water supply, Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:

Global Id: T0606543882
Contact Type: Regional Board Caseworker
Contact Name: SEAN MCCLAIN
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 2375 NORTHSIDE DRIVE, SUITE 100
City: SAN DIEGO
Email: sean.mcclain@waterboards.ca.gov
Phone Number: 6195213374

LUST:

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 04/13/2007
Action: Other Report - #UST Sample Analytical Report

Global Id: T0606543882
Action Type: Other
Date: 02/17/2005
Action: Leak Reported

Global Id: T0606543882
Action Type: RESPONSE
Date: 05/16/2006
Action: Preliminary Site Assessment Report

Global Id: T0606543882
Action Type: RESPONSE
Date: 07/30/2006
Action: Monitoring Report - Other

Global Id: T0606543882
Action Type: RESPONSE
Date: 10/30/2006
Action: Monitoring Report - Other

Global Id: T0606543882

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Action Type: RESPONSE
Date: 10/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 10/05/2009
Action: Notification - Public Notice of Case Closure

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 12/03/2009
Action: Closure/No Further Action Letter

Global Id: T0606543882
Action Type: Other
Date: 02/17/2005
Action: Leak Began

Global Id: T0606543882
Action Type: RESPONSE
Date: 04/30/2006
Action: Monitoring Report - Other

Global Id: T0606543882
Action Type: RESPONSE
Date: 04/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: RESPONSE
Date: 07/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: RESPONSE
Date: 04/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: Other
Date: 02/17/2005
Action: Leak Stopped

Global Id: T0606543882
Action Type: RESPONSE
Date: 01/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 10/20/2005
Action: * Verbal Communication

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 11/01/2005

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Action: Technical Correspondence / Assistance / Other

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 03/03/2006
Action: Staff Letter - #R9-2006-0030

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 02/11/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 01/10/2017
Action: File review - #RCDEH sample review

Global Id: T0606543882
Action Type: RESPONSE
Date: 01/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0606543882
Action Type: RESPONSE
Date: 07/27/2005
Action: Other Report / Document

Global Id: T0606543882
Action Type: ENFORCEMENT
Date: 07/28/2005
Action: * Referral to Regional Board or Another State Agency

Global Id: T0606543882
Action Type: Other
Date: 02/17/2005
Action: Leak Discovery

Global Id: T0606543882
Action Type: RESPONSE
Date: 04/16/2007
Action: Other Report / Document

Global Id: T0606543882
Action Type: RESPONSE
Date: 07/30/2007
Action: Monitoring Report - Quarterly

LUST:

Global Id: T0606543882
Status: Open - Case Begin Date
Status Date: 02/17/2005

Global Id: T0606543882
Status: Open - Site Assessment
Status Date: 02/17/2005

Global Id: T0606543882

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Status: Open - Site Assessment
Status Date: 05/16/2006

Global Id: T0606543882
Status: Completed - Case Closed
Status Date: 12/03/2009

RIVERSIDE CO. LUST:

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA
Region: RIVERSIDE
Facility ID: 200521232
Employee: Shurlow-LOP
Site Closed: Referred to Water Board
Case Type: Soil only
Facility Status: 0
Casetype Decode: Soil only is impacted
Fstatus Decode: Not reported

CERS HAZ WASTE:

Name: CIRCLE K STORES INC. SITE #2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592
Site ID: 19220
CERS ID: 10174597
CERS Description: Hazardous Waste Generator

CERS TANKS:

Name: CIRCLE K STORES INC. SITE #2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592
Site ID: 19220
CERS ID: 10174597
CERS Description: Underground Storage Tank

CHMIRS:

Name: Not reported
Address: 44520 BEDFORD COURT
City,State,Zip: TEMECULA, CA 90509
OES Incident Number: 1-1973
OES notification: 04/03/2001
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Resp Agency 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: No
Waterway: Not reported
Spill Site: Not reported
Cleanup By: Contractor
Containment: Not reported
What Happened: Not reported
Type: Not reported
Measure: Not reported
Other: Not reported
Date/Time: Not reported
Year: 2001
Agency: Tanknology
Incident Date: 4/2/2001 12:00:00 AM
Admin Agency: Riverside County Environmental Health
Amount: Not reported
Contained: Yes
Site Type: Service Station
E Date: Not reported
Substance: hydrocarbons
Unknown: 0.000000
Substance #2: Not reported
Substance #3: Not reported
Evacuations: 0
Number of Injuries: 0
Number of Fatalities: 0
#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
Fataals: Not reported
Comments: Not reported
Description: Elevated levels of hydrocarbon detected in soil samples.

Name: Not reported
Address: 44520 BEDFORD CT.
City,State,Zip: TEMECULA, CA
OES Incident Number: 1-2787

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

OES notification:	05/05/2011
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 Agency 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:	No
Waterway:	Not reported
Spill Site:	Service Station
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Cup(s)
Other:	Not reported
Date/Time:	609
Year:	2011
Agency:	Veeder Root
Incident Date:	5/5/2011
Admin Agency:	Riverside County Environmental Health
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Gasoline
Quantity Released:	1
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

#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 customer was pumping gasoline and the auto shut-off failed.

CORTESE:

Name:	MOBIL #18-HJ4
Address:	44520 BEDFORD COURT
City,State,Zip:	TEMECULA, CA 92590
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0606543882
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

HAZNET:

Name:	CIRCLE K STORE #2709417
Address:	44520 BEDFORD CT
Address 2:	Not reported
City,State,Zip:	TEMECULA, CA 850720000
Contact:	YOLANDA JONES
Telephone:	6027288000
Mailing Name:	Not reported
Mailing Address:	PO BOX 52085
Year:	2018
Gepaid:	CAL000369446
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.04200
Year:	2017

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Gepaid:	CAL000369446
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.06
Year:	2017
Gepaid:	CAL000369446
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.042
Year:	2016
Gepaid:	CAL000369446
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.185
Year:	2016
Gepaid:	CAL000369446
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	1.281
Year:	2016
Gepaid:	CAL000369446
TSD EPA ID:	INR000127621
CA Waste Code:	551 - Laboratory waste chemicals
Disposal Method:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons:	0.01251
Year:	2015
Gepaid:	CAL000369446
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.21
Year:	2014
Gepaid:	CAL000369446
TSD EPA ID:	CAD099452708
CA Waste Code:	221 - Waste oil and mixed oil
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.247

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Year:	2014
Gepaid:	CAL000369446
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.21
Year:	2014
Gepaid:	CAL000369446
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.15

[Click this hyperlink](#) while viewing on your computer to access 2 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

Year:	2017
Gen EPA ID:	CAL000369446
Shipment Date:	20171205
Creation Date:	10/18/2018 18:30:10
Receipt Date:	20171206
Manifest ID:	010664994FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSD EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSD Alt EPA ID:	Not reported
TSD Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.05
Waste Quantity:	100
Quantity Unit:	P
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:	20170601
Creation Date:	8/1/2018 18:31:11
Receipt Date:	20170607
Manifest ID:	009697053FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Trans 2 Name:	Not reported
TSDf EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDf Alt EPA ID:	Not reported
TSDf Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.035
Waste Quantity:	70
Quantity Unit:	P
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:	20170124
Creation Date:	5/17/2017 18:31:13
Receipt Date:	20170126
Manifest ID:	009685311FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO AND SONS TRUCKING, INC.
TSDf EPA ID:	CAT080013352
Trans Name:	DEMENNO/KERDOON
TSDf Alt EPA ID:	Not reported
TSDf Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.042
Waste Quantity:	10
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:	20170124
Creation Date:	5/9/2018 18:33:34
Receipt Date:	20170201
Manifest ID:	009685310FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDf EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDf Alt EPA ID:	Not reported
TSDf Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Meth Code: H132 - Landfill Or Surface Impoundment That Will Be Closed As
Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons: 0.025
Waste Quantity: 50
Quantity Unit: P
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: 2013
Gen EPA ID: CAL000369446

Shipment Date: 20130312
Creation Date: 5/8/2013 22:15:09
Receipt Date: 20130319
Manifest ID: 005785462FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: CAT080013352
Trans Name: DEMENNO KERDOON
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: Not reported
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid
Regeneration, Organics Recovery Ect
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

Shipment Date: 20130312
Creation Date: 7/25/2013 9:05:24
Receipt Date: 20130313
Manifest ID: 005785461FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: NVT330010000
Trans Name: US ECOLOGY NEVADA OPERATIONS
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: H132 - Landfill Or Surface Impoundment That Will Be Closed As
Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons: 0.075

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Waste Quantity: 150
Quantity Unit: P
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: 2016
Gen EPA ID: CAL000369446

Shipment Date: 20150505
Creation Date: 7/16/2015 22:15:18
Receipt Date: 20150507
Manifest ID: 007647635FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: CAT080013352
Trans Name: DEMENNO KERDOON
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: Not reported
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid
Regeneration, Organics Recovery Ect

Quantity Tons: 0.126
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: 20150120
Creation Date: 5/6/2015 22:15:19
Receipt Date: 20150128
Manifest ID: 007637824FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: CAT080013352
Trans Name: DEMENNO KERDOON
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: Not reported
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid
Regeneration, Organics Recovery Ect

Quantity Tons: 0.084
Waste Quantity: 20
Quantity Unit: G
Additional Code 1: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:

Year: 2014
Gen EPA ID: CAL000369446

Shipment Date: 20140916
Creation Date: 2/12/2015 22:14:58
Receipt Date: 20140924
Manifest ID: 007626274FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: NVT330010000
Trans Name: US ECOLOGY NEVADA OPERATIONS
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: D018
Meth Code: H132 - Landfill Or Surface Impoundment That Will Be Closed As
Landfill(To Include On-Site Treatment And/Or Stabilization)

Quantity Tons: 0.15
Waste Quantity: 300
Quantity Unit: P
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: 20140812
Creation Date: 10/31/2014 22:14:44
Receipt Date: 20140815
Manifest ID: 000068367JJK
Trans EPA ID: CAR000174011
Trans Name: CLEAN FUELS INC
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: CAD099452708
Trans Name: INDUSTRIAL SERVICES OIL CO INC
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 221 - Waste oil and mixed oil
RCRA Code: Not reported
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid
Regeneration, Organics Recovery Ect

Quantity Tons: 0.247
Waste Quantity: 65
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Additional Code 5:	Not reported
Shipment Date:	20140401
Creation Date:	6/6/2014 22:15:14
Receipt Date:	20140403
Manifest ID:	005768255FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDf EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDf Alt EPA ID:	Not reported
TSDf Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
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
Additional Info:	
Year:	2015
Gen EPA ID:	CAL000369446
Shipment Date:	20150505
Creation Date:	7/16/2015 22:15:18
Receipt Date:	20150507
Manifest ID:	007647635FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDf EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDf Alt EPA ID:	Not reported
TSDf Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.126
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:	20150120

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Creation Date: 5/6/2015 22:15:19
Receipt Date: 20150128
Manifest ID: 007637824FLE
Trans EPA ID: CAR000183913
Trans Name: BELSHIRE
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDf EPA ID: CAT080013352
Trans Name: DEMENNO KERDOON
TSDf Alt EPA ID: Not reported
TSDf Alt Name: Not reported
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: Not reported
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid
Regeneration, Organics Recovery Ect
Quantity Tons: 0.084
Waste Quantity: 20
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: CIRCLE K STORES INC. SITE #2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592
Site ID: 19220
CERS ID: 10174597
CERS Description: Chemical Storage Facilities

Violations:

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-05-2020
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2

Violation Description: "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "

Violation Notes: Returned to compliance on 03/26/2020. OBSERVATION: Observed Diesel spill container drain valve to be leaking and would not hold liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace the leaking diesel spill container drain valve so that bucket is able to hold liquid and contain release until detected.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-05-2020
Citation: 23 CCR 16 2712(i), 2632(d)(2), 2634(e), 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i), 2632(d)(2), 2634(e), 2641(h)
Violation Description: Failure to submit a current UST Response Plan available on site.
Violation Notes: Returned to compliance on 02/05/2020. OBSERVATION: Current UST Response Plan not available on site during inspection. Observed last CERS submittal onsite dated 11/2016. CORRECTIVE ACTION: Owner/operator shall maintain a current UST Response Plan on site that has been accepted in CERS and make available for review. Printed and provided available. Corrected onsite.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-16-2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 04/11/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-27-2014
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description: Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes: Returned to compliance on 03/20/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-23-2015
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)
Violation Description: Failure to maintain leak detection alarm logs and/or maintain records of appropriate follow-up actions
Violation Notes: Returned to compliance on 02/25/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-16-2016
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description: Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes: Returned to compliance on 02/16/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-18-2021
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description: "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "
Violation Notes: Returned to compliance on 04/01/2021. OBSERVATION: Observed Diesel drain valve to be leaking and would not hold liquid. Technician was unable to repair/replace spill bucket at time of inspection. CORRECTIVE ACTION: Owner/operator shall repair/replace the leaking Diesel drain valve so that bucket is able to hold liquid and contain release until detected.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-05-2020
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 02/05/2020. OBSERVATION: Current UST Monitoring Plan not available on site during inspection. Observed last available CERS submittal onsite dated 11/2016. CORRECTIVE ACTION: Owner/operator shall maintain a current UST Monitoring Plan on site that has been accepted in CERS and make available for review. Printed and provided available. Corrected onsite.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-16-2016

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

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: Returned to compliance on 04/11/2016.

Violation Division: Riverside County Department of Env Health

Violation Program: HMRRP

Violation Source: CERS,

Site ID: 19220

Site Name: Circle K Stores Inc. Site #2709417

Violation Date: 03-18-2021

Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2

Violation Description: "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "

Violation Notes: Returned to compliance on 04/01/2021. OBSERVATION: Observed diesel spill bucket drain valve to be leaking and would not hold liquid. Repairs made at time of retest failed to prevent leaking. Technician did not have a spare spill bucket to replace the faulty diesel one. Retest will have to be rescheduled. CORRECTIVE ACTION: Owner/operator shall repair/replace the leaking diesel spill bucket and ensure that the bucket is able to hold liquid and contain release until detected. Contact this Department to schedule retest following repairs.

Violation Division: Riverside County Department of Env Health

Violation Program: UST

Violation Source: CERS,

Site ID: 19220

Site Name: Circle K Stores Inc. Site #2709417

Violation Date: 02-19-2019

Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)

Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 02/19/2019. OBSERVATION: An overfill equipment inspection was not completed by the October 13, 2018 deadline. CORRECTIVE ACTION: Owner/operator shall immediately schedule and complete an overfill equipment inspection providing the required 48 hour notification prior to conducting the inspection. Inspection results and all supporting documentation (inspection procedures used, tank charts, printouts, etc.) must be submitted to this Department within 30 days upon completion of the inspection. Overfill inspection being conducted today. Violation corrected on site.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-05-2020
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)

Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 03/26/2020. Observation: Observed outdoor overfill annunciator to not be functional when tested at test button. No lights or sounds from annunciator. Corrective Action: Replace/repair outdoor annunciator to be fully functional (lights/sounds).

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-16-2016
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple

Violation Description: Business Plan Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 02/16/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-16-2016
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple

Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 02/16/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 02-23-2015
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)

Violation Description: Failure to maintain records of repairs, lining, and upgrades on site, or off site if approved by the CUPA, for the life of the underground storage tank and/or failure to maintain written monitoring and maintenance records on site, or off site if approved by the CUPA, for a period of 3 years, 6 1/2 years for cathodic protection, and 5 years for written performance claims pertaining to release detection systems and calibration and maintenance records for such systems.

Violation Notes: Returned to compliance on 02/25/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Violation Date: 11-17-2021
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)

Violation Description: Failure to comply with one or more of the following overflow prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of

MAP FINDINGS

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 12/13/2021.
 Violation Division: Riverside County Department of Env Health
 Violation Program: UST
 Violation Source: CERS,

Site ID: 19220
 Site Name: Circle K Stores Inc. Site #2709417
 Violation Date: 02-16-2016
 Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291

Violation Description: Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.

Violation Notes: Returned to compliance on 02/16/2016.
 Violation Division: Riverside County Department of Env Health
 Violation Program: UST
 Violation Source: CERS,

Evaluation:
 Eval General Type: Compliance Evaluation Inspection
 Eval Date: 02-02-2022
 Violations Found: No
 Eval Type: Routine done by local agency
 Eval Notes: On site with Noe Gill of Ideco for the facility's annual monitoring certification. NOTE: Facility's SB989 test is due 3/2022. NOTE: Facility does not have current Financial responsibility documents on site however current Financial Responsibility documents have been submitted to CERS.

Eval Division: Riverside County Department of Env Health
 Eval Program: UST
 Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
 Eval Date: 02-05-2020
 Violations Found: Yes
 Eval Type: Routine done by local agency
 Eval Notes: Routine inspection conducted in conjunction with Annual Monitoring Certification performed by IDECO.

Eval Division: Riverside County Department of Env Health
 Eval Program: UST
 Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Eval Date: 02-23-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-27-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-01-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-16-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-18-2021
Violations Found: No
Eval Type: Routine done by local agency

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Eval Notes: Facility is a gas station that handles CO2, gasoline and diesel.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-27-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-18-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Facility is a gas station that has 4 underground storage tanks of diesel and gasoline.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-01-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-01-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-06-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-18-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Facility is a gas station that generates solid and liquid hazardous waste associated with operating and maintaining a gas station.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-27-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-19-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-18-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection conducted to verify correction of spill bucket violation and repairs to diesel spill bucket. Observed technician attempt to repair spill bucket by replacing some components. Spill container still failed to meet requirements and needs to be fully replaced. Contact this Department to schedule future retest and reinspection for violation correction.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-01-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection for diesel spill bucket repair.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-17-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Enforcement Action:
Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Site Address: 44520 BEDFORD CT
Site City: TEMECULA
Site Zip: 92592
Enf Action Date: 02-16-2016
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Site Address: 44520 BEDFORD CT
Site City: TEMECULA
Site Zip: 92592
Enf Action Date: 02-16-2016
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Site Address: 44520 BEDFORD CT
Site City: TEMECULA
Site Zip: 92592
Enf Action Date: 02-23-2015
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Site ID: 19220
Site Name: Circle K Stores Inc. Site #2709417
Site Address: 44520 BEDFORD CT
Site City: TEMECULA
Site Zip: 92592
Enf Action Date: 02-27-2014
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Coordinates:

Site ID: 19220
Facility Name: Circle K Stores Inc. Site #2709417
Env Int Type Code: HWG
Program ID: 10174597
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Latitude: 33.478720
Longitude: -117.137520

Affiliation:

Affiliation Type Desc: Document Preparer
Entity Name: Abigail Jara
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: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: United States
Affiliation Zip: 85072
Affiliation Phone: (949) 235-7416,

Affiliation Type Desc: Property Owner
Entity Name: The Greystone Group, LP
Entity Title: Not reported
Affiliation Address: P.O. Box 3295
Affiliation City: Escondido
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92033
Affiliation Phone: (951) 695-6841,

Affiliation Type Desc: UST Tank Operator
Entity Name: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: United States
Affiliation Zip: 85072
Affiliation Phone: (980) 875-1745,

Affiliation Type Desc: Parent Corporation
Entity Name: Circle K Stores 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: UST Property Owner Name
Entity Name: The Greystone Group, LP
Entity Title: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Affiliation Address: P.O. Box 3295
Affiliation City: Escndido
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92033
Affiliation Phone: (619) 695-6841,

Affiliation Type Desc: UST Permit Applicant
Entity Name: Robert Velasco
Entity Title: Agent For Circle K
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (661) 250-9300,

Affiliation Type Desc: UST Tank Owner
Entity Name: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: United States
Affiliation Zip: 85072
Affiliation Phone: (980) 875-1745,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Environmental Contact
Entity Name: Yolanda Jones
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85072
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85072
Affiliation Phone: ,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Affiliation Type Desc: Identification Signer
Entity Name: Abigail Jara
Entity Title: Agent For Circle K
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: Circle K Stores 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: (980) 875-1745,

Name: MOBIL #18-HJ4
Address: 44520 BEDFORD COURT
City,State,Zip: TEMECULA, CA 92590
Site ID: 246990
CERS ID: T0606543882
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc: Regional Board Caseworker
Entity Name: SEAN MCCLAIN - SAN DIEGO RWQCB (REGION 9)
Entity Title: Not reported
Affiliation Address: 2375 NORTHSIDE DRIVE, SUITE 100
Affiliation City: SAN DIEGO
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 6195213374,

HWTS:

Name: CIRCLE K STORE #2709417
Address: 44520 BEDFORD CT
Address 2: Not reported
City,State,Zip: TEMECULA, CA 92592
EPA ID: CAL000369446
Inactive Date: Not reported
Create Date: 12/01/2011
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 52085
Mailing Address 2: Not reported
Mailing City,State,Zip: PHOENIX, AZ 850720000
Owner Name: SARAH LONGWELL
Owner Address: PO BOX 52085
Owner Address 2: Not reported
Owner City,State,Zip: PHOENIX, AZ 850720000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CIRCLE K STORES INC. SITE #2709417 (Continued)

S105675759

Contact Name: YOLANDA JONES
Contact Address: PO BOX 52085
Contact Address 2: Not reported
City,State,Zip: PHOENIX, AZ 85072
Facility Status: Active
Facility Type: PERMANENT
Category: STATE
Latitude: 33.478773
Longitude: -117.137537

NAICS:
EPA ID: CAL000369446
Create Date: 2011-12-01 09:09:56.120
NAICS Code: 44719
NAICS Description: Other Gasoline Stations
Issued EPA ID Date: 2011-12-01 09:09:56.12000
Inactive Date: Not reported
Facility Name: CIRCLE K STORE #2709417
Facility Address: 44520 BEDFORD CT
Facility Address 2: Not reported
Facility City: TEMECULA
Facility County: Not reported
Facility State: CA
Facility Zip: 92592

A8
ENE
< 1/8
0.016 mi.
83 ft.

CIRCLE K STORES INC. SITE #2709417
44520 BEDFORD CT
TEMECULA, CA 92592
Site 8 of 8 in cluster A

UST U004354518
N/A

Relative:
Higher
Actual:
1015 ft.

UST:
Name: CIRCLE K STORES INC. SITE #2709417
Address: 44520 BEDFORD CT
City,State,Zip: TEMECULA, CA 92592
Facility ID: FA0036715
Permitting Agency: Riverside County Department of Environmental Health
CERSID: 10174597
Latitude: 33.47872
Longitude: -117.13752

9
NNW
< 1/8
0.016 mi.
83 ft.

KARE CLEANERS
44535 BEDFORD CT
TEMECULA, CA 92592

EDR Hist Cleaner 1020017416
N/A

Relative:
Higher
Actual:
1010 ft.

EDR Hist Cleaner
Year: Name: Type:
1992 KARE CLEANERS Drycleaning Plants, Except Rugs, NEC
1993 KARE CLEANERS Drycleaning Plants, Except Rugs, NEC

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

10
ESE
< 1/8
0.076 mi.
399 ft.

KEITH BUTLER
44525 LA PAZ ROAD
TEMECULA, CA 92592

RCRA NonGen / NLR **1025842721**
CAC003022331

Relative:
Higher
Actual:
1022 ft.

RCRA NonGen / NLR:		20190702
Date Form Received by Agency:		20190702
Handler Name:	KEITH BUTLER	
Handler Address:		44525 LA PAZ ROAD
Handler City,State,Zip:		TEMECULA, CA 92592-2544
EPA ID:		CAC003022331
Contact Name:		KEITH BUTLER
Contact Address:		44525 LA PAZ ROAD
Contact City,State,Zip:		TEMECULA, CA 92592-2544
Contact Telephone:		760-518-8001
Contact Fax:		Not reported
Contact Email:		TAMMYHURLEY@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:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		44525 LA PAZ ROAD
Mailing City,State,Zip:		TEMECULA, CA 92592-2544
Owner Name:		KEITH BUTLER
Owner Type:		Other
Operator Name:		KEITH BUTLER
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 Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

KEITH BUTLER (Continued)

1025842721

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	20190729
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:	KEITH BUTLER
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44525 LA PAZ ROAD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592-2544
Owner/Operator Telephone:	760-518-8001
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	KEITH BUTLER
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44525 LA PAZ ROAD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592-2544
Owner/Operator Telephone:	760-518-8001
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KEITH BUTLER (Continued)

1025842721

Historic Generators:

Receive Date: 20190702
Handler Name: KEITH BUTLER
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

B11
South
< 1/8
0.091 mi.
480 ft.

SHERRY THOMASON
44626 LA PAZ ROAD
TEMECULA, CA 92592

RCRA NonGen / NLR

1025841023
CAC003020628

Site 1 of 3 in cluster B

Relative:
Higher
Actual:
1007 ft.

RCRA NonGen / NLR:
Date Form Received by Agency: 20190620
Handler Name: SHERRY THOMASON
Handler Address: 44626 LA PAZ ROAD
Handler City,State,Zip: TEMECULA, CA 92592-2507
EPA ID: CAC003020628
Contact Name: SHERRY THOMASON
Contact Address: 44626 LA PAZ ROAD
Contact City,State,Zip: TEMECULA, CA 92592-2507
Contact Telephone: 951-764-1336
Contact Fax: Not reported
Contact Email: TAMMYHURLEY@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: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: 44626 LA PAZ ROAD
Mailing City,State,Zip: TEMECULA, CA 92592-2507
Owner Name: SHERRY THOMASON

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHERRY THOMASON (Continued)

1025841023

Owner Type:	Other
Operator Name:	SHERRY THOMASON
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRC Permit Baseline:	Not on the Baseline
2018 GPRC Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRC Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDs Where RCRA CA has Been Imposed Universe:	No
TSDs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDs Only Subject to CA under Discretionary Auth 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
Operating TSD Universe:	Not reported
Full Enforcement Universe:	Not reported
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHERRY THOMASON (Continued)

1025841023

Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: SHERRY THOMASON
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44626 LA PAZ ROAD
Owner/Operator City,State,Zip: TEMECULA, CA 92592-2507
Owner/Operator Telephone: 951-764-1336
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SHERRY THOMASON
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44626 LA PAZ ROAD
Owner/Operator City,State,Zip: TEMECULA, CA 92592-2507
Owner/Operator Telephone: 951-764-1336
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20190620
Handler Name: SHERRY THOMASON
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

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

B12
SSE
 < 1/8
 0.091 mi.
 481 ft.

LIZA CABIGTING
44621 LA PAZ RD
TEMECULA, CA 92592
Site 2 of 3 in cluster B

RCRA NonGen / NLR **1026714227**
CAC003102579

Relative:
Higher
Actual:
1007 ft.

RCRA NonGen / NLR:		20210126
Date Form Received by Agency:		
Handler Name:	LIZA CABIGTING	
Handler Address:		44621 LA PAZ RD
Handler City,State,Zip:		TEMECULA, CA 92592
EPA ID:		CAC003102579
Contact Name:		LIZA CABIGTING
Contact Address:		44621 LA PAZ RD
Contact City,State,Zip:		TEMECULA, CA 92592
Contact Telephone:		951-764-9406
Contact Fax:		Not reported
Contact Email:		LIZACABIGTING@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:		44621 LA PAZ RD
Mailing City,State,Zip:		TEMECULA, CA 92592
Owner Name:		LIZA CABIGTING
Owner Type:		Other
Operator Name:		LIZA CABIGTING
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 Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRR Permit Baseline:		Not on the Baseline
2018 GPRR Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

LIZA CABIGTING (Continued)

1026714227

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	LIZA CABIGTING
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44621 LA PAZ RD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592
Owner/Operator Telephone:	951-764-9406
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	LIZA CABIGTING
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44621 LA PAZ RD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592
Owner/Operator Telephone:	951-764-9406
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

LIZA CABIGTING (Continued)

1026714227

Historic Generators:

Receive Date:	20210126
Handler Name:	LIZA CABIGTING
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
--------------	----------------------

B13
SSE
 < 1/8
 0.091 mi.
 481 ft.

LIZA CABINGTING
44621 LA PAZ RD
TEMECULA, CA 92592

RCRA NonGen / NLR

1026714266
CAC003102620

Site 3 of 3 in cluster B

Relative:
Higher
Actual:
1007 ft.

RCRA NonGen / NLR:	
Date Form Received by Agency:	20210126
Handler Name:	LIZA CABINGTING
Handler Address:	44621 LA PAZ RD
Handler City,State,Zip:	TEMECULA, CA 92592
EPA ID:	CAC003102620
Contact Name:	LIZA CABINGTING
Contact Address:	44621 LA PAZ RD
Contact City,State,Zip:	TEMECULA, CA 92592
Contact Telephone:	951-764-9406
Contact Fax:	Not reported
Contact Email:	LIZACABINGTING@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:	44621 LA PAZ RD
Mailing City,State,Zip:	TEMECULA, CA 92592
Owner Name:	LIZA CABINGTING

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

LIZA CABINGTING (Continued)

1026714266

Owner Type:	Other
Operator Name:	LIZA CABINGTING
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRC Permit Baseline:	Not on the Baseline
2018 GPRC Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRC Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSD Universe:	Not reported
Full Enforcement Universe:	Not reported
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LIZA CABINGTING (Continued)

1026714266

Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: LIZA CABINGTING
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44621 LA PAZ RD
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 951-764-9406
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: LIZA CABINGTING
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44621 LA PAZ RD
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 951-764-9406
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20210126
Handler Name: LIZA CABINGTING
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

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

14
NE
< 1/8
0.099 mi.
521 ft.

UP2 HOLDINGS, LLC 0249
29980 TEMECULA PKWY
TEMECULA, CA 92592

CERS HAZ WASTE
CERS TANKS
CERS
HWTS

S124918203
N/A

Relative:
Higher
Actual:
1021 ft.

CERS HAZ WASTE:
Name: UP2 HOLDINGS, LLC 0249
Address: 29980 TEMECULA PKWY
City,State,Zip: TEMECULA, CA 92592
Site ID: 438859
CERS ID: 10758577
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: UP2 HOLDINGS, LLC 0249
Address: 29980 TEMECULA PKWY
City,State,Zip: TEMECULA, CA 92592
Site ID: 438859
CERS ID: 10758577
CERS Description: Underground Storage Tank

CERS:
Name: UP2 HOLDINGS, LLC 0249
Address: 29980 TEMECULA PKWY
City,State,Zip: TEMECULA, CA 92592
Site ID: 438859
CERS ID: 10758577
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-04-2021
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

prevention equipment inspection for 36 months.
Violation Notes: Returned to compliance on 10/07/2021.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-21-2018
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.
Violation Notes: Returned to compliance on 08/16/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-15-2020
Citation: HSC 6.7 25290.1(c)(3),25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3),25290.2(c)(3)
Violation Description: Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003.
Violation Notes: Returned to compliance on 08/05/2020. OBSERVATION: Observed approximately an inch of water in both the 87 and 91 fill sumps. CORRECTIVE ACTION: Owner/operator shall investigate the cause of the water intrusion into the 87 and 91 fill sumps and make the necessary repairs to eliminate the intrusion of water into the containment sump. UST systems built after 7/1/03 shall prevent water intrusion into the secondary containment system. A consultation with the Hazmat Branch area plan checker may be necessary prior to repairs or installation of equipment as plans may be required.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
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 a site map with all required content.
Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: Site map submitted in CERS was missing numerous required items. See notes in CERS for correction. CORRECTIVE ACTION: Owner/operator shall complete an annotated site map which includes all elements outlines in CA Health and Safety Code and submit into the statewide information management system at <http://cers.calepa.ca.gov>.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Date: 05-15-2020
Citation: 23 CCR 16 2712(b)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(2)
Violation Description: Failure to maintain monitoring records for release detection and/or maintain records of appropriate follow-up actions.
Violation Notes: Returned to compliance on 08/05/2020. OBSERVATION: Owner/operator unable to produce monitoring and/or maintenance records for all alarms cleared on 10/31/2019 DO monthly inspection report. Observed work orders 414591, 414172, and 415589 documented on the monthly inspection report but not attached to the monthly inspection and/or in sequential order in the work orders section of the compliance binder. CORRECTIVE ACTION: Owner/operator shall ensure monitoring and maintenance records are completed and maintained on site readily available for review. Provide copy of missing item(s) to the CUPA at jzelon@rivco.org.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 40 CFR 1 265.35 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.35
Violation Description: Failure to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.
Violation Notes: Returned to compliance on 08/10/2021. OBSERVATION: Observed hazardous waste storage area to be not easily accessible/without adequate aisle space. Observed food waste drums to be blocking hazardous waste drums. CORRECTIVE ACTION: Owner/operator shall maintain adequate aisle space in hazardous waste storage areas for personnel and fire protection equipment. Reorganize waste storage area to make easily accessible. Provide photo proof to jzelon@rivco.org.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 09/09/2021. OBSERVATION: Observed incorrectly posted NFPA-704 signs located at Side Door to Kitchen/CO2 bulk storage tank area. Specifically, the numbers 2-blue, 0-red, 0-yellow were incorrect based on the chemicals observed during the inspection. Observed placard not posted at front area. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and replace incorrect NFPA-704 signs. The placard for Bulk CO2 should read 3-blue, 0-red, 0-yellow, "SA" or Simple Asphyxiate-white. Submit photos to this department at jzelon@rivco.org.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-26-2019
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Description: Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure, hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.).
Violation Notes: Returned to compliance on 06/26/2019. OBSERVATION: Observed that the most recent monitoring certification was conducted at this facility on 6/26/2018. The monitoring system certification which occurred prior to this one was on 5/21/2018. The period elapsed between these certifications is 1 month. A review of records indicates that this facility is due for the next monitoring system certification during the month of May 2020. Facility was Notified of being in Violation 6/13/2019 by this Department. CORRECTIVE ACTION: Owner/operator shall certify the continuous monitoring system as required every 12 months. Violation was corrected onsite. The next monitoring system certification is due May 2020.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8)
Violation Description: Failure to submit or maintain a current facility plot plan.
Violation Notes: Returned to compliance on 09/24/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
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 a site map with all required content.
Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: Site map submitted in CERS was missing numerous required items. Please see notes in CERS for correction. CORRECTIVE ACTION: Owner/operator shall complete an annotated site map which includes all elements outlines in CA Health and Safety Code and submit into the statewide information management system at <http://cers.calepa.ca.gov>.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: 23 CCR 16 2712(i), 2632(d)(2), 2634(e), 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i), 2632(d)(2),

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

2634(e), 2641(h)
Violation Description: Failure to submit a current UST Response Plan available on site.
Violation Notes: Returned to compliance on 09/24/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
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 09/24/2018. OBSERVATION: The most recent business plan submission in the statewide information management system (CERS) failed to contain a chemical inventory description page for car wash soaps. In addition, corrections to inventory pages noted in CERS are needed. CORRECTIVE ACTION: Owner/operator shall complete a chemical inventory page for all reportable hazardous materials on site and submit to the statewide information management system at <http://cers.calepa.ca.gov>.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-26-2019
Citation: 23 CCR 16 2712(b)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(2)

Violation Description: Failure to maintain monitoring records for release detection and/or maintain records of appropriate follow-up actions.

Violation Notes: Returned to compliance on 11/08/2019. OBSERVATION: Owner/operator failed to maintain logs detailing quantity of monitoring liquid used to fill reservoirs and in which reservoir (e.g., UDC, sump) liquid was required and/or employees removal of water from sumps after rain events. Observed DO report date 1/22/19 stating that brine alarms (1/7/19 and 1/15/19) were corrected via employees adding brine. But observed no brine logs present onsite/available. Observed DO report date 2/20/2019 stating that liquid alarms in sumps (2/4/19 and 2/14/19) were cleared via employees removing water from sumps. But observed no water removal logs present onsite/available. Current employee onsite said that the current owner does not allow employees to add brine or remove water and was unaware of previous ownership activities or logs. CORRECTIVE ACTION: Owner/operator shall complete and maintain a log detailing quantity of monitoring liquid used to fill reservoirs at each location required and maintain a log for water removal [Truncated]

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-26-2019

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)

Violation Description: Failure to comply with one or more of the following overflow prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overflow prevention equipment that does not use flow restrictors on vent piping to meet overflow prevention equipment requirements when the overflow prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overflow prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overflow prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 07/24/2019. OBSERVATION: An overflow equipment inspection was not completed by the October 13, 2018 deadline. CORRECTIVE ACTION: Owner/operator shall immediately schedule and complete an overflow equipment inspection providing the required 48 hour notification prior to conducting the inspection. Inspection results and all supporting documentation (inspection procedures used, tank charts, printouts, etc.) must be submitted to this Department within 30 days upon completion of the inspection.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 04-22-2020
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173

Violation Description: Failure to meet the following container management requirements: (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

Violation Notes: Returned to compliance on 08/05/2020. OBSERVATION: Observed solid waste drum/drum nearest entrance to trash enclosure without lock ring properly in place. CORRECTIVE ACTION: Owner/operator shall maintain all hazardous waste containers closed with locking ring or other seal in place when not adding/removing liquid/volatile hazardous waste. Provide photos of properly closed drums with lock rings in place to J.Zelon at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-21-2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 08/16/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-19-2021
Citation: HSC 6.7 25290.1(e) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(e)
Violation Description: Failure to maintain the interstitial space such that a breach in the primary or secondary containment is detected before the liquid or vapor phase of the hazardous substance stored in the UST tank is released into the environment, i.e., vapor, pressure, hydrostatic (VPH) monitoring.
Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Observed sensor S14 (91 Product smart sensor) fail to function properly when tested. Sensor failed to sound an audible/visual alarm when tested for high liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace failed leak detection equipment and certify that equipment functions properly. Technician on site was repairing the smart sensor to retest and passed. Violation corrected on site.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 10/10/2018. OBSERVATION: Required NFPA-704 signs were not posted for CO2 at entrance(s) to facility. The sign was posted inside convenience store above storage area. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and post proper NFPA-704 signs. Signs shall be posted outside at entrances to facility. Submit photos to this department.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-10-2021
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Ordinance
Violation Notes: Returned to compliance on 09/09/2021. OBSERVATION: Observed incorrectly posted NFPA-704 signs located at kitchen back door and posted above CO2 bulk tank. Specifically, the numbers 2-blue, 0-yellow, 0-red were incorrect based on the chemicals observed during the inspection. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and replace incorrect NFPA-704 signs. CO2 NFPA is 3-blue, 0-red, 0-yellow, SA in white. Submit photos to this department.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
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 a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: An incomplete Business Plan was submitted into the statewide information management system. Specifically, inventory pages for car wash soaps and training plan is missing. CORRECTIVE ACTION: Owner/operator shall submit all required Business Plan sections into the statewide information management system at <http://cers.calepa.ca.gov>.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173

Violation Description: Failure to meet the following container management requirements: (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

Violation Notes: Returned to compliance on 08/10/2021. OBSERVATION: Observed solid hazardous waste drum without lock ring properly in place and liquid hazardous waste storage drum stored without bung cap maintained in place. CORRECTIVE ACTION: Owner/operator shall maintain all hazardous waste containers closed with locking ring or other seal in place when not adding/removing liquid/volatile hazardous waste. Facility was able to provide bung cap in place but lock ring screw was observed by facility employee to be too short to properly maintain solid hazardous waste drum closed.

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Date: 05-19-2021
Citation: 23 CCR 16 2641(j) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(j)
Violation Description: Failure of the leak detection equipment to be installed, calibrated, operated, and/or maintained properly.
Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Observed sensor S14 (91 Product smart sensor) fail to function properly when tested. Sensor failed to sound an audible/visual alarm when tested for high liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace failed leak detection equipment and certify that equipment functions properly. Technician on site was repairing the smart sensor to retest and passed. Violation corrected on site.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-10-2021
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 09/09/2021. See number 15 regarding NFPA-704 proper signage.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-30-2021
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Notes: Returned to compliance on 10/07/2021.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
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 a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: Owner/operator has previously submitted a business plan into the statewide information management system which had one or more sections rejected. Specifically, inventory/site map section was rejected for not meeting minimum standards. CORRECTIVE ACTION: Owner/operator shall review the rejection comments attached to the previously submitted business plan, make required corrections, and resubmit corrected sections into the statewide information management system at <http://cers.calepa.ca.gov>.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174
Violation Description: Failure to inspect hazardous waste storage areas at least weekly and look for leaking and deteriorating containers.
Violation Notes: Returned to compliance on 08/10/2021. OBSERVATION: Observed multiple violations at the hazardous waste storage area: Incomplete labels, bungs and lock rings not maintained in place, releases on the tops of drums, etc. That show the lack of effective weekly hazardous waste storage inspections. CORRECTIVE ACTION: Owner/operator shall perform weekly hazardous waste storage inspections and correct any deficiencies observed during weekly hazardous waste storage area inspections.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-19-2021
Citation: 23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Description: Failure of the functional line leak detector (LLD) monitoring pressurized piping to meet one or more of the following requirements: Monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour leak at 10 pounds per square inch and restrict or shut off the flow of product through the piping when a leak is detected.
Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Observed Diesel product leak detector fail to detect a 3.0 gallon per hour leak and

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

restrict or shut off flow of product when tested. CORRECTIVE ACTION: Owner/operator shall repair/replace failed leak detector and certify that leak detector is capable of detecting a 3.0 gallon per hour leak and slowing/stopping the flow of product. 48 hour notification required to be submitted to this Department prior to re-testing failed leak detector. Diesel lines are being purged to remove possible air in piping to retest the leak detector by technician on site. Violation corrected on site.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712

Violation Description: Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.

Violation Notes: Returned to compliance on 09/24/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
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 07/09/2021. OBSERVATION: Observed incomplete labels on both the liquid and solid waste containers for accumulation start date. CORRECTIVE ACTION: Owner/operator shall label hazardous waste containers with all the required information. Label shall include at least: the words ""hazardous waste"", generator name and address, accumulation start date, composition and physical state of waste, and hazardous property statement. Facility provided the labels filled out according to manifests available onsite. Violation was corrected onsite.

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-19-2021
Citation: 23 CCR 16 2637.1(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637.1(e)

Violation Description: Failure to submit a copy of the spill containment test results on the Spill Container Testing Report Form to the UPA within 30 days after the test.

Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Owner/operator failed to submit the annual spill containment forms to this Department

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

within 30 days of testing. Results for spill containment testing conducted on 5/15/2020 were submitted late on 6/16/2020 to the Department. CORRECTIVE ACTION: Owner/operator shall ensure 12 month spill containment results are submitted to the CUPA within 30 days of testing.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
Citation: Un-Specified

Violation Description: Business Plan Program - Administration/Documentation - General Local Ordinance

Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: No emergency contact posting was observed. CORRECTIVE ACTION: Owner/operator shall post emergency contact information in a conspicuous location.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-26-2019
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)

Violation Description: For designated operator (DO) monthly inspections conducted before October 1, 2018, failure to comply with one or more of the following requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(c). For designated operator (DO) 30 day inspections conducted on and after October 1, 2018, failure to conduct the designated UST operator visual inspection at least once every 30 days.

Violation Notes: Returned to compliance on 11/08/2019. OBSERVATION: Observed that Designated Operator inspections are being improperly performed. Observed more than 30 days between DO inspections 12/19/18-1/22/19 and 3/15/19-4/28/19. Observed "No Alarms" recorded for 4/28/19 DO report when there had been s:14 91 product line alarms on 3/17/19 and 3/19/19 with required follow up from DO report 3/15/19. CORRECTIVE ACTION: Owner/operator shall ensure that the Designated Operator is properly conducting inspections, noting observations, reviewing paperwork and alarm history reports, attaching required documentation and any other DO required functions.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3)
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 08/10/2021. OBSERVATION: The chemical inventory description page submitted for CO2 contained incorrect information. Facility CERS reported 1200 cubic feet of gaseous CO2. Facility has a large LIQUID CO2 bulk tank onsite. Bulk tanks this size typically hold 45 gallons or so of CO2. Confirm with facility's CO2 supply company and update information submitted in CERS to match amount maintained onsite CORRECTIVE ACTION: Owner/operator shall update the chemical inventory page for CO2 and submit to the statewide information management system (e.g. CERS) at <http://cers.calepa.ca.gov>. Please refer to a current Safety Data Sheet (SDS) for guidance.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-21-2018
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 09/24/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: 23 CCR 16 2715(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(e)
Violation Description: Failure to maintain a copy of the designated operator monthly inspections for the last 12 months on-site or off-site at a readily available location, if approved by the UPA.
Violation Notes: Returned to compliance on 09/24/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 08/16/2018. OBSERVATION: No training plan was submitted with the most recent business plan in the statewide information management system. CORRECTIVE ACTION: Owner/operator shall

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

develop a training plan which is reasonable and appropriate for the size of the business and the nature of the hazardous material(s) handled. Submit the training plan into the statewide information management system at <http://cers.calepa.ca.gov>.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-15-2020
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)

Violation Description: For designated operator (DO) monthly inspections conducted before October 1, 2018, failure to comply with one or more of the following requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(c). For designated operator (DO) 30 day inspections conducted on and after October 1, 2018, failure to conduct the designated UST operator visual inspection at least once every 30 days.

Violation Notes: Returned to compliance on 08/05/2020. OBSERVATION: Observed that the Designated Underground Storage Tank Operator Visual Inspection Report for 11/30/2020 was not signed by the designated UST operator and the owner/operator. CORRECTIVE ACTION: Owner/operator shall ensure that the Designated Operator is properly conducting inspections, noting observations, reviewing paperwork and alarm history reports, attaching required documentation and any other DO required functions. Owner/operator is required to sign the Designated UST Operator Visual Inspection Report within 48 hours to acknowledge any compliance issues and take appropriate corrective action to correct compliance issues.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-19-2021
Citation: 23 CCR 16 2638(d) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638(d)

Violation Description: Failure to submit the Monitoring System Certification Form to the UPA within 30 days of completion of the test.

Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Owner/operator failed to submit the annual monitoring certification forms to this Department within 30 days of testing. Results for monitoring certification conducted on 5/15/2020 were submitted late on 6/16/2020 to the Department. CORRECTIVE ACTION: Owner/operator shall ensure 12 month monitoring certification results are submitted to the CUPA within 30 days of testing.

Violation Division: Riverside County Department of Env Health

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes: Returned to compliance on 07/09/2021. OBSERVATION: Observed missing manifests available during inspection for Hazardous Waste Solids. Last onsite/available was from 6/2019. CORRECTIVE ACTION: Operator was able to obtain the most current Solid Waste manifest for hazardous waste shipment 5/26/21 prior to my finishing writing the report. Ensure in the future that all manifests are maintained available. Violation corrected onsite.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c)
Violation Description: Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training.
Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: Facility personnel were unable to access/locate a current copy of the business plan during the inspection. CORRECTIVE ACTION: Owner/operator shall ensure a current copy of the hazardous materials business plan is readily available on site at all times when the facility is staffed.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 10/10/2018. OBSERVATION: Required NFPA-704 signs were not posted. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and post proper NFPA-704 signs. Signs shall be posted at entrances for carbon dioxide in convenience store and door to car wash chemical storage room. Submit photos to this department.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
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 09/24/2018. OBSERVATION: The most recent business plan submission in the statewide information management system (CERS) failed to contain a chemical inventory description page for car wash soaps. In addition, corrections to inventory pages noted in CERS are needed. CORRECTIVE ACTION: Owner/operator shall complete a chemical inventory page for all reportable hazardous materials on site and submit to the statewide information management system at <http://cers.calepa.ca.gov>.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 08/16/2018. OBSERVATION: Owner/Operator failed to post signage for fire extinguishers on site. CORRECTIVE ACTION: Owner/operator shall clearly identify the locations where all emergency equipment is stored by posting signs where fire extinguishers are located.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31
Violation Description: Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
Violation Notes: Returned to compliance on 08/10/2021. OBSERVATION: Observed evidence of releases on top of the liquid hazardous waste drum. CORRECTIVE ACTION: Owner/operator shall clean and maintain the hazardous waste drums to be free of releases, and manage according to Title 22 hazardous waste regulations. Submit a statement and supporting documentation (photos) explaining how this waste was managed to this department.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-19-2021
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 05/19/2021. OBSERVATION: Observed sensor S14 (91 Product smart sensor) fail to function properly when tested. Sensor failed to sound an audible/visual alarm when tested for high liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace failed leak detection equipment and certify that equipment functions properly. Technician on site was repairing the smart sensor to retest and passed. Violation corrected on site.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 08-16-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Administration/Documentation - General Local Ordinance
Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: No emergency contact posting was observed. CORRECTIVE ACTION: Owner/operator shall post emergency contact information in a conspicuous location.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
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: Returned to compliance on 08/16/2018. OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 04-22-2020
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Notes: date.
Returned to compliance on 08/05/2020. OBSERVATION: Observed incomplete labels on both the Liquid and Solid waste drums at outdoor trash area storage. Information missing included accumulation start date at drum nearest gate and no label visible at drum to the rear of enclosure. CORRECTIVE ACTION: Owner/operator shall label hazardous waste containers with all the required information. Label shall include at least: the words ""hazardous waste"", generator name and address, accumulation start date, composition and physical state of waste, and hazardous property statement. Submit photos to this department, if applicable. Provide photos to J. Zelon at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 06-26-2019
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2

Violation Description: "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "

Violation Notes: Returned to compliance on 06/26/2019. OBSERVATION: Observed most recent spill container testing to have occurred 6/26/19. Observed previous spill container testing to have been done 5/21/2018 with Monitoring Certification. More than 12 months have lapsed since previous spill container testing was conducted. ACTION: Owner/operator shall ensure that spill containers are tested every 12 months. Violation was corrected onsite due to passing results on spill container testing conducted 6/26/19.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-15-2020
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712

Violation Description: Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.

Violation Notes: Returned to compliance on 08/05/2020. OBSERVATION: Observed work order 418479 dated 11/21/2019 from Fastech tech Bryan Dutchen used to clear L5 alarms at UDC 9/10 to describe tech filling the UDC with 3 gallons of BLUE propylene glycol. Facility has BRAVO UDCs which are required to be filled with only the manufacturer recommended hydrostatic fluid which is RED/PINK. Filling the UDCS with the improper fluid may cause liquid to congeal and has been known to cause various issues with alarms and performance. CORRECTIVE ACTION: Owner/operator provided UDC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

9/10 drained, air tested, and properly refilled on 4/22/2020 with BRAVO fluid following multiple alarms/issues facility had been having with this UDC. Follow up with FASTECH regarding this work order and their failure to comply with BRAVO standards. Provide proof of follow up to J. Zelon of this Department at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: 40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii)

Violation Description: Failure to ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

Violation Notes: Returned to compliance on 08/10/2021. OBSERVATION: Observed hazardous waste storage and food grease and pork fat storage area to be not properly maintained. Observed Hazardous waste containers to not have lids or bung caps in place, observed spillage/liquid releases on top of the lids of the hazardous waste drums, and Hazardous waste labels to be missing accumulation start dates. Note: Observed food grease and pork fat drum and container also missing their lids (non-hazmat but is a vermin harborage/vector issue). CORRECTIVE ACTION: Owner/operator shall ensure all employees are properly trained in order to ensure appropriate safety and knowledge of hazardous wastes on site. Retain proof of proper training on site. Template for training will be provided to facility. Ensure effective employee training on hazardous waste storage drums/area is provided and proof of training is provided to J. Zelon at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-10-2018
Citation: HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c)

Violation Description: Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training.

Violation Notes: Returned to compliance on 09/24/2018. OBSERVATION: Facility personnel were unable to access/locate a current copy of the business plan during the inspection. CORRECTIVE ACTION: Owner/operator shall ensure a current copy of the hazardous materials business plan is readily available on site at all times when the facility is staffed.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 09-24-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Violation Notes: Ordinance
Returned to compliance on 10/10/2018. OBSERVATION: Required NFPA-704 signs were not posted. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and post proper NFPA-704 signs. Signs shall be posted at entrance(s) to facility. Submit photos to this department.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 07-09-2021
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance

Violation Notes: Returned to compliance on 09/09/2021. OBSERVATION: Observed incorrectly posted NFPA-704 signs located at kitchen area CO2 storage area. Specifically, the numbers 2-blue, 0-red, 0-yellow were incorrect based on the chemicals observed during the inspection. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and replace incorrect NFPA-704 signs. Submit photos to this department at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Violation Date: 05-21-2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)

Violation Description: Failure to have an approved UST Monitoring Plan.

Violation Notes: Returned to compliance on 08/16/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Evaluation:

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-22-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted during plan check inspection conducted for UDC#5/6, 9/10, and 13/14.

Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-15-2020
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted in conjunction with annual monitoring certification. Petroleum Tank Testers on site to perform annual monitoring certification.

Eval Division: Riverside County Department of Env Health

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-21-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-09-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection of facility that is a fuel station and mini mart.
Facility generates hazardous waste streams: Liquid fuel contaminated waste and Solid fuel contaminated waste.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-04-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-16-2018
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-22-2020
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted during plan check activities for UDC# 5/6, 9/10, and 13/14.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-19-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspection conducted at time of annual monitoring certification.
Technician also performing triennial overfill inspection today.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-13-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Email to Stephanie Ferguson for not conducting the UST monitoring cert. Last one conducted on 5/21/18. Facility had a change of ownership and name 4/19/19.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 06-30-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: NOV issued for failed OPEI.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 07-09-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection conducted to observe Overfill final following repair/replacement of overfill drop tubes (mechanical overfill devices) at 87, 91, and diesel fuel tanks. Observed Fuel Pros onsite to conduct final inspection. Technician Certs for Edwin Coreas Gonzalez: ICC Tech 8852469 exp 4/22/23, OPW 100803 exp 5/13/22, VeederRoot B34020 exp 5/22/23. Observed the following measurements taken at time of inspection: *20000 gallon Xerxes 87-tank valve set at 104 1/4 *12000 gallon Xerxes 91-tank valve set at 104 1/4 *10000 gallon Xerxes diesel tank valve set at 104 1/2 All tanks set for slightly below 95% shut off according to technician's tank chart. Technician shall be indicating passing results according to tanks and tank chart. Violation shall be marked corrected.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-10-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Facility opened less than two months ago and has not accumulated any haz waste in drums as of today.

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-05-2020
Violations Found: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection for violations observed 4/22/2020. Observed violations corrected. Ensure once hazardous waste is added to the Hazardous waste drums that an accumulation start date is posted on Hazardous waste labels. Observed hazardous waste drums empty with no space for labeling accumulation start date at this time.

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 09-24-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 09-24-2018
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-08-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection conducted for open violations from 6/26/2019 routine inspection/annual monitoring certification. Observed that facility is currently maintaining alarm logs appropriately along with maintenance logs and that DO monthly inspections have been being properly performed. Ensure that sections V and VI are completed as required. Observed one monthly with a blank VI section. Also, observed that facility has had several low liquid alarms in the last few months. Fastek has been used to resolve these alarms but did not see evidence that facility has attempted to find the sources of possible UST system leaks, etc. Ensure that if low liquid alarms continue that facility attempt to find the source of these leaks that may be causing these alarms.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-26-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine UST inspection conducted in conjunction with annual monitoring certification. Facility was notified/exchanged email correspondence with this Department following violation issued 6/13/19 for annual monitoring certification past due.

Eval Division: Riverside County Department of Env Health

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-09-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection of a fuel station with mini mart. Facility has 3 fuel tanks and a bulk CO2 tank onsite for soda. Observed facility carwash to not be in operation due to Covid-19 and to not currently have car wash chemicals onsite. Facility usually would have carwash chemicals.

Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 07-10-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-10-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-10-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection for violations during routine inspection 7/9/21. Observed all violations corrected regarding hazardous waste storage area. Observed food waste at enclosure and facility manager stated that there are issues with the other complex restaurants not properly bagging and placing their food waste. Will forward to the foods side of this Department-Murrieta DES.

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-10-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection for violations observed 7/9/2021 at routine inspection.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Eval General Type: Other/Unknown
Eval Date: 10-10-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-05-2020
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reinspection for violations observed 5/15/2020.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-10-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Delivery of OPE inspection violation notice issued by L. Powell
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-16-2018
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Enforcement Action:
Site ID: 438859
Site Name: UP2 Holdings, LLC 0249
Site Address: 29980 TEMECULA PKWY
Site City: TEMECULA
Site Zip: 92592
Enf Action Date: 07-25-2019
Enf Action Type: AEO - Unified Program
Enf Action Description: Administrative Enforcement Order Based on the Unified Program Statute
Enf Action Notes: Fines/Penalties Assessed: \$8,000.00.
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Operator
Entity Name: UP2 Holding, LLC 0249
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: (310) 323-3992,

Affiliation Type Desc: Document Preparer
Entity Name: Tom Robins
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: UST Tank Owner
Entity Name: UP2 Holdings, LLC
Entity Title: Not reported
Affiliation Address: 4130 Cover Street
Affiliation City: Long Beach
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90808
Affiliation Phone: (310) 323-3992,

Affiliation Type Desc: Environmental Contact
Entity Name: Tom Robins
Entity Title: Not reported
Affiliation Address: 4130 Cover Street
Affiliation City: Long Beach
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 90808
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Tom Robins
Entity Title: Staff Geologist
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: UP2 Holdings, LLC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Entity Title: Not reported
Affiliation Address: 4130 Cover Street
Affiliation City: Long Beach
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90808
Affiliation Phone: (310) 323-3992,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 29980 Temecula Pkwy.
Affiliation City: Temecula
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92592
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: APRO 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: Property Owner
Entity Name: Pacific Real Estate
Entity Title: Not reported
Affiliation Address: 29980 Temecula Pkwy
Affiliation City: Temecula
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92592
Affiliation Phone: (909) 709-8434,

Affiliation Type Desc: UST Property Owner Name
Entity Name: Pacific Real Estate
Entity Title: Not reported
Affiliation Address: 29980 Temecula Pkwy.
Affiliation City: Temecula
Affiliation State: Ca
Affiliation Country: United States
Affiliation Zip: 92592
Affiliation Phone: (909) 709-8434,

Affiliation Type Desc: UST Tank Operator
Entity Name: UP2 Holdings, LLC
Entity Title: Not reported
Affiliation Address: 4130 Cover Street
Affiliation City: Long Beach
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90808
Affiliation Phone: (310) 323-3992,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

HWTS:

Name: GATEWAY 79 INC DBA GATEWAY CHEVRON
Address: 29980 TEMECULA PKWY
Address 2: Not reported
City,State,Zip: TEMECULA, CA 92592
EPA ID: CAL000430562
Inactive Date: 06/30/2021
Create Date: 09/08/2017
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 29980 TEMECULA PKWY
Mailing Address 2: Not reported
Mailing City,State,Zip: TEMECULA, CA 92592
Owner Name: GATEWAY 79 INC
Owner Address: 29980 TEMECULA PKWY
Owner Address 2: Not reported
Owner City,State,Zip: TEMECULA, CA 92592
Contact Name: OSCAR ORTIZ
Contact Address: 4740 GREEN RIVER ROAD
Contact Address 2: Not reported
City,State,Zip: CORONA, CA 928800000
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 33.47973
Longitude: -117.1368045

NAICS:

EPA ID: CAL000430562
Create Date: 2017-09-08 15:01:35.610
NAICS Code: 44719
NAICS Description: Other Gasoline Stations
Issued EPA ID Date: 2017-09-08 15:01:35.60700
Inactive Date: Not reported
Facility Name: GATEWAY 79 INC DBA GATEWAY CHEVRON
Facility Address: 29980 TEMECULA PKWY
Facility Address 2: Not reported
Facility City: TEMECULA
Facility County: Not reported
Facility State: CA
Facility Zip: 92592

Name: UP2 HOLDINGS LLC 0249
Address: 29980 TEMECULA PKWY
Address 2: Not reported
City,State,Zip: TEMECULA, CA 91301
EPA ID: CAL000462763
Inactive Date: Not reported
Create Date: 05/24/2021
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 4130 COVER ST
Mailing Address 2: Not reported
Mailing City,State,Zip: LONG BEACH, CA 90808
Owner Name: UP 2 HOLDINGS, LLC
Owner Address: 4130 COVER ST

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

UP2 HOLDINGS, LLC 0249 (Continued)

S124918203

Owner Address 2: Not reported
 Owner City,State,Zip: LONG BEACH, CA 90808
 Contact Name: UMANGDEEP SINGH
 Contact Address: 4130COVER ST
 Contact Address 2: Not reported
 City,State,Zip: LONG BEACH, CA 90808
 Facility Status: Active
 Facility Type: PERMANENT
 Category: STATE
 Latitude: 33.47973301
 Longitude: -117.136805

NAICS:

EPA ID: CAL000462763
 Create Date: 2021-05-24 10:57:11.147
 NAICS Code: 447190
 NAICS Description: Other Gasoline Stations
 Issued EPA ID Date: 2021-05-24 10:57:11.14700
 Inactive Date: Not reported
 Facility Name: UP2 HOLDINGS LLC 0249
 Facility Address: 29980 TEMECULA PKWY
 Facility Address 2: Not reported
 Facility City: TEMECULA
 Facility County: Not reported
 Facility State: CA
 Facility Zip: 91301

C15
SE
 < 1/8
 0.102 mi.
 539 ft.

MELISSA URIBE AND BYRON MEDINA
44582 LA PAZ RD.
TEMECULA, CA 92592

RCRA NonGen / NLR 1026812675
CAC003125200

Site 1 of 4 in cluster C

Relative:
Higher
Actual:
1010 ft.

RCRA NonGen / NLR: 20210617
 Date Form Received by Agency: 20210617
 Handler Name: MELISSA URIBE AND BYRON MEDINA
 Handler Address: 44582 LA PAZ RD.
 Handler City,State,Zip: TEMECULA, CA 92592
 EPA ID: CAC003125200
 Contact Name: MELISSA URIBE AND BYRON MEDINA
 Contact Address: 44582 LA PAZ RD.
 Contact City,State,Zip: TEMECULA, CA 92592
 Contact Telephone: 909-644-5759
 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: 44582 LA PAZ RD.
 Mailing City,State,Zip: TEMECULA, CA 92592

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MELISSA URIBE AND BYRON MEDINA (Continued)

1026812675

Owner Name:	MELISSA URIBE AND BYRON MEDINA
Owner Type:	Other
Operator Name:	MELISSA URIBE AND BYRON MEDINA
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	20210618
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MELISSA URIBE AND BYRON MEDINA (Continued)

1026812675

Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:

Owner/Operator Indicator: Operator
Owner/Operator Name: MELISSA URIBE AND BYRON MEDINA
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44582 LA PAZ RD.
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 909-644-5759
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MELISSA URIBE AND BYRON MEDINA
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44582 LA PAZ RD.
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 909-644-5759
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20210617
Handler Name: MELISSA URIBE AND BYRON MEDINA
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

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ANTHONY VIRAVONG (Continued)

1026818145

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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:	20210729
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:	ANTHONY VIRAVONG
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44602 LA PAZ ROAD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592
Owner/Operator Telephone:	808-450-9536
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	ANTHONY VIRAVONG
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	44602 LA PAZ ROAD
Owner/Operator City,State,Zip:	TEMECULA, CA 92592
Owner/Operator Telephone:	808-450-9536
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ANTHONY VIRAVONG (Continued)

1026818145

Historic Generators:

Receive Date:	20210723
Handler Name:	ANTHONY VIRAVONG
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
--------------	----------------------

C17
SSE
 1/8-1/4
 0.133 mi.
 704 ft.

NADER SHAABAN
44605 LA PAZ ROAD
TEMECULA, CA 92592

RCRA NonGen / NLR

1024760055
CAC002979907

Site 3 of 4 in cluster C

Relative:
Lower
Actual:
1003 ft.

RCRA NonGen / NLR:	
Date Form Received by Agency:	20180912
Handler Name:	NADER SHAABAN
Handler Address:	44605 LA PAZ ROAD
Handler City,State,Zip:	TEMECULA, CA 92592
EPA ID:	CAC002979907
Contact Name:	NADER SHAABAN
Contact Address:	44605 LA PAZ ROAD
Contact City,State,Zip:	TEMECULA, CA 92592
Contact Telephone:	972-465-0609
Contact Fax:	Not reported
Contact Email:	VIANCATARANGO@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:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	44605 LA PAZ ROAD
Mailing City,State,Zip:	TEMECULA, CA 92592
Owner Name:	NADER SHAABAN

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

NADER SHAABAN (Continued)

1024760055

Owner Type:	Other
Operator Name:	NADER SHAABAN
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 Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRC Permit Baseline:	Not on the Baseline
2018 GPRC Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRC Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDs Where RCRA CA has Been Imposed Universe:	No
TSDs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDs Only Subject to CA under Discretionary Auth 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
Operating TSD Universe:	Not reported
Full Enforcement Universe:	Not reported
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NADER SHAABAN (Continued)

1024760055

Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: NADER SHAABAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44605 LA PAZ ROAD
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 972-465-0609
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NADER SHAABAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 44605 LA PAZ ROAD
Owner/Operator City,State,Zip: TEMECULA, CA 92592
Owner/Operator Telephone: 972-465-0609
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20180912
Handler Name: NADER SHAABAN
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

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

<p>C18 SSE 1/8-1/4 0.133 mi. 704 ft.</p>	<p>NADER SHAABAN 44605 LA PAZ ROAD TEMECULA, CA 92592</p>	<p>RCRA NonGen / NLR</p>	<p>1024760058 CAC002979910</p>
<p>Relative: RCRA NonGen / NLR: Lower Date Form Received by Agency: 20180912 Actual: Handler Name: NADER SHAABAN 1003 ft. Handler Address: 44605 LA PAZ ROAD Handler City,State,Zip: TEMECULA, CA 92592 EPA ID: CAC002979910 Contact Name: NADER SHAABAN Contact Address: 29964 PEACH TREE COURT Contact City,State,Zip: MURRIETA, CA 92563 Contact Telephone: 972-465-0609 Contact Fax: Not reported Contact Email: VIANCATARANGO@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: Handler Activities State District Owner: Not reported State District: Not reported Mailing Address: 29964 PEACH TREE COURT Mailing City,State,Zip: MURRIETA, CA 92563 Owner Name: NADER SHAABAN Owner Type: Other Operator Name: NADER SHAABAN 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 Fed-Reg Treatment Storage and Disposal Facility: Not reported Active Site Converter Treatment storage and Disposal Facility: Not reported Active Site State-Reg Treatment Storage and Disposal Facility: Not reported Active Site State-Reg Handler: --- Federal Facility Indicator: Not reported Hazardous Secondary Material Indicator: N Sub-Part K Indicator: Not reported Commercial TSD Indicator: No Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Permit Renewals Workload Universe: Not reported</p>			

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

NADER SHAABAN (Continued)

1024760058

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth 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
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
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

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NADER SHAABAN
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	29964 PEACH TREE COURT
Owner/Operator City,State,Zip:	MURRIETA, CA 92563
Owner/Operator Telephone:	972-465-0609
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NADER SHAABAN
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	29964 PEACH TREE COURT
Owner/Operator City,State,Zip:	MURRIETA, CA 92563
Owner/Operator Telephone:	972-465-0609
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NADER SHAABAN (Continued)

1024760058

Historic Generators:

Receive Date: 20180912
Handler Name: NADER SHAABAN
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

D19
East
1/8-1/4
0.137 mi.
721 ft.

UP2 HOLDINGS, LLC 0249
29980 TEMECULA PKWY
TEMECULA, CA 92592

UST U004354663
N/A

Site 1 of 2 in cluster D

Relative:
Higher

RIVERSIDE CO. UST:

Name: UP2 HOLDINGS, LLC 0249
Address: 29980 TEMECULA PKWY
City,State,Zip: TEMECULA, CA 92592
Region: RIVERSIDE
Total Tanks: 3

Actual:
1022 ft.

UST:

Name: UP2 HOLDINGS, LLC 0249
Address: 29980 TEMECULA PKWY
City,State,Zip: TEMECULA, CA 92592
Facility ID: FA0046956
Permitting Agency: Riverside County Department of Environmental Health
CERSID: 10758577
Latitude: 33.4782
Longitude: -117.13547

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

D20 East 1/8-1/4 0.137 mi. 721 ft.	UNITED PACIFIC 0249 29980 TEMECULA PKWY TEMECULA, CA 92592 Site 2 of 2 in cluster D	UST	U004354662 N/A
---	--	------------	---------------------------------

Relative: Higher Actual: 1022 ft.	UST: Name: UNITED PACIFIC 0249 Address: 29980 TEMECULA PKWY City,State,Zip: TEMECULA, CA 92592 Facility ID: FA0046956 Permitting Agency: Riverside County Department of Environmental Health CERSID: Not reported Latitude: 33.4782 Longitude: -117.13547	
--	--	--

21 WNW 1/4-1/2 0.275 mi. 1454 ft.	TEMECULA FUEL CENTER * 44987 FRONT ST TEMECULA, CA 92590	LUST	S102438480 N/A
--	---	-------------	---------------------------------

Relative: Lower Actual: 991 ft.	LUST: Name: SKS Address: 44987 FRONT ST City,State,Zip: TEMECULA, CA 92590 Lead Agency: RIVERSIDE COUNTY LOP Case Type: LUST Cleanup Site Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606501146 Global Id: T0606501146 Latitude: 33.4807047276287 Longitude: -117.143187448232 Status: Completed - Case Closed Status Date: 02/28/1994 Case Worker: RIV RB Case Number: 9UT805 Local Agency: RIVERSIDE COUNTY LOP File Location: Local Agency Warehouse Local Case Number: 87592 Potential Media Affect: Aquifer used for drinking water supply Potential Contaminants of Concern: Gasoline Site History: Not reported	Cortese ENF HIST CORTESE CERS
--	---	--

LUST:	Global Id: T0606501146 Contact Type: Local Agency Caseworker Contact Name: Riverside County LOP Organization Name: RIVERSIDE COUNTY LOP Address: 3880 LEMON ST SUITE 200 City: RIVERSIDE Email: Not reported Phone Number: 9519558980
--------------	--

LUST:	Global Id: T0606501146 Action Type: Other Date: 05/04/1989 Action: Leak Reported Global Id: T0606501146
--------------	---

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

Action Type: Other
Date: 09/30/1988
Action: Leak Stopped

Global Id: T0606501146
Action Type: ENFORCEMENT
Date: 01/27/2009
Action: Closure/No Further Action Letter - #Site Closure

Global Id: T0606501146
Action Type: ENFORCEMENT
Date: 01/26/2009
Action: File review - #RCDEH Upload Site File 10/27/2015

Global Id: T0606501146
Action Type: ENFORCEMENT
Date: 01/26/2009
Action: Other Report - #UST Sample Analytical Report

Global Id: T0606501146
Action Type: Other
Date: 07/31/1987
Action: Leak Discovery

Global Id: T0606501146
Action Type: ENFORCEMENT
Date: 02/19/1988
Action: * Historical Enforcement

LUST:

Global Id: T0606501146
Status: Open - Case Begin Date
Status Date: 07/31/1987

Global Id: T0606501146
Status: Open - Site Assessment
Status Date: 10/02/1987

Global Id: T0606501146
Status: Open - Site Assessment
Status Date: 05/19/1988

Global Id: T0606501146
Status: Open - Site Assessment
Status Date: 12/12/1989

Global Id: T0606501146
Status: Open - Remediation
Status Date: 09/13/1991

Global Id: T0606501146
Status: Open - Verification Monitoring
Status Date: 03/22/1993

Global Id: T0606501146
Status: Completed - Case Closed
Status Date: 02/28/1994

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

LUST REG 9:

Region: 9
Status: Case Closed
Case Number: 9UT805
Local Case: 87-592
Substance: Gasoline
Qty Leaked: Not reported
Abate Method: EDET
Local Agency: Riverside
How Found: Other Means
How Stopped: Close Tank
Source: Unknown
Cause: Unknown
Lead Agency: Local Agency
Case Type: Aquifer affected
Date Found: 07/31/1987
Date Stopped: 09/30/1988
Confirm Date: / /
Submit Workplan: 10/2/87
Prelim Assess: 05/19/1988
Desc Pollution: 12/12/89
Remed Plan: 09/13/1991
Remed Action: Not reported
Began Monitor: 3/22/93
Release Date: 09/30/1987
Enforce Date: 2/19/88
Closed Date: 2/28/94
Enforce Type: Cleanup and Abatement Orders
Pilot Program: LOP
Basin Number: 902.30
GW Depth: 14'
Beneficial Use: Municipal groundwater use
NPDES Number: Not reported
Priority: 1A
File Dispn: Not reported
Interim Remedial Actions: Yes
Cleanup and Abatement order Number: 88-35
Waste Discharge Requirement Number: Not reported

RIVERSIDE CO. LUST:

Name: SKS
Address: 44987 FRONT ST
City,State,Zip: TEMECULA, CA
Region: RIVERSIDE
Facility ID: 87592
Employee: Brown
Site Closed: Yes
Case Type: Ground water
Facility Status: closed/action completed
Casetype Decode: Groundwater is impacted
Fstatus Decode: Closed/Action completed

CORTESE:

Name: SKS
Address: 44987 FRONT ST
City,State,Zip: TEMECULA, CA 92590

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

Region: CORTESE
Envirostor Id: Not reported
Global ID: T0606501146
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

ENF:

Name: TEMECULA FUEL CENTER
Address: 44987 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Region: 9
Facility Id: 263140
Agency Name: SKS & Bedford Properties
Place Type: Facility
Place Subtype: Not reported
Facility Type: All other facilities
Agency Type: Privately-Owned Business
Of Agencies: 1
Place Latitude: Not reported
Place Longitude: Not reported
SIC Code 1: 5541
SIC Desc 1: Gasoline Service Stations
SIC Code 2: Not reported
SIC Desc 2: Not reported
SIC Code 3: Not reported
SIC Desc 3: Not reported
NAICS Code 1: Not reported
NAICS Desc 1: Not reported
NAICS Code 2: Not reported
NAICS Desc 2: Not reported
NAICS Code 3: Not reported
NAICS Desc 3: Not reported
Of Places: 1
Source Of Facility: Reg Meas
Design Flow: Not reported
Threat To Water Quality: Not reported
Complexity: Not reported
Pretreatment: Not reported
Facility Waste Type: Not reported
Facility Waste Type 2: Not reported
Facility Waste Type 3: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

Facility Waste Type 4: Not reported
Program: UST
Program Category1: TANKS
Program Category2: TANKS
Of Programs: 1
WDID: 9 000295N98
Reg Measure Id: 161746
Reg Measure Type: Unregulated
Region: 9
Order #: Not reported
Npdes# CA#: Not reported
Major-Minor: Not reported
Npdes Type: Not reported
Reclamation: Not reported
Dredge Fill Fee: Not reported
301H: Not reported
Application Fee Amt Received: Not reported
Status: Historical
Status Date: 06/17/2005
Effective Date: Not reported
Expiration/Review Date: Not reported
Termination Date: Not reported
WDR Review - Amend: Not reported
WDR Review - Revise/Renew: Not reported
WDR Review - Rescind: Not reported
WDR Review - No Action Required: Not reported
WDR Review - Pending: Not reported
WDR Review - Planned: Not reported
Status Enrollee: N
Individual/General: Not reported
Fee Code: Not reported
Direction/Voice: Passive
Enforcement Id(EID): 220430
Region: 9
Order / Resolution Number: 88-035
Enforcement Action Type: Clean-up and Abatement Order
Effective Date: 02/19/1988
Adoption/Issuance Date: Not reported
Achieve Date: 3/18/1997
Termination Date: Not reported
ACL Issuance Date: Not reported
EPL Issuance Date: Not reported
Status: Historical
Title: Enforcement - 9 000295N98
Description: UNKNOWN
Program: UST
Latest Milestone Completion Date: 3/18/1997
Of Programs1: 1
Total Assessment Amount: 0
Initial Assessed Amount: 0
Liability \$ Amount: 0
Project \$ Amount: 0
Liability \$ Paid: 0
Project \$ Completed: 0
Total \$ Paid/Completed Amount: 0

Name: TEMECULA FUEL CENTER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

Address: 44987 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Region: 9
Facility Id: 263140
Agency Name: SKS & Bedford Properties
Place Type: Facility
Place Subtype: Not reported
Facility Type: All other facilities
Agency Type: Privately-Owned Business
Of Agencies: 1
Place Latitude: Not reported
Place Longitude: Not reported
SIC Code 1: 5541
SIC Desc 1: Gasoline Service Stations
SIC Code 2: Not reported
SIC Desc 2: Not reported
SIC Code 3: Not reported
SIC Desc 3: Not reported
NAICS Code 1: Not reported
NAICS Desc 1: Not reported
NAICS Code 2: Not reported
NAICS Desc 2: Not reported
NAICS Code 3: Not reported
NAICS Desc 3: Not reported
Of Places: 1
Source Of Facility: Reg Meas
Design Flow: Not reported
Threat To Water Quality: Not reported
Complexity: Not reported
Pretreatment: Not reported
Facility Waste Type: Not reported
Facility Waste Type 2: Not reported
Facility Waste Type 3: Not reported
Facility Waste Type 4: Not reported
Program: UST
Program Category1: TANKS
Program Category2: TANKS
Of Programs: 1
WDID: 9 000295N98
Reg Measure Id: 161746
Reg Measure Type: Unregulated
Region: 9
Order #: Not reported
Npdes# CA#: Not reported
Major-Minor: Not reported
Npdes Type: Not reported
Reclamation: Not reported
Dredge Fill Fee: Not reported
301H: Not reported
Application Fee Amt Received: Not reported
Status: Historical
Status Date: 06/17/2005
Effective Date: Not reported
Expiration/Review Date: Not reported
Termination Date: Not reported
WDR Review - Amend: Not reported
WDR Review - Revise/Renew: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

WDR Review - Rescind: Not reported
WDR Review - No Action Required: Not reported
WDR Review - Pending: Not reported
WDR Review - Planned: Not reported
Status Enrollee: N
Individual/General: Not reported
Fee Code: Not reported
Direction/Voice: Passive
Enforcement Id(EID): 220429
Region: 9
Order / Resolution Number: 97-023
Enforcement Action Type: Clean-up and Abatement Order
Effective Date: 03/18/1997
Adoption/Issuance Date: Not reported
Achieve Date: 3/18/1997
Termination Date: Not reported
ACL Issuance Date: Not reported
EPL Issuance Date: Not reported
Status: Historical
Title: Enforcement - 9 000295N98
Description: UNKNOWN
Program: UST
Latest Milestone Completion Date: Not reported
Of Programs1: 1
Total Assessment Amount: 0
Initial Assessed Amount: 0
Liability \$ Amount: 0
Project \$ Amount: 0
Liability \$ Paid: 0
Project \$ Completed: 0
Total \$ Paid/Completed Amount: 0

HIST CORTESE:

edr_fname: TEMECULA FUEL CENTER
edr_fadd1: 44987 FRONT
City,State,Zip: TEMECULA, CA 92390
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 9UT805

CERS:

Name: SKS
Address: 44987 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Site ID: 192935
CERS ID: T0606501146
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Entity Title: Not reported
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Country: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TEMECULA FUEL CENTER * (Continued)

S102438480

Affiliation Zip: Not reported
Affiliation Phone: 9519558980,

22
NW
1/4-1/2
0.378 mi.
1997 ft.

C.L. PHARRIS READY-MIX PLANT
29065 FRONT ST
TEMECULA, CA 92590

LUST
CERS HAZ WASTE
CERS TANKS
Cortese
EMI
HIST CORTESE
CERS

S102425994
N/A

Relative:
Lower

Actual:
983 ft.

LUST:

Name: C L PHARRIS SAND & GRAVEL
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Lead Agency: RIVERSIDE COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606501122
Global Id: T0606501122
Latitude: 33.4822739855325
Longitude: -117.144020906468
Status: Completed - Case Closed
Status Date: 11/07/2001
Case Worker: RIV
RB Case Number: 9UT1807
Local Agency: RIVERSIDE COUNTY LOP
File Location: Local Agency Warehouse
Local Case Number: 90657
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Diesel
Site History: Not reported

LUST:

Global Id: T0606501122
Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
City: RIVERSIDE
Email: Not reported
Phone Number: 9519558980

LUST:

Global Id: T0606501122
Action Type: ENFORCEMENT
Date: 11/06/2001
Action: File review - #RCDEH Upload Site File 5/5/2010

Global Id: T0606501122
Action Type: Other
Date: 07/20/1990
Action: Leak Reported

Global Id: T0606501122
Action Type: ENFORCEMENT
Date: 11/07/2001
Action: Closure/No Further Action Letter - #Riv Co Closure

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Global Id: T0606501122
Action Type: Other
Date: 05/18/1990
Action: Leak Stopped

Global Id: T0606501122
Action Type: Other
Date: 05/18/1990
Action: Leak Discovery

LUST:

Global Id: T0606501122
Status: Open - Case Begin Date
Status Date: 05/18/1990

Global Id: T0606501122
Status: Open - Site Assessment
Status Date: 08/15/1990

Global Id: T0606501122
Status: Open - Site Assessment
Status Date: 10/08/1990

Global Id: T0606501122
Status: Open - Remediation
Status Date: 03/01/1991

Global Id: T0606501122
Status: Open - Verification Monitoring
Status Date: 08/22/1995

Global Id: T0606501122
Status: Completed - Case Closed
Status Date: 11/07/2001

LUST REG 9:

Region: 9
Status: Post remedial action monitoring
Case Number: 9UT1807
Local Case: 90-657
Substance: Diesel
Qty Leaked: Not reported
Abate Method: Not reported
Local Agency: Riverside
How Found: Tank Closure
How Stopped: Close Tank
Source: Unknown
Cause: Unknown
Lead Agency: Local Agency
Case Type: Aquifer affected
Date Found: 05/18/1990
Date Stopped: 05/18/1990
Confirm Date: / /
Submit Workplan: 8/15/90
Prelim Assess: 10/08/1990

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Desc Pollution: Not reported
Remed Plan: 03/01/1991
Remed Action: Not reported
Began Monitor: 8/22/95
Release Date: 07/20/1990
Enforce Date: Not reported
Closed Date: Not reported
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 902.32
GW Depth: 10'
Beneficial Use: Municipal groundwater use
NPDES Number: Not reported
Priority: 2A
File Dispn: Not reported
Interim Remedial Actions: Yes
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

RIVERSIDE CO. LUST:

Name: C L PHARRIS SAND & GRAVEL
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA
Region: RIVERSIDE
Facility ID: 90657
Employee: Winters
Site Closed: Yes
Case Type: Drinking Water Aquifer affected
Facility Status: closed/action completed
Casetype Decode: An Aquifer used for Drinking Water supply has been contaminated.
Fstatus Decode: Closed/Action completed

CERS HAZ WASTE:

Name: CEMEX CONSTRUCTION MATERIALS PACIFIC, LLC
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Site ID: 104015
CERS ID: 10316872
CERS Description: Hazardous Waste Generator

CERS TANKS:

Name: CEMEX CONSTRUCTION MATERIALS PACIFIC, LLC
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Site ID: 104015
CERS ID: 10316872
CERS Description: Underground Storage Tank

CORTESE:

Name: C L PHARRIS SAND & GRAVEL
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0606501122

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

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

EMI:

Name: C.L. PHARRIS READY MIX CONCRET
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Year: 1990
County Code: 33
Air Basin: SC
Facility ID: 47853
Air District Name: SC
SIC Code: 3273
Air District Name: SOUTH COAST AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 1
Part. Matter 10 Micrometers and Smlr Tons/Yr:1

HIST CORTESE:

edr_fname: C.L. PHARRIS READY-MIX PL
edr_fadd1: 29065 FRONT
City,State,Zip: TEMECULA, CA 92390
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 9UT1807

CERS:

Name: CEMEX CONSTRUCTION MATERIALS PACIFIC, LLC
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Site ID: 104015
CERS ID: 10316872
CERS Description: Chemical Storage Facilities

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violations:

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-09-2016
Citation: 23 CCR 16 2638(d) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638(d)
Violation Description: Failure to submit the Annual Monitoring System Certification Form to the CUPA within 30 days of completion of the test.
Violation Notes: Returned to compliance on 11/09/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-09-2016
Citation: 23 CCR 16 2637(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637(e)
Violation Description: Failure to submit a copy of the secondary containment test results to the CUPA within 30 days after the test.
Violation Notes: Returned to compliance on 11/09/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-09-2016
Citation: 23 CCR 16 2632(d)(1)(C), 2641(h), 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(C), 2641(h), 2711(a)(8)
Violation Description: Failure to submit or update a plot plan.
Violation Notes: Returned to compliance on 11/09/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-25-2020
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)
Violation Description: For designated operator (DO) monthly inspections conducted before October 1, 2018, failure to comply with one or more of the following requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(c). For designated operator (DO) 30 day inspections conducted on and after October 1, 2018, failure to conduct the designated UST operator visual inspection at least once every 30 days.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Notes: Returned to compliance on 12/08/2020. OBSERVATION: Observed that Designated Operator inspections are being improperly performed. Observed DO not to have properly documented alarm occurrences, amount of water removed from sumps to clear alarms/who removed water, or provide work orders attached to DO monthly regarding cleared alarms. CORRECTIVE ACTION: Owner/operator shall ensure that the Designated Operator is properly conducting inspections, noting observations, reviewing paperwork and alarm history reports, attaching required documentation and any other DO required functions. Provide 11/6/2020, 10/8/2020, and 1/3/2020 DO inspections updated to correctly reflect the alarms, follow up actions taken and work orders. Provide proof of correction to J. Zelon at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-25-2020
Citation: 23 CCR 16 2712(b)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(2)

Violation Description: Failure to maintain monitoring records for release detection and/or maintain records of appropriate follow-up actions.

Violation Notes: Returned to compliance on 11/25/2020. OBSERVATION: Observed alarm occurrences on 12/28/19, 11/5/2020, and 11/8/2020 that were not recorded on facility's alarm log at Veeder-Root and had no attached maintenance records at DO inspections . Records of alarms and/or records of appropriate follow-up action indicating how alarm conditions were cleared were not available for review. CORRECTIVE ACTION: Owner/operator shall ensure records of appropriate follow-up action for alarm conditions are documented and maintained on site readily available for review. Technician on site produced a work order for the 11/5/2020 alarm and Patricia Contreras provided alarm log filled out with 11/5/2020 and 11/8/2020 alarms. Spoke to Patricia about training with employees regarding proper logging of alarms and discussion with DO regarding proper documentation of water removed from sumps and alarms. Violation corrected on site.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-25-2020
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)

Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.

Violation Notes: Returned to compliance on 11/25/2020. OBSERVATION: Observed Waste Oil sump sensor fail to activate an audible and visual alarm when originally tested. Technician was able to shake sensor to release float and retest sensor. CORRECTIVE ACTION: Technician shook sensor, placed sensor in more water, and retested at time of inspection. Violation corrected on site.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 11/14/2018. OBSERVATION: Observed faded/missing numbers NFPA-704 signs located at the secondary containment area Add Mix chemicals. CORRECTIVE ACTION: Owner/operator shall replace all faded or otherwise unrecognizable NFPA-704 signs at Add Mix chemicals and ensure signs are in a conspicuous location. Submit photos to this department.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-03-2017
Citation: 23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Description: Failure of the functional line leak detector (LLD) monitoring pressurized piping to meet one or more of the following requirements: Monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour leak at 10 p.s.i.g. and restrict or shut off the flow of product through the piping when a leak is detected.
Violation Notes: Returned to compliance on 11/06/2017. DSL
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-08-2019
Citation: 23 CCR 16 2712(b)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(2)
Violation Description: Failure to maintain monitoring records for release detection and/or maintain records of appropriate follow-up actions.
Violation Notes: Returned to compliance on 11/15/2019. OBSERVATION: Observed alarm occurrences on 2/14/19 for L1, L2, and L3 sensors and 9/23/19 for L2 sensor on print out of alarm history. Records of alarms and/or records of appropriate follow-up action indicating how alarm conditions were cleared were not available for review. Observed vague reporting on facility's DO monthly inspections for 10/11/19 and 2/27/19 but not properly recorded as to who cleaned and maintained the rain, how much water was removed, who removed it, etc. CORRECTIVE ACTION: Owner/operator shall ensure records of appropriate follow-up action for alarm conditions are documented and maintained on site readily available for review.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-23-2021
Citation: Un-Specified

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance

Violation Notes: Returned to compliance on 12/15/2021. OBSERVATION: Observed oxygen and acetylene stored in a manner which may allow for incompatible materials to mix. Observed stored on a welding rack without metal barrier with rise between them. Ensure either stored chained and separated by 25 feet or with a fire proof rack. CORRECTIVE ACTION: Owner/operator shall store all incompatible materials separately to prevent accidental mixing. Provide photo proof of correction to jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-25-2020
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)

Violation Description: Failure to have at least one facility employee present during operating hours that has been trained in the proper operation and maintenance of the UST system by a designated operator (DO).

Violation Notes: Returned to compliance on 12/08/2020. OBSERVATION: Observed that the facility is in operation and that no employee was present who had received designated operator training. Observed only one employee Joel Bettin trained 1/9/2020 and Joel Bettin not onsite and available. He was out driving trucks. CORRECTIVE ACTION: Owner/operator shall ensure that at least one employee who has received designated operator training is on site during operating hours at all times. Training shall consist of proper operation and maintenance of the UST system. Provide DO training to multiple employees to ensure there is someone at all times available that has DO training. Provide proof of training to J. Zelon at jzelon@rivco.org.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-25-2020
Citation: 23 CCR 16 2644.1(a)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2644.1(a)(2)

Violation Description: Failure to demonstrate to the UPA that the equipment and methods used to monitor the UST system are certified by an independent third-party as complying with the standards set forth in 23 CCR 2643(f).

Violation Notes: Returned to compliance on 11/25/2020. OBSERVATION: Observed that the tank pad area sensors activated audio/visual alarm but did not shut down turbine as required by this type of system and/or facility's monitoring plan. Observed sensors programed to shut down turbine. CORRECTIVE ACTION: Owner/operator shall trouble shoot and repair system to provide sensors able to both alarm and shut down at turbine. Contact information given to technician and technician instructed to contact this Department for retesting of sensors. Technician was able to determine that a wiring error had occurred during recent 11/5/2020 dispenser install. Technician was able to correct wiring issue during report writing process and sensors were retested prior to end of inspection. Violation corrected on site.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31

Violation Description: Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Violation Notes: Returned to compliance on 11/14/2018. OBSERVATION: Observed hazardous waste oil spilled inside of the tray style secondary containment at maintenance shop. CORRECTIVE ACTION: Owner/operator shall clean and maintain the secondary containment of oil, and manage according to Title 22 hazardous waste regulations. Submit a statement and supporting documentation (photos) explaining how this waste was managed to this department.

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-19-2014
Citation: 23 CCR 16 2643 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2643

Violation Description: Failure to demonstrate to the CUPA that the method approved to monitor the tank meets the monitoring methods set forth in 2643(f).

Violation Notes: Returned to compliance on 12/17/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)

Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 11/02/2018. OBSERVATION: Current UST Monitoring Plan was not available on site during inspection. CORRECTIVE ACTION: Owner/operator shall maintain a current UST Monitoring Plan on site that has been accepted in CERS and make available for review. Plant Foreman contacted facility's Environmental Contact who provided the current plan accepted in CERS emailed to the facility. Plant Foreman printed and will maintain onsite and available. Violation was corrected onsite.

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Date: 11-23-2021
Citation: 23 CCR 16 2665(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665(b)
Violation Description: "Failure to submit a copy of the overfill prevention equipment inspection results on the Overfill Prevention Equipment Inspection Report Form to the UPA within 30 days after the inspection."
Violation Notes: Returned to compliance on 11/23/2021. OBSERVATION: An "Overfill Prevention Equipment Inspection Report Form" was not submitted to this Department within 30 days after the completion of the test. Facility was issued a violation from HAB Riverside for not submitting results of last OPI done 11/25/2020. Observed OPI report onsite. Facility Environmental Manager also had emailed proof of sending Results to our UST Notifications website on 12/21/20. CORRECTIVE ACTION: Owner/operator verified OPI was conducted and OPI results were sent to this Department. Violation was corrected onsite.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-09-2016
Citation: 23 CCR 16 2636(f)(5) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(5)
Violation Description: "Failure to meet one or more of the following monitoring requirements in lieu of the requirement to be tightness tested annually: The monitoring system maintains all product piping outside the dispenser to be fail-safe and shut down the pump when a leak is detected. The monitoring system shuts down the pump or stops flow when a leak is detected in the under dispenser containment (UDC)."
Violation Notes: Returned to compliance on 11/09/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: 40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description: Failure to post the following information next to the telephone: (A) The name and telephone number of the emergency coordinator; (B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and (C) The telephone number of the fire department, unless the facility has a direct alarm.
Violation Notes: Returned to compliance on 11/14/2018. OBSERVATION: Observed no/incomplete emergency response information posted at maintenance shop. Emergency response information should include an evacuation site map and emergency contacts list (nearest medical facility, police, fire, etc.). CORRECTIVE ACTION: Owner/operator shall post required information available at maintenance shop as well as at main office.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Date: 11-02-2018
Citation: Un-Specified
Violation Description: Business Plan Program - Administration/Documentation - General Local Ordinance
Violation Notes: Returned to compliance on 11/14/2018. OBSERVATION: Current emergency contact posting was observed not available at maintenance shop accessible to employees. CORRECTIVE ACTION: Owner/operator shall post current emergency contact information in a conspicuous location available to employees. Ensure contacts include nearest medical facility, police, fire, environmental contacts, spill clean up, etc.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-08-2019
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)
Violation Description: For designated operator (DO) monthly inspections conducted before October 1, 2018, failure to comply with one or more of the following requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(c). For designated operator (DO) 30 day inspections conducted on and after October 1, 2018, failure to conduct the designated UST operator visual inspection at least once every 30 days.
Violation Notes: Returned to compliance on 11/15/2019. OBSERVATION: Observed that Designated Operator inspections are being improperly performed. Observed sections V and VI incomplete on the following monthly DO reports: 11/28/18, 12/27/18, 1/30/19, 3/27/19, 4/26/19, 5/24/19, 6/21/19, 7/19/19, 8/16/19, 9/13/19. Observed alarm responses for 2/14/19 and 9/23/19 not properly documented. No work orders and no alarm logs with appropriate follow up action. CORRECTIVE ACTION: Owner/operator shall ensure that the Designated Operator is properly conducting inspections, noting observations, reviewing paperwork and alarm history reports, attaching required documentation and any other DO required functions.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c)
Violation Description: Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Violation Notes: Returned to compliance on 11/02/2018. OBSERVATION: Facility personnel were unable to access/locate a current copy of the business plan during the inspection. CORRECTIVE ACTION: Owner/operator shall ensure a current copy of the hazardous materials business plan is readily available on site at all times when the facility is staffed. Plant Foreman contacted Environmental Contact who emailed him the most current copy. Plan was printed and will be maintained on site. Violation corrected on site.

Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-17-2021
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)

Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 12/15/2021.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-18-2013
Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291

Violation Description: Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.

Violation Notes: Returned to compliance on 11/18/2013.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-19-2014
Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291
Violation Description: Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.
Violation Notes: Returned to compliance on 11/19/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-23-2021
Citation: 23 CCR 16 2712(b)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(2)
Violation Description: Failure to maintain monitoring records for release detection and/or maintain records of appropriate follow-up actions.
Violation Notes: Returned to compliance on 12/20/2021. OBSERVATION: Owner/operator unable to produce monitoring and/or maintenance records for L3 alarm on 9/23/2021 that stated a leak was observed in UDC. Observed Alarm log entry for 12/28-12/29/20 to state that alarm was taken care of but with no documentation as to how facility addressed repairs. CORRECTIVE ACTION: Owner/operator shall ensure monitoring and maintenance records are completed and maintained on site readily available for review. Provide copy of missing item(s) to the CUPA. Provide proof of repairs conducted by UST Technician to jzelon@rivco.org. Discuss proper alarm logging with facility employees. Ensure they are documenting the actions taken when responding to an alarm. Such as providing liquid found in waste oil sump added to Hazardous Waste drum and removed by a licensed hazardous waste contractor, etc.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-02-2018
Citation: 23 CCR 16 2712(i), 2632(d)(2), 2634(e), 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i), 2632(d)(2), 2634(e), 2641(h)
Violation Description: Failure to submit a current UST Response Plan available on site.
Violation Notes: Returned to compliance on 11/02/2018. OBSERVATION: Current UST Response Plan was not available on site during inspection. CORRECTIVE ACTION: Owner/operator shall maintain a current UST Response Plan on site that has been accepted in CERS and make available for review. Plant Foreman contacted facility's Environmental Contact who emailed the current copy to Plant Foreman. Plan was printed and will be maintained on site. Violation corrected on site.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-08-2019

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 11/08/2019. OBSERVATION: Observed Waste Oil UST fill sump 208 sensor fail to activate an audible and visual alarm when tested. CORRECTIVE ACTION: Tank tester Philip Smith was able to loosen the sensor float at Waste Oil UST fill sump 208 sensor and retest sensor during inspection. Sensor passed following loosening of the sensor float.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Violation Date: 11-08-2019
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description: Failure to have at least one facility employee present during operating hours that has been trained in the proper operation and maintenance of the UST system by a designated operator (DO).
Violation Notes: Returned to compliance on 11/15/2019. OBSERVATION: Observed that the facility is in operation and that no employee was present who had received designated operator training within the last calendar year. Observed last signed DO conducted training dated 1/22/2018. CORRECTIVE ACTION: Owner/operator shall ensure that at least one employee who has received annual designated operator training is on site during operating hours. Training shall consist of proper operation, maintenance of the UST system, and recording of alarms.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 01-22-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewing submitted Overfill prevention equipment inspection report form. Pass.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-02-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-08-2019
Violations Found: Yes

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Eval Type: Routine done by local agency
Eval Notes: Routine inspection of (2) UST systems completed in conjunction with annual monitoring certification. Philip Smith of Pacific Compliance Services onsite to conduct annual monitoring certification. Cemex Environmental Manager Patricia Contreras onsite as facility Environmental Compliance representative. Facility has one diesel UST tank system and one waste oil UST tank system. Observed 1/4 drum container used for the transport of waste oil from maintenance shop area to have evidence of release at waste oil storage area. Ensure release is properly cleaned and that waste oil transport unit is stored on containment tray to prevent release.

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-18-2013
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: CMD
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-17-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-23-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Routine inspection of facility that is cement processing plant. Hazardous waste streams onsite are either due to maintenance of vehicles or UST systems.

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-03-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 12-12-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Eval Notes: RE: failed overfill prevention testing
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-23-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection of a cement processing facility.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-25-2020
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine inspection conducted in conjunction with annual monitoring certification.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-03-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-02-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-19-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-23-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Facility is a Cemex cement processing facility. Facility has a diesel UST tank onsite and a waste oil UST onsite that is NIU.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-02-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-03-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-09-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-19-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Enforcement Action:
Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Site Address: 29065 FRONT ST
Site City: TEMECULA
Site Zip: 92590
Enf Action Date: 11-18-2013
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Site ID: 104015
Site Name: Cemex Construction Materials Pacific, LLC
Site Address: 29065 FRONT ST

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Site City: TEMECULA
Site Zip: 92590
Enf Action Date: 11-19-2014
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: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Affiliation:

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Document Preparer
Entity Name: Patricia Contreras
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: Patricia Contreras
Entity Title: Not reported
Affiliation Address: 2365 Iron Point Road, Suite 120
Affiliation City: Folsom
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95630
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Patricia Contreras
Entity Title: Environmental 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: Legal Owner
Entity Name: Cemex Construction Materials Pacific, LLC
Entity Title: Not reported
Affiliation Address: 2365 Iron Point Road, Suite 120
Affiliation City: Folsom
Affiliation State: CA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Affiliation Country: United States
Affiliation Zip: 95630
Affiliation Phone: (916) 941-2920,

Affiliation Type Desc: UST Tank Operator
Entity Name: Cemex Construction Materials Pacific, LLC
Entity Title: Not reported
Affiliation Address: 3990 Concours, Suite 200
Affiliation City: Ontario
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 91764
Affiliation Phone: (909) 974-5500,

Affiliation Type Desc: UST Tank Owner
Entity Name: Cemex Construction Materials Pacific, LLC
Entity Title: Not reported
Affiliation Address: 3990 Concours, Suite 200
Affiliation City: Ontario
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 91764
Affiliation Phone: (909) 974-5500,

Affiliation Type Desc: UST Permit Applicant
Entity Name: Trey Bassette
Entity Title: Environmental Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (909) 974-5434,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 2365 Iron Point Road, Suite 120
Affiliation City: Folsom
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95630
Affiliation Phone: ,

Affiliation Type Desc: UST Property Owner Name
Entity Name: Cemex Construction Materials Pacific, LLC
Entity Title: Not reported
Affiliation Address: 3990 Concours, Suite 200
Affiliation City: Ontario
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 91764
Affiliation Phone: (909) 974-5500,

Affiliation Type Desc: Operator
Entity Name: Cemex Construction Materials Pacific, LLC
Entity Title: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C.L. PHARRIS READY-MIX PLANT (Continued)

S102425994

Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (909) 974-5471,

Affiliation Type Desc: Parent Corporation
Entity Name: Cemex Construction Materials Pacific, 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: ,

Name: C L PHARRIS SAND & GRAVEL
Address: 29065 FRONT ST
City,State,Zip: TEMECULA, CA 92590
Site ID: 254646
CERS ID: T0606501122
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Entity Title: Not reported
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 9519558980,

Count: 7 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
RIVERSIDE COUNTY	S107540860		TEMECULA VEHICLE & TRANSPORT C		CDL
TEMECULA	S121661947	PALA RD TEMECULA LANE	PALA RD TEMECULA LANE	92592	CIWQS
TEMECULA	S121679152	TEMECULA COUNTY OF RIVERSIDE JOHNS	PARADO DEL SOL DR TEMECULA COU	92592	CIWQS
TEMECULA	S121679156	TEMECULA CREEK EST	S SIDE OF HWY 79 & TEMECULA C	92592	CIWQS
TEMECULA	S121679153	TEMECULA CREEK & REDHAWK	TEMECULA CREEK AND REDHAWK		CIWQS
TEMECULA	1024858551	HOEHN AUDI TEMECULA INC DBA AUDI T	40955 TEMECULA CENTER DR	92590	RCRA NonGen / NLR
TEMECULA	1024636498	HOEHN AUDI TEMECULA INC DBA AUDI T	40955 TEMECULA CENTER DR	92590	FINDS, ECHO

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: 04/27/2022	Source: EPA
Date Data Arrived at EDR: 05/05/2022	Telephone: N/A
Date Made Active in Reports: 05/31/2022	Last EDR Contact: 07/01/2022
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/10/2022
	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: 04/27/2022	Source: EPA
Date Data Arrived at EDR: 05/05/2022	Telephone: N/A
Date Made Active in Reports: 05/31/2022	Last EDR Contact: 07/01/2022
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/10/2022
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/27/2022
Date Data Arrived at EDR: 05/05/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/01/2022
Next Scheduled EDR Contact: 10/10/2022
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: 05/25/2021
Date Data Arrived at EDR: 06/24/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/27/2022
Next Scheduled EDR Contact: 10/10/2022
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 known 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: 04/27/2022
Date Data Arrived at EDR: 05/05/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 26

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/01/2022
Next Scheduled EDR Contact: 10/24/2022
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/27/2022	Source: EPA
Date Data Arrived at EDR: 05/05/2022	Telephone: 800-424-9346
Date Made Active in Reports: 05/31/2022	Last EDR Contact: 07/01/2022
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/24/2022
	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: 06/20/2022	Source: EPA
Date Data Arrived at EDR: 06/21/2022	Telephone: 800-424-9346
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	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: 06/20/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2022	Telephone: (415) 495-8895
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	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: 06/20/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2022	Telephone: (415) 495-8895
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/20/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2022	Telephone: (415) 495-8895
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	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: 06/20/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2022	Telephone: (415) 495-8895
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	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: 02/08/2022	Source: Department of the Navy
Date Data Arrived at EDR: 02/11/2022	Telephone: 843-820-7326
Date Made Active in Reports: 05/10/2022	Last EDR Contact: 05/05/2022
Number of Days to Update: 88	Next Scheduled EDR Contact: 08/22/2022
	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: 02/21/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2022	Telephone: 703-603-0695
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/24/2022
Number of Days to Update: 90	Next Scheduled EDR Contact: 09/05/2022
	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: 02/21/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2022	Telephone: 703-603-0695
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/04/2022
Number of Days to Update: 90	Next Scheduled EDR Contact: 09/05/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/14/2022

Source: National Response Center, United States Coast Guard

Date Data Arrived at EDR: 06/15/2022

Telephone: 202-267-2180

Date Made Active in Reports: 06/21/2022

Last EDR Contact: 06/15/2022

Number of Days to Update: 6

Next Scheduled EDR Contact: 10/03/2022

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: 04/25/2022

Source: Department of Toxic Substances Control

Date Data Arrived at EDR: 04/26/2022

Telephone: 916-323-3400

Date Made Active in Reports: 07/15/2022

Last EDR Contact: 04/26/2022

Number of Days to Update: 80

Next Scheduled EDR Contact: 08/08/2022

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 identifies 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: 04/25/2022

Source: Department of Toxic Substances Control

Date Data Arrived at EDR: 04/26/2022

Telephone: 916-323-3400

Date Made Active in Reports: 07/15/2022

Last EDR Contact: 04/26/2022

Number of Days to Update: 80

Next Scheduled EDR Contact: 08/08/2022

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 inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/07/2022

Source: Department of Resources Recycling and Recovery

Date Data Arrived at EDR: 02/08/2022

Telephone: 916-341-6320

Date Made Active in Reports: 05/05/2022

Last EDR Contact: 05/09/2022

Number of Days to Update: 86

Next Scheduled EDR Contact: 08/22/2022

Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	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	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

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	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	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	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	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	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

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: 05/23/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/23/2022	Telephone: see region list
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/23/2022
Number of Days to Update: 1	Next Scheduled EDR Contact: 09/19/2022
	Data Release Frequency: Quarterly

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 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

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

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/12/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 85

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 10/31/2022
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: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/28/2021	Source: EPA Region 1
Date Data Arrived at EDR: 06/11/2021	Telephone: 617-918-1313
Date Made Active in Reports: 09/07/2021	Last EDR Contact: 06/13/2022
Number of Days to Update: 88	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 6
Date Data Arrived at EDR: 11/15/2021	Telephone: 214-665-6597
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA, Region 5
Date Data Arrived at EDR: 11/15/2021	Telephone: 312-886-7439
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 10
Date Data Arrived at EDR: 11/15/2021	Telephone: 206-553-2857
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	Data Release Frequency: Varies

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: 10/12/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/15/2021	Telephone: 415-972-3372
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 8
Date Data Arrived at EDR: 11/15/2021	Telephone: 303-312-6271
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 05/23/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/23/2022	Telephone: 866-480-1028
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/23/2022
Number of Days to Update: 1	Next Scheduled EDR Contact: 09/19/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/14/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 02/01/2022
Number of Days to Update: 88

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 06/29/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/07/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 86

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/07/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

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: 03/07/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/03/2022
Number of Days to Update: 87

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/09/2022
Next Scheduled EDR Contact: 09/19/2022
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: 06/09/2022
Next Scheduled EDR Contact: 09/26/2022
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: 10/12/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 85

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 10/31/2022
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: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 10/31/2022
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: 10/12/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 85

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/14/2021	Source: EPA, Region 1
Date Data Arrived at EDR: 11/15/2021	Telephone: 617-918-1313
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 9
Date Data Arrived at EDR: 11/15/2021	Telephone: 415-972-3368
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 05/28/2021	Source: EPA Region 4
Date Data Arrived at EDR: 06/22/2021	Telephone: 404-562-9424
Date Made Active in Reports: 09/20/2021	Last EDR Contact: 06/13/2022
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 7
Date Data Arrived at EDR: 11/15/2021	Telephone: 913-551-7003
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	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: 10/12/2021	Source: EPA Region 8
Date Data Arrived at EDR: 11/15/2021	Telephone: 303-312-6137
Date Made Active in Reports: 02/08/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/31/2022
	Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 07/08/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 06/15/2022
Number of Days to Update: 142	Next Scheduled EDR Contact: 10/03/2022
	Data Release Frequency: Varies

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: 04/25/2022	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/26/2022	Telephone: 916-323-3400
Date Made Active in Reports: 07/15/2022	Last EDR Contact: 04/26/2022
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/08/2022
	Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfields 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: 03/21/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/21/2022	Telephone: 916-323-7905
Date Made Active in Reports: 06/14/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/03/2022
	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: 02/23/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/10/2022	Telephone: 202-566-2777
Date Made Active in Reports: 03/10/2022	Last EDR Contact: 06/13/2022
Number of Days to Update: 0	Next Scheduled EDR Contact: 09/26/2022
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/21/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/07/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/07/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 02/15/2022
Date Data Arrived at EDR: 02/24/2022
Date Made Active in Reports: 05/25/2022
Number of Days to Update: 90

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/19/2022
Next Scheduled EDR Contact: 08/22/2022
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: 04/21/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: Varies

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: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: No Update Planned

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

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 Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/22/2022
Date Data Arrived at EDR: 02/23/2022
Date Made Active in Reports: 05/10/2022
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2022
Next Scheduled EDR Contact: 09/05/2022
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: 04/25/2022
Date Data Arrived at EDR: 04/26/2022
Date Made Active in Reports: 07/15/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/26/2022
Next Scheduled EDR Contact: 08/08/2022
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: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/13/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Varies

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

CERS HAZ WASTE: 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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/18/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 84

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Quarterly

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: 02/22/2022
Date Data Arrived at EDR: 02/23/2022
Date Made Active in Reports: 05/10/2022
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2022
Next Scheduled EDR Contact: 09/05/2022
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 03/07/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 86

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/07/2022
Next Scheduled EDR Contact: 09/19/2022
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: 02/20/2020
Date Data Arrived at EDR: 12/10/2021
Date Made Active in Reports: 02/25/2022
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 06/10/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/03/2022
Date Data Arrived at EDR: 02/04/2022
Date Made Active in Reports: 05/02/2022
Number of Days to Update: 87

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Varies

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: 04/18/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 84

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Quarterly

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

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: 02/24/2022
Date Data Arrived at EDR: 02/25/2022
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 12

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
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: 04/27/2022
Date Data Arrived at EDR: 05/05/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/01/2022
Next Scheduled EDR Contact: 10/10/2022
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/28/2022	Source: DTSC and SWRCB
Date Data Arrived at EDR: 02/28/2022	Telephone: 916-323-3400
Date Made Active in Reports: 05/25/2022	Last EDR Contact: 05/31/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/12/2022
	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: 03/21/2022	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 03/21/2022	Telephone: 202-366-4555
Date Made Active in Reports: 06/14/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/03/2022
	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: 04/03/2022	Source: Office of Emergency Services
Date Data Arrived at EDR: 04/19/2022	Telephone: 916-845-8400
Date Made Active in Reports: 07/12/2022	Last EDR Contact: 07/18/2022
Number of Days to Update: 84	Next Scheduled EDR Contact: 10/31/2022
	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: 05/23/2022	Source: State Water Quality Control Board
Date Data Arrived at EDR: 05/23/2022	Telephone: 866-480-1028
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/23/2022
Number of Days to Update: 1	Next Scheduled EDR Contact: 09/19/2022
	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: 05/23/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/23/2022	Telephone: 866-480-1028
Date Made Active in Reports: 05/24/2022	Last EDR Contact: 05/23/2022
Number of Days to Update: 1	Next Scheduled EDR Contact: 09/19/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	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: 06/20/2022	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2022	Telephone: (415) 495-8895
Date Made Active in Reports: 06/28/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/03/2022
	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: 12/01/2021	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 02/15/2022	Telephone: 202-528-4285
Date Made Active in Reports: 05/10/2022	Last EDR Contact: 05/17/2022
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/29/2022
	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	Source: USGS
Date Data Arrived at EDR: 07/13/2021	Telephone: 888-275-8747
Date Made Active in Reports: 03/09/2022	Last EDR Contact: 07/13/2022
Number of Days to Update: 239	Next Scheduled EDR Contact: 10/24/2022
	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	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 07/08/2022
Number of Days to Update: 574	Next Scheduled EDR Contact: 10/17/2022
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/06/2022
Next Scheduled EDR Contact: 08/22/2022
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: 03/21/2022
Date Data Arrived at EDR: 03/21/2022
Date Made Active in Reports: 06/14/2022
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2022
Next Scheduled EDR Contact: 10/03/2022
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: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Quarterly

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: 05/06/2022
Next Scheduled EDR Contact: 08/15/2022
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: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/14/2022
Next Scheduled EDR Contact: 09/26/2022
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/20/2022
Next Scheduled EDR Contact: 08/29/2022
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: 01/19/2022
Date Data Arrived at EDR: 01/19/2022
Date Made Active in Reports: 04/11/2022
Number of Days to Update: 82

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
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: 04/27/2022
Date Data Arrived at EDR: 05/05/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 26

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/01/2022
Next Scheduled EDR Contact: 09/12/2022
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: 04/27/2022
Date Data Arrived at EDR: 05/04/2022
Date Made Active in Reports: 05/10/2022
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/14/2022
Next Scheduled EDR Contact: 10/31/2022
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 01/25/2022	Source: EPA
Date Data Arrived at EDR: 02/03/2022	Telephone: 202-564-6023
Date Made Active in Reports: 02/25/2022	Last EDR Contact: 07/01/2022
Number of Days to Update: 22	Next Scheduled EDR Contact: 08/15/2022
	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: 01/20/2022	Source: EPA
Date Data Arrived at EDR: 01/20/2022	Telephone: 202-566-0500
Date Made Active in Reports: 03/25/2022	Last EDR Contact: 07/08/2022
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2022
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 06/28/2022
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/17/2022
	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	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	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	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	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: 03/11/2022	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/15/2022	Telephone: 301-415-7169
Date Made Active in Reports: 06/14/2022	Last EDR Contact: 07/13/2022
Number of Days to Update: 91	Next Scheduled EDR Contact: 10/31/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2020	Source: Department of Energy
Date Data Arrived at EDR: 11/30/2021	Telephone: 202-586-8719
Date Made Active in Reports: 02/22/2022	Last EDR Contact: 06/02/2022
Number of Days to Update: 84	Next Scheduled EDR Contact: 09/12/2022
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 05/25/2022
Number of Days to Update: 251	Next Scheduled EDR Contact: 09/12/2022
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 05/06/2022
Number of Days to Update: 96	Next Scheduled EDR Contact: 08/15/2022
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 06/23/2022
Number of Days to Update: 84	Next Scheduled EDR Contact: 10/10/2022
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 Transportation, 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 Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/26/2022
Next Scheduled EDR Contact: 08/08/2022
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: 03/31/2022
Date Data Arrived at EDR: 04/14/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 89

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/29/2022
Next Scheduled EDR Contact: 10/17/2022
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: 12/31/2019
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/25/2022
Number of Days to Update: 23

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2022
Next Scheduled EDR Contact: 10/03/2022
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: 07/08/2022
Next Scheduled EDR Contact: 10/17/2022
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: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/16/2022
Next Scheduled EDR Contact: 08/29/2022
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2022
Date Data Arrived at EDR: 05/05/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/01/2022
Next Scheduled EDR Contact: 10/10/2022
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 1931 and 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: 03/21/2022
Date Data Arrived at EDR: 03/22/2022
Date Made Active in Reports: 03/25/2022
Number of Days to Update: 3

Source: DOL, Mine Safety & Health Administration
Telephone: 202-693-9424
Last EDR Contact: 05/26/2022
Next Scheduled EDR Contact: 09/12/2022
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/01/2022
Date Data Arrived at EDR: 02/23/2022
Date Made Active in Reports: 05/24/2022
Number of Days to Update: 90

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/25/2022
Next Scheduled EDR Contact: 09/05/2022
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: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2022
Next Scheduled EDR Contact: 09/05/2022
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: 05/27/2022
Next Scheduled EDR Contact: 09/05/2022
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: 03/10/2022
Date Data Arrived at EDR: 03/10/2022
Date Made Active in Reports: 06/14/2022
Number of Days to Update: 96

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/14/2022
Next Scheduled EDR Contact: 09/19/2022
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: 05/13/2022
Date Data Arrived at EDR: 05/18/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 13

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 05/18/2022
Next Scheduled EDR Contact: 09/12/2022
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/02/2022
Date Data Arrived at EDR: 04/05/2022
Date Made Active in Reports: 06/28/2022
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/01/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/21/2021	Telephone: 202-564-0527
Date Made Active in Reports: 08/11/2021	Last EDR Contact: 05/19/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 09/05/2022
	Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2020	Source: Department of Defense
Date Data Arrived at EDR: 01/11/2022	Telephone: 703-704-1564
Date Made Active in Reports: 02/14/2022	Last EDR Contact: 07/07/2022
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/24/2022
	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: 02/17/2022	Source: EPA
Date Data Arrived at EDR: 02/17/2022	Telephone: 800-385-6164
Date Made Active in Reports: 05/10/2022	Last EDR Contact: 05/17/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 08/29/2022
	Data Release Frequency: Quarterly

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	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

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: 03/21/2022	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 03/21/2022	Telephone: 916-323-3400
Date Made Active in Reports: 06/14/2022	Last EDR Contact: 06/21/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/03/2022
	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: 12/07/2021	Source: Livermore-Pleasanton Fire Department
Date Data Arrived at EDR: 05/09/2022	Telephone: 925-454-2361
Date Made Active in Reports: 05/17/2022	Last EDR Contact: 05/09/2022
Number of Days to Update: 8	Next Scheduled EDR Contact: 08/22/2022
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/27/2021
Date Data Arrived at EDR: 09/01/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 79

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/01/2022
Next Scheduled EDR Contact: 09/12/2022
Data Release Frequency: Annually

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: 02/24/2022
Date Data Arrived at EDR: 02/25/2022
Date Made Active in Reports: 05/18/2022
Number of Days to Update: 82

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
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: 02/17/2022
Date Data Arrived at EDR: 02/24/2022
Date Made Active in Reports: 05/18/2022
Number of Days to Update: 83

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/19/2022
Next Scheduled EDR Contact: 09/05/2022
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: 12/31/2019
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 78

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/13/2022
Next Scheduled EDR Contact: 09/26/2022
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: 04/12/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 42

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/19/2022
Date Data Arrived at EDR: 04/29/2022
Date Made Active in Reports: 07/15/2022
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/01/2022
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: 02/23/2022
Date Data Arrived at EDR: 02/24/2022
Date Made Active in Reports: 05/18/2022
Number of Days to Update: 83

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/19/2022
Next Scheduled EDR Contact: 08/22/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/31/2019	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 04/15/2020	Telephone: 916-255-1136
Date Made Active in Reports: 07/02/2020	Last EDR Contact: 07/05/2022
Number of Days to Update: 78	Next Scheduled EDR Contact: 10/17/2022
	Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/14/2022	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/15/2022	Telephone: 877-786-9427
Date Made Active in Reports: 05/12/2022	Last EDR Contact: 05/17/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/29/2022
	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 [CALSTITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	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: 02/14/2022	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/15/2022	Telephone: 916-323-3400
Date Made Active in Reports: 05/12/2022	Last EDR Contact: 05/17/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/29/2022
	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: 04/05/2022	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/05/2022	Telephone: 916-440-7145
Date Made Active in Reports: 06/27/2022	Last EDR Contact: 07/05/2022
Number of Days to Update: 83	Next Scheduled EDR Contact: 10/17/2022
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/07/2022	Source: Department of Conservation
Date Data Arrived at EDR: 03/08/2022	Telephone: 916-322-1080
Date Made Active in Reports: 06/01/2022	Last EDR Contact: 06/07/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/19/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/17/2022	Source: Department of Public Health
Date Data Arrived at EDR: 02/28/2022	Telephone: 916-558-1784
Date Made Active in Reports: 05/25/2022	Last EDR Contact: 05/31/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/12/2022
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/07/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 02/08/2022	Telephone: 916-445-9379
Date Made Active in Reports: 05/05/2022	Last EDR Contact: 05/09/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/22/2022
	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: 02/28/2022	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 02/28/2022	Telephone: 916-445-4038
Date Made Active in Reports: 05/25/2022	Last EDR Contact: 05/31/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/12/2022
	Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 03/07/2022	Source: Department of Conservation
Date Data Arrived at EDR: 03/08/2022	Telephone: 916-323-3836
Date Made Active in Reports: 06/02/2022	Last EDR Contact: 06/07/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/19/2022
	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: 03/11/2022	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/15/2022	Telephone: 916-445-3846
Date Made Active in Reports: 06/08/2022	Last EDR Contact: 06/09/2022
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/26/2022
	Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/07/2022	Source: Department of Conservation
Date Data Arrived at EDR: 03/08/2022	Telephone: 916-445-2408
Date Made Active in Reports: 06/02/2022	Last EDR Contact: 06/07/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/19/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
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: 07/08/2022
Next Scheduled EDR Contact: 10/17/2022
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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 06/14/2022
Next Scheduled EDR Contact: 10/03/2022
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)

Projects sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/07/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/03/2022
Number of Days to Update: 87

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/07/2022
Next Scheduled EDR Contact: 09/19/2022
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: 02/28/2022
Date Data Arrived at EDR: 02/28/2022
Date Made Active in Reports: 05/25/2022
Number of Days to Update: 86

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 05/31/2022
Next Scheduled EDR Contact: 09/12/2022
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: 04/18/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 84

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
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: 05/23/2022
Date Data Arrived at EDR: 05/23/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 10

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 05/23/2022
Next Scheduled EDR Contact: 09/19/2022
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: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/28/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Semi-Annually

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/27/2022
Next Scheduled EDR Contact: 09/05/2022
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/28/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Semi-Annually

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: 04/05/2022
Date Data Arrived at EDR: 04/05/2022
Date Made Active in Reports: 04/26/2022
Number of Days to Update: 21

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 07/06/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/28/2022
Next Scheduled EDR Contact: 10/17/2022
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

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	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 01/11/2019	Telephone: 510-567-6700
Date Made Active in Reports: 03/05/2019	Last EDR Contact: 06/28/2022
Number of Days to Update: 53	Next Scheduled EDR Contact: 10/17/2022
	Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 12/28/2021	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 12/28/2021	Telephone: 510-567-6700
Date Made Active in Reports: 03/18/2022	Last EDR Contact: 06/29/2022
Number of Days to Update: 80	Next Scheduled EDR Contact: 10/17/2022
	Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 02/04/2022	Source: Amador County Environmental Health
Date Data Arrived at EDR: 02/04/2022	Telephone: 209-223-6439
Date Made Active in Reports: 05/02/2022	Last EDR Contact: 05/12/2022
Number of Days to Update: 87	Next Scheduled EDR Contact: 08/15/2022
	Data Release Frequency: Varies

BUTTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/28/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/17/2022
Date Data Arrived at EDR: 03/18/2022
Date Made Active in Reports: 06/08/2022
Number of Days to Update: 82

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/14/2022
Next Scheduled EDR Contact: 10/03/2022
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: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
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: 04/21/2022
Date Data Arrived at EDR: 04/22/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 81

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/21/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 01/10/2022
Date Data Arrived at EDR: 01/26/2022
Date Made Active in Reports: 04/14/2022
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 05/04/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: Varies

EL DORADO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA EL DORADO: CUPA Facility List CUPA facility list.

Date of Government Version: 02/16/2022
Date Data Arrived at EDR: 02/17/2022
Date Made Active in Reports: 05/10/2022
Number of Days to Update: 82

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 06/14/2022
Next Scheduled EDR Contact: 08/08/2022
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: 07/01/2022
Next Scheduled EDR Contact: 10/10/2022
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: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List Cupa facility list.

Date of Government Version: 04/18/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 84

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/13/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 02/10/2022
Date Data Arrived at EDR: 02/11/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 82

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 02/10/2022
Date Data Arrived at EDR: 02/11/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 82

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
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: 05/25/2022
Next Scheduled EDR Contact: 08/29/2022
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List Cupa facility list

Date of Government Version: 02/10/2022
Date Data Arrived at EDR: 02/11/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 82

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/07/2022
Next Scheduled EDR Contact: 10/24/2022
Data Release Frequency: Varies

LASSEN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
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: 06/09/2022
Next Scheduled EDR Contact: 09/26/2022
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/04/2022
Date Data Arrived at EDR: 04/05/2022
Date Made Active in Reports: 04/13/2022
Number of Days to Update: 8

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/29/2022
Next Scheduled EDR Contact: 10/17/2022
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/11/2022
Date Data Arrived at EDR: 04/12/2022
Date Made Active in Reports: 07/05/2022
Number of Days to Update: 84

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/11/2022
Next Scheduled EDR Contact: 10/24/2022
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: 01/01/2022
Date Data Arrived at EDR: 01/21/2022
Date Made Active in Reports: 04/11/2022
Number of Days to Update: 80

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/06/2022
Next Scheduled EDR Contact: 10/24/2022
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: 06/14/2022
Next Scheduled EDR Contact: 10/03/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 01/10/2022	Source: Los Angeles County Department of Public Works
Date Data Arrived at EDR: 01/12/2022	Telephone: 626-458-6973
Date Made Active in Reports: 04/04/2022	Last EDR Contact: 07/06/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 10/24/2022
	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: 01/13/2022	Source: Los Angeles Fire Department
Date Data Arrived at EDR: 03/21/2022	Telephone: 213-978-3800
Date Made Active in Reports: 06/15/2022	Last EDR Contact: 06/24/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 10/03/2022
	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: 01/13/2022	Source: Los Angeles Fire Department
Date Data Arrived at EDR: 03/21/2022	Telephone: 213-978-3800
Date Made Active in Reports: 06/15/2022	Last EDR Contact: 06/24/2022
Number of Days to Update: 86	Next Scheduled EDR Contact: 10/03/2022
	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: 05/26/2021	Source: Community Health Services
Date Data Arrived at EDR: 07/09/2021	Telephone: 323-890-7806
Date Made Active in Reports: 09/29/2021	Last EDR Contact: 07/14/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 10/24/2022
	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	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/19/2017	Telephone: 310-524-2236
Date Made Active in Reports: 05/10/2017	Last EDR Contact: 07/06/2022
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/24/2022
	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	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 04/23/2019	Telephone: 562-570-2563
Date Made Active in Reports: 06/27/2019	Last EDR Contact: 07/12/2022
Number of Days to Update: 65	Next Scheduled EDR Contact: 10/31/2022
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/20/2022	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 04/21/2022	Telephone: 310-618-2973
Date Made Active in Reports: 07/12/2022	Last EDR Contact: 07/13/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 10/31/2022
	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	Source: Madera County Environmental Health
Date Data Arrived at EDR: 08/12/2020	Telephone: 559-675-7823
Date Made Active in Reports: 10/23/2020	Last EDR Contact: 05/12/2022
Number of Days to Update: 72	Next Scheduled EDR Contact: 08/29/2022
	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	Source: Public Works Department Waste Management
Date Data Arrived at EDR: 10/04/2018	Telephone: 415-473-6647
Date Made Active in Reports: 11/02/2018	Last EDR Contact: 06/22/2022
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/10/2022
	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	Source: Department of Public Health
Date Data Arrived at EDR: 11/18/2021	Telephone: 707-463-4466
Date Made Active in Reports: 11/22/2021	Last EDR Contact: 05/19/2022
Number of Days to Update: 4	Next Scheduled EDR Contact: 09/05/2022
	Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/15/2022	Source: Merced County Environmental Health
Date Data Arrived at EDR: 02/17/2022	Telephone: 209-381-1094
Date Made Active in Reports: 05/11/2022	Last EDR Contact: 07/07/2022
Number of Days to Update: 83	Next Scheduled EDR Contact: 08/29/2022
	Data Release Frequency: Varies

MONO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/19/2022
Next Scheduled EDR Contact: 09/05/2022
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: 07/07/2022
Next Scheduled EDR Contact: 10/10/2022
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: 05/19/2022
Next Scheduled EDR Contact: 09/05/2022
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: 05/19/2022
Next Scheduled EDR Contact: 09/05/2022
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List CUPA facility list.

Date of Government Version: 01/25/2022
Date Data Arrived at EDR: 01/26/2022
Date Made Active in Reports: 04/14/2022
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/21/2022
Next Scheduled EDR Contact: 08/08/2022
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups Petroleum and non-petroleum spills.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/14/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 04/14/2022
Number of Days to Update: 70

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 01/14/2022
Date Data Arrived at EDR: 02/04/2022
Date Made Active in Reports: 05/02/2022
Number of Days to Update: 87

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/14/2022
Date Data Arrived at EDR: 02/01/2022
Date Made Active in Reports: 04/18/2022
Number of Days to Update: 76

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/03/2022
Next Scheduled EDR Contact: 08/15/2022
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: 05/25/2022
Date Data Arrived at EDR: 05/26/2022
Date Made Active in Reports: 06/01/2022
Number of Days to Update: 6

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
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: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
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: 03/31/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 04/08/2022
Number of Days to Update: 8

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/09/2022
Next Scheduled EDR Contact: 09/26/2022
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST RIVERSIDE: Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 03/31/2022

Date Data Arrived at EDR: 03/31/2022

Date Made Active in Reports: 04/08/2022

Number of Days to Update: 8

Source: Department of Environmental Health

Telephone: 951-358-5055

Last EDR Contact: 06/09/2022

Next Scheduled EDR Contact: 09/26/2022

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: 06/18/2021

Date Data Arrived at EDR: 09/28/2021

Date Made Active in Reports: 12/14/2021

Number of Days to Update: 77

Source: Sacramento County Environmental Management

Telephone: 916-875-8406

Last EDR Contact: 06/30/2022

Next Scheduled EDR Contact: 10/10/2022

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: 05/04/2022

Date Data Arrived at EDR: 06/30/2022

Date Made Active in Reports: 07/05/2022

Number of Days to Update: 5

Source: Sacramento County Environmental Management

Telephone: 916-875-8406

Last EDR Contact: 06/30/2022

Next Scheduled EDR Contact: 10/10/2022

Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 04/29/2022

Date Data Arrived at EDR: 04/29/2022

Date Made Active in Reports: 05/05/2022

Number of Days to Update: 6

Source: San Benito County Environmental Health

Telephone: N/A

Last EDR Contact: 04/28/2022

Next Scheduled EDR Contact: 08/15/2022

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: 05/12/2022

Date Data Arrived at EDR: 05/12/2022

Date Made Active in Reports: 05/18/2022

Number of Days to Update: 6

Source: San Bernardino County Fire Department Hazardous Materials Division

Telephone: 909-387-3041

Last EDR Contact: 04/28/2022

Next Scheduled EDR Contact: 08/15/2022

Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/28/2022
Date Data Arrived at EDR: 02/28/2022
Date Made Active in Reports: 05/25/2022
Number of Days to Update: 86

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 05/31/2022
Next Scheduled EDR Contact: 09/12/2022
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/27/2021
Date Data Arrived at EDR: 03/04/2022
Date Made Active in Reports: 05/31/2022
Number of Days to Update: 88

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
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: 07/13/2022
Next Scheduled EDR Contact: 10/31/2022
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: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 02/03/2022
Date Data Arrived at EDR: 02/04/2022
Date Made Active in Reports: 02/11/2022
Number of Days to Update: 7

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
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: 02/03/2022
Date Data Arrived at EDR: 02/04/2022
Date Made Active in Reports: 05/02/2022
Number of Days to Update: 87

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Quarterly

SAN FRANCISCO 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: 01/18/2022
Date Data Arrived at EDR: 01/20/2022
Date Made Active in Reports: 04/27/2022
Number of Days to Update: 97

Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 07/05/2022
Next Scheduled EDR Contact: 10/31/2022
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: 06/09/2022
Next Scheduled EDR Contact: 09/26/2022
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List Cupa Facility List.

Date of Government Version: 02/15/2022
Date Data Arrived at EDR: 02/16/2022
Date Made Active in Reports: 05/13/2022
Number of Days to Update: 86

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 06/10/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/02/2022
Next Scheduled EDR Contact: 09/19/2022
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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List

Cupa facility list

Date of Government Version: 02/14/2022
Date Data Arrived at EDR: 02/16/2022
Date Made Active in Reports: 05/12/2022
Number of Days to Update: 85

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 05/19/2022
Next Scheduled EDR Contact: 09/05/2022
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: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 05/12/2022
Next Scheduled EDR Contact: 08/29/2022
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: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
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: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
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: 06/14/2022
Next Scheduled EDR Contact: 10/03/2022
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: 06/14/2022
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 Environmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/11/2022
Next Scheduled EDR Contact: 10/24/2022
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks Underground storage tank sites located in Sutter county.

Date of Government Version: 11/23/2021
Date Data Arrived at EDR: 11/29/2021
Date Made Active in Reports: 02/11/2022
Number of Days to Update: 74

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 05/25/2022
Next Scheduled EDR Contact: 09/12/2022
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/28/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List Cupa facility list

Date of Government Version: 04/18/2022
Date Data Arrived at EDR: 04/19/2022
Date Made Active in Reports: 07/12/2022
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/13/2022
Next Scheduled EDR Contact: 10/31/2022
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List Cupa program facilities

Date of Government Version: 04/26/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 07/12/2022
Next Scheduled EDR Contact: 08/15/2022
Data Release Frequency: Varies

TUOLUMNE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/12/2022
Next Scheduled EDR Contact: 10/31/2022
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: 03/28/2022
Date Data Arrived at EDR: 04/28/2022
Date Made Active in Reports: 07/15/2022
Number of Days to Update: 78

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
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: 06/22/2022
Next Scheduled EDR Contact: 10/10/2022
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: 05/04/2022
Next Scheduled EDR Contact: 08/22/2022
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: 03/28/2022
Date Data Arrived at EDR: 04/28/2022
Date Made Active in Reports: 07/15/2022
Number of Days to Update: 78

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/18/2022
Next Scheduled EDR Contact: 10/31/2022
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: 02/28/2022
Date Data Arrived at EDR: 03/08/2022
Date Made Active in Reports: 06/02/2022
Number of Days to Update: 86

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/07/2022
Next Scheduled EDR Contact: 09/19/2022
Data Release Frequency: Quarterly

YOLO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/24/2022	Source: Yolo County Department of Health
Date Data Arrived at EDR: 03/31/2022	Telephone: 530-666-8646
Date Made Active in Reports: 06/27/2022	Last EDR Contact: 06/22/2022
Number of Days to Update: 88	Next Scheduled EDR Contact: 10/10/2022
	Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/26/2022	Source: Yuba County Environmental Health Department
Date Data Arrived at EDR: 01/27/2022	Telephone: 530-749-7523
Date Made Active in Reports: 04/14/2022	Last EDR Contact: 04/21/2022
Number of Days to Update: 77	Next Scheduled EDR Contact: 08/08/2022
	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: 12/03/2021	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 02/11/2022	Telephone: 860-424-3375
Date Made Active in Reports: 05/06/2022	Last EDR Contact: 05/09/2022
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/22/2022
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/10/2019	Telephone: N/A
Date Made Active in Reports: 05/16/2019	Last EDR Contact: 06/28/2022
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/17/2022
	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: 01/01/2019	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 10/29/2021	Telephone: 518-402-8651
Date Made Active in Reports: 01/19/2022	Last EDR Contact: 04/28/2022
Number of Days to Update: 82	Next Scheduled EDR Contact: 08/08/2022
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 07/06/2022
Next Scheduled EDR Contact: 10/24/2022
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: 05/16/2022
Next Scheduled EDR Contact: 08/29/2022
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: 06/03/2022
Next Scheduled EDR Contact: 09/19/2022
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

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.

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 and 2010 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

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TEMECULA PARKWAY
TEMECULA PARKWAY AND BEDFORD COURT
TEMECULA, CA 92592

TARGET PROPERTY COORDINATES

Latitude (North): 33.478434 - 33° 28' 42.36"
Longitude (West): 117.138552 - 117° 8' 18.79"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 487127.1
UTM Y (Meters): 3704144.0
Elevation: 1005 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 12015929 TEMECULA, CA
Version Date: 2018

Southeast Map: 12015905 PECHANGA, CA
Version Date: 2018

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).

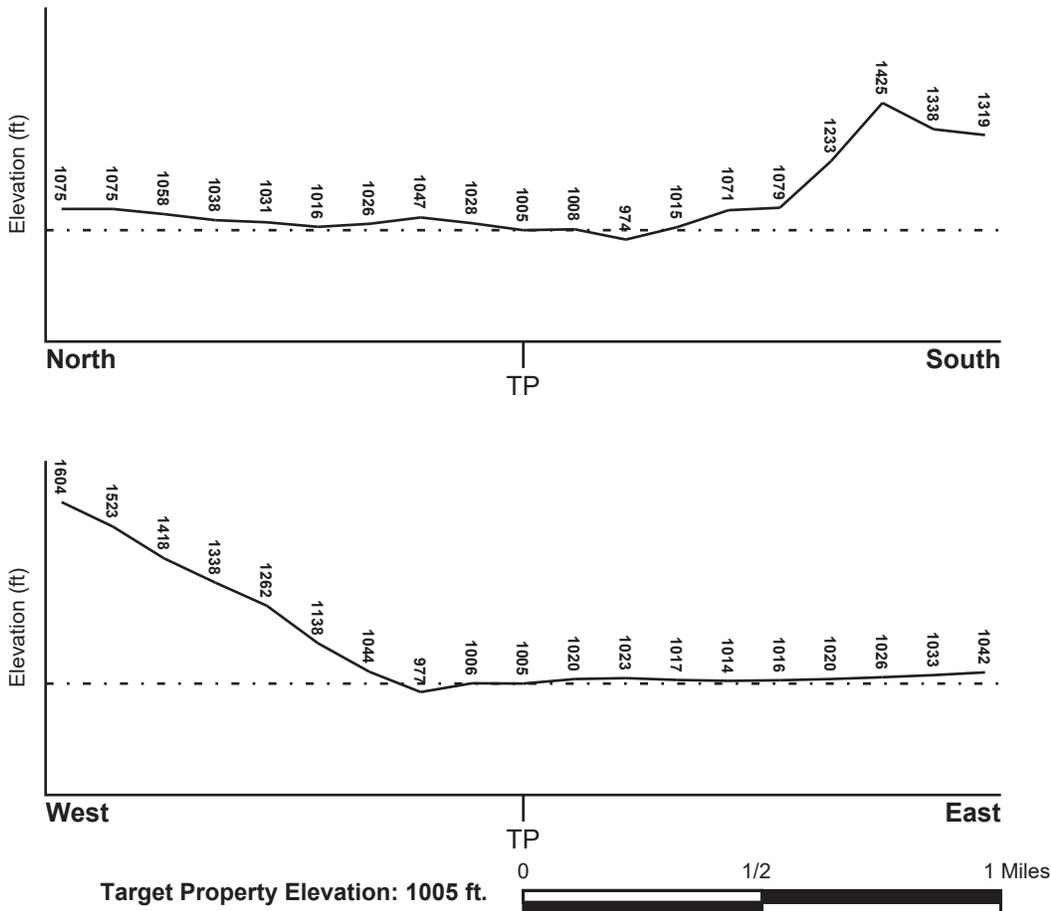
TOPOGRAPHIC INFORMATION

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 SSW

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

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06073C0175G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06065C3285G	FEMA FIRM Flood data
06065C3305G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
TEMECULA	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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

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

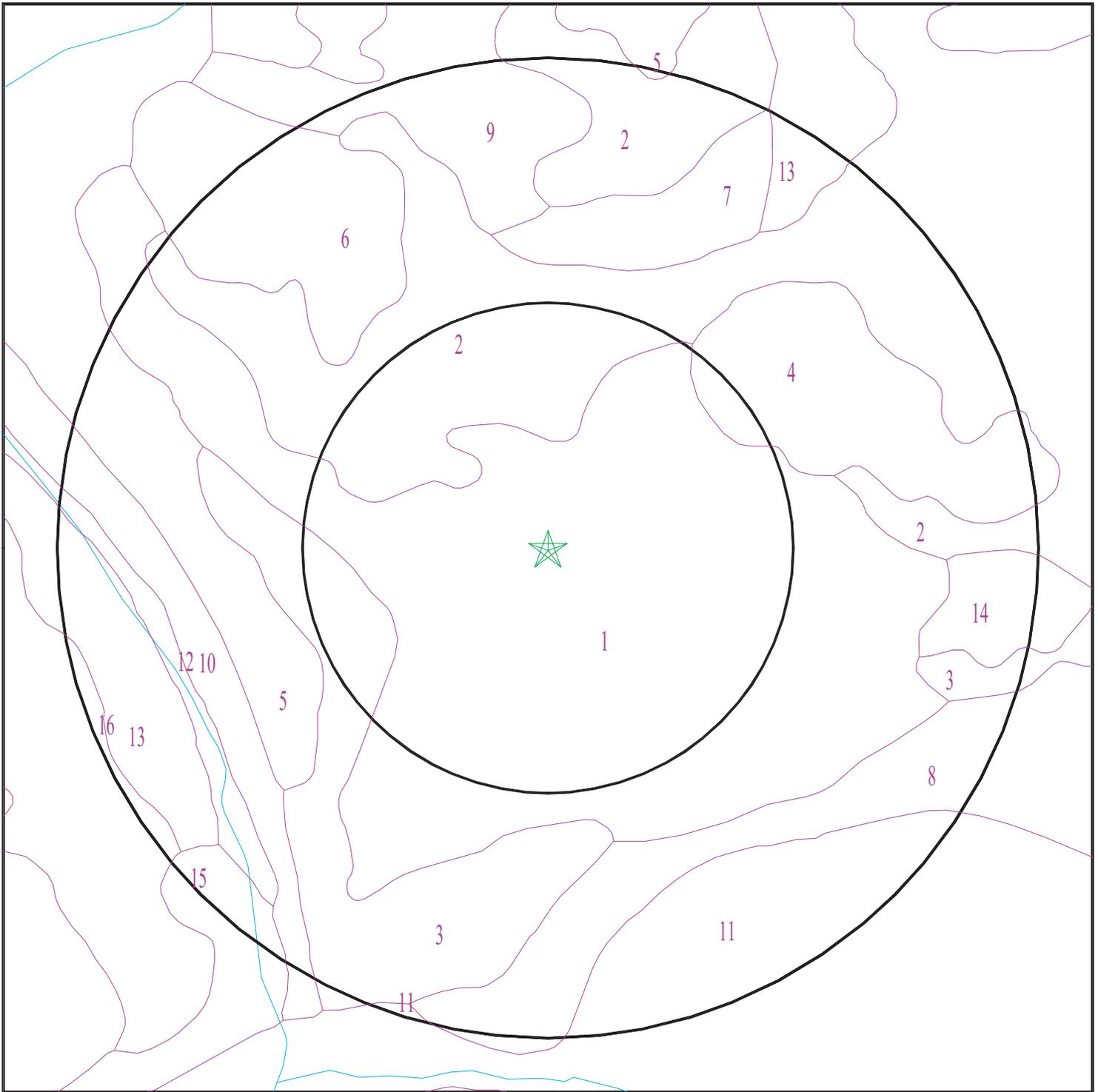
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (<i>decoded above as Era, System & Series</i>)

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 - 7059016.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
Temecula CA 92592
LAT/LONG: 33.478434 / 117.138552

CLIENT: Earth Strata Geotechnical Services, Inc
CONTACT: Stephanie Jones
INQUIRY #: 7059016.2s
DATE: July 19, 2022 7:12 pm

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: RAMONA

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							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	9 inches	22 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	11 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	24 inches	35 inches	cemented	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 3

Soil Component Name: RAMONA

Soil Surface Texture: sandy 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							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	16 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: PLACENTIA

Soil Surface Texture: fine 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: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	57 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
4	57 inches	59 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 5

Soil Component Name: GREENFIELD

Soil Surface Texture: sandy 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: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	25 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	25 inches	42 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
3	42 inches	59 inches	loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
4	59 inches	72 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: PLACENTIA

Soil Surface Texture: fine 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: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	57 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
4	57 inches	59 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 7

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	5 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	20 inches	29 inches	cemented	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
4	29 inches	59 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 8

Soil Component Name: GORGONIO

Soil Surface Texture: stratified gravelly loamy sand to gravelly loamy fine sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	14 inches	59 inches	stratified gravelly loamy sand to gravelly loamy fine sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6
2	0 inches	14 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6

Soil Map ID: 9

Soil Component Name: RAMONA

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	16 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 10

Soil Component Name:

ROCKLAND

Soil Surface Texture:

unweathered bedrock

Hydrologic Group:

Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	59 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 11

Soil Component Name: RIVERWASH

Soil Surface Texture: gravelly coarse sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Excessively drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	gravelly coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	5 inches	59 inches	stratified extremely gravelly coarse sand to gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 12

Soil Component Name: ROUGH BROKEN LAND

Soil Surface Texture: unweathered bedrock

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

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

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	59 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 13

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	11 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	24 inches	35 inches	cemented	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 14

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy 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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 15

Soil Component Name: FALLBROOK

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.42 Min: 0	Max: Min:
2	7 inches	18 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.42 Min: 0	Max: Min:
3	18 inches	22 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Map ID: 16

Soil Component Name: ESCONDIDO

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 77 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
2	5 inches	33 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
3	33 inches	38 inches	unweathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:

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

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
5	USGS40000133912	1/8 - 1/4 Mile SSE
6	USGS40000133942	1/4 - 1/2 Mile ENE
7	USGS40000133914	1/4 - 1/2 Mile ESE
B9	USGS40000133948	1/4 - 1/2 Mile NW
B10	USGS40000133949	1/4 - 1/2 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
12	USGS40000133961	1/4 - 1/2 Mile NE
C16	USGS40000133888	1/4 - 1/2 Mile SSE
D19	USGS40000133970	1/2 - 1 Mile NW
E22	USGS40000133865	1/2 - 1 Mile SSE
E23	USGS40000133864	1/2 - 1 Mile SSE
D24	USGS40000133979	1/2 - 1 Mile NW
F26	USGS40000133858	1/2 - 1 Mile SSE
F28	USGS40000133856	1/2 - 1 Mile SSE
G31	USGS40000134005	1/2 - 1 Mile NW
G32	USGS40000134006	1/2 - 1 Mile NW
H34	USGS40000134030	1/2 - 1 Mile NNW
I38	USGS40000134056	1/2 - 1 Mile North
I40	USGS40000134057	1/2 - 1 Mile North
J43	USGS40000134025	1/2 - 1 Mile NW
J44	USGS40000134026	1/2 - 1 Mile NW
K45	USGS40000134039	1/2 - 1 Mile NNW

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

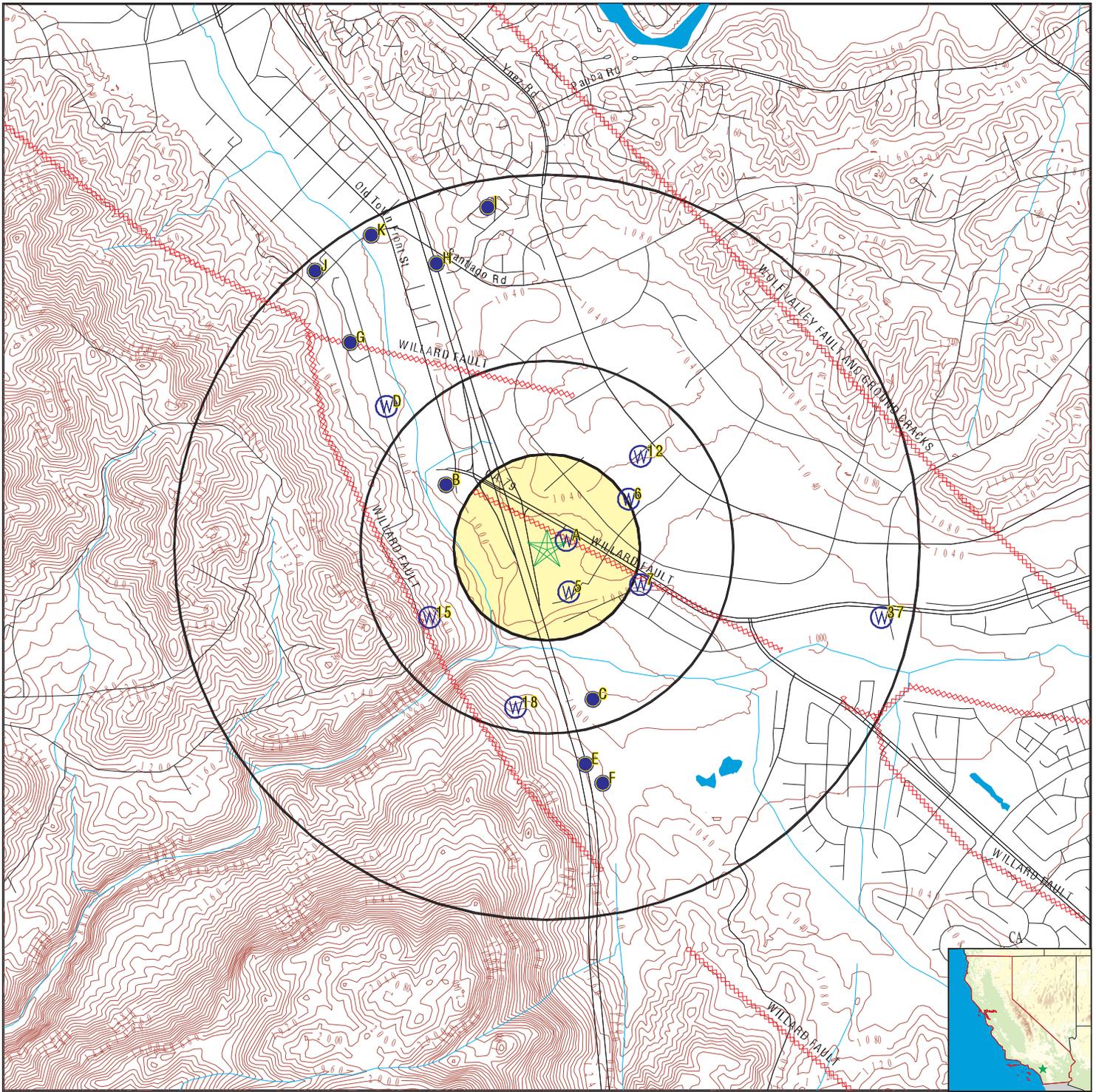
MAP ID	WELL ID	LOCATION FROM TP
A1	CAEDF0000038616	0 - 1/8 Mile ENE
A2	CAEDF0000075994	0 - 1/8 Mile ENE
A3	CAEDF0000014181	0 - 1/8 Mile ENE
A4	CAEDF0000060983	0 - 1/8 Mile ENE
B8	CAUSGSN00009243	1/4 - 1/2 Mile WNW
B11	CADWR0000024133	1/4 - 1/2 Mile WNW
B13	CADWR9000003236	1/4 - 1/2 Mile WNW
B14	CADWR9000003235	1/4 - 1/2 Mile WNW
15	CADWR0000037304	1/4 - 1/2 Mile WSW
C17	CAUSGSN00013553	1/4 - 1/2 Mile SSE
18	CADWR0000032065	1/4 - 1/2 Mile South
E20	CADWR9000003174	1/2 - 1 Mile South
E21	CADWR9000003175	1/2 - 1 Mile South
E25	CADWR9000003170	1/2 - 1 Mile South
E27	CADWR9000003168	1/2 - 1 Mile South
F29	CADWR0000026617	1/2 - 1 Mile SSE
F30	CAUSGSN00019013	1/2 - 1 Mile SSE
G33	CADWR9000003277	1/2 - 1 Mile NW
H35	CADWR9000003294	1/2 - 1 Mile NNW
I36	CAUSGSN00012351	1/2 - 1 Mile North
37	CADWR0000011073	1/2 - 1 Mile ESE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
I39	CADWR0000006203	1/2 - 1 Mile North
I41	CADWR9000003312	1/2 - 1 Mile NNW
I42	CADWR9000003313	1/2 - 1 Mile NNW
K46	CADWR9000003301	1/2 - 1 Mile NNW
J47	CADWR9000003289	1/2 - 1 Mile NW
J48	CADWR9000003290	1/2 - 1 Mile NW

PHYSICAL SETTING SOURCE MAP - 7059016.2s



- 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
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula CA 92592
 LAT/LONG: 33.478434 / 117.138552

CLIENT: Earth Strata Geotechnical Services, Inc
 CONTACT: Stephanie Jones
 INQUIRY #: 7059016.2s
 DATE: July 19, 2022 7:12 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
ENE
0 - 1/8 Mile
Higher

CA WELLS CAEDF0000038616

Well ID:	T0606543882-MW01	Well Type:	MONITORING
Source:	EDF	Other Name:	MW01
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606543882&assigned_name=MW01&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606543882&assigned_name=MW01		

A2
ENE
0 - 1/8 Mile
Higher

CA WELLS CAEDF0000075994

Well ID:	T0606543882-MW02	Well Type:	MONITORING
Source:	EDF	Other Name:	MW02
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606543882&assigned_name=MW02&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606543882&assigned_name=MW02		

A3
ENE
0 - 1/8 Mile
Higher

CA WELLS CAEDF0000014181

Well ID:	T0606543882-MW04	Well Type:	MONITORING
Source:	EDF	Other Name:	MW04
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606543882&assigned_name=MW04&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606543882&assigned_name=MW04		

A4
ENE
0 - 1/8 Mile
Higher

CA WELLS CAEDF0000060983

Well ID:	T0606543882-MW03	Well Type:	MONITORING
Source:	EDF	Other Name:	MW03
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606543882&assigned_name=MW03&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606543882&assigned_name=MW03		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

5
SSE
1/8 - 1/4 Mile
Higher

FED USGS USGS40000133912

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13R001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19260101	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

6
ENE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000133942

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S002W18N001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19270101	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	125
Well Hole Depth Units:	ft		

7
ESE
1/4 - 1/2 Mile
Lower

FED USGS USGS40000133914

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S002W18N002S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19270101	Well Depth:	87
Well Depth Units:	ft	Well Hole Depth:	87
Well Hole Depth Units:	ft		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

B8
WNW
 1/4 - 1/2 Mile
 Lower

CA WELLS CAUSGSN00009243

Well ID:	USGS-332851117083102	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-332851117083102	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&amp_date=&global_id=&assigned_name=USGS-332851117083102&store_num=		
GeoTracker Data:	Not Reported		

B9
NW
 1/4 - 1/2 Mile
 Lower

FED USGS USGS40000133948

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13K002S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	76
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	14.00	Feet to sea level:	Not Reported
Note:	Not Reported		

B10
NW
 1/4 - 1/2 Mile
 Lower

FED USGS USGS40000133949

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13K001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19390101	Well Depth:	36
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	14.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

B11
WNW
1/4 - 1/2 Mile
Lower

CA WELLS CADWR0000024133

Well ID:	08S03W13K001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S03W13K001S	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=08S03W13K001S&store_num=		
GeoTracker Data:	Not Reported		

12
NE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000133961

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S002W18M001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19270101	Well Depth:	102
Well Depth Units:	ft	Well Hole Depth:	102
Well Hole Depth Units:	ft		

B13
WNW
1/4 - 1/2 Mile
Lower

CA WELLS CADWR9000003236

State Well #:	08S03W13K002S	Station ID:	12732
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

B14
WNW
1/4 - 1/2 Mile
Lower

CA WELLS CADWR9000003235

State Well #:	08S03W13K001S	Station ID:	33474
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

15
WSW
1/4 - 1/2 Mile
Higher

CA WELLS CADWR0000037304

Well ID:	08S03W13Q001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S03W13Q001S	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=08S03W13Q001S&store_num=		
GeoTracker Data:	Not Reported		

C16
SSE
1/4 - 1/2 Mile
Lower

FED USGS USGS40000133888

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W24A001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	5
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C17
SSE
1/4 - 1/2 Mile
Lower

CA WELLS CAUSGSN00013553

Well ID:	USGS-332821117080801	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-332821117080801	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-332821117080801&store_num=		
GeoTracker Data:	Not Reported		

18
South
1/4 - 1/2 Mile
Higher

CA WELLS CADWR0000032065

Well ID:	08S03W24A001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S03W24A001S	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=08S03W24A001S&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

D19
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000133970

Organization ID:	USGS-CA	Type:	Well
Organization Name:	USGS California Water Science Center	HUC:	18070302
Monitor Location:	008S003W13L001S	Drainage Area Units:	Not Reported
Description:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Drainage Area:	Not Reported	Aquifer Type:	Not Reported
Contrib Drainage Area:	Not Reported	Well Depth:	10
Aquifer:	California Coastal Basin aquifers	Well Hole Depth:	Not Reported
Formation Type:	Not Reported		
Construction Date:	Not Reported		
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

E20
South
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003174

State Well #:	08S03W24H001S	Station ID:	12735
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

E21
South
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003175

State Well #:	08S03W24H003S	Station ID:	38846
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

E22
SSE
1/2 - 1 Mile
Higher

FED USGS USGS40000133865

Organization ID:	USGS-CA	Type:	Well
Organization Name:	USGS California Water Science Center	HUC:	18070302
Monitor Location:	008S003W24H003S	Drainage Area Units:	Not Reported
Description:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Drainage Area:	Not Reported	Aquifer Type:	Not Reported
Contrib Drainage Area:	Not Reported	Well Depth:	32
Aquifer:	California Coastal Basin aquifers	Well Hole Depth:	Not Reported
Formation Type:	Not Reported		
Construction Date:	Not Reported		
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels,Number of Measurements:	1	Level reading date:	1967-11-01
Feet below surface:	17.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**E23
SSE
1/2 - 1 Mile
Higher**

FED USGS USGS40000133864

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W24H001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	56
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-11-01
Feet below surface:	18.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**D24
NW
1/2 - 1 Mile
Higher**

FED USGS USGS40000133979

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13F001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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		

**E25
South
1/2 - 1 Mile
Higher**

CA WELLS CADWR9000003170

State Well #:	08S02W19E001S	Station ID:	8331
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

F26
SSE
 1/2 - 1 Mile
 Lower

FED USGS USGS40000133858

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S002W19E001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19570101	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	98
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-11-01
Feet below surface:	13.00	Feet to sea level:	Not Reported
Note:	Not Reported		

E27
South
 1/2 - 1 Mile
 Higher

CA WELLS CADWR9000003168

State Well #:	08S03W24H002S	Station ID:	12736
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

F28
SSE
 1/2 - 1 Mile
 Higher

FED USGS USGS40000133856

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W24H002S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19580101	Well Depth:	38
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-11-01
Feet below surface:	26.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

F29
SSE
1/2 - 1 Mile
Higher

CA WELLS CADWR0000026617

Well ID:	08S03W24H002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S03W24H002S	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=08S03W24H002S&store_num=		
GeoTracker Data:	Not Reported		

F30
SSE
1/2 - 1 Mile
Higher

CA WELLS CAUSGSN00019013

Well ID:	USGS-332809117080701	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-332809117080701	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-332809117080701&store_num=		
GeoTracker Data:	Not Reported		

G31
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000134005

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13F002S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	34
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	32.00	Feet to sea level:	Not Reported
Note:	Not Reported		

G32
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000134006

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13F003S	Type:	Well
Description:	Not Reported	HUC:	18070302

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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		

**G33
NW
1/2 - 1 Mile
Higher**

CA WELLS CADWR9000003277

State Well #:	08S03W13F002S	Station ID:	12731
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

**H34
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000134030

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13B001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	44
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-10-01
Feet below surface:	27.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**H35
NNW
1/2 - 1 Mile
Higher**

CA WELLS CADWR9000003294

State Well #:	08S03W13B001S	Station ID:	33471
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

I36
North
1/2 - 1 Mile
Higher

CA WELLS CAUSGSN00012351

Well ID:	USGS-332930117082401	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-332930117082401	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-332930117082401&store_num=		
GeoTracker Data:	Not Reported		

37
ESE
1/2 - 1 Mile
Higher

CA WELLS CADWR0000011073

Well ID:	08S02W18R002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S02W18R002S	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=08S02W18R002S&store_num=		
GeoTracker Data:	Not Reported		

I38
North
1/2 - 1 Mile
Higher

FED USGS USGS40000134056

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W12Q002S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	19500101	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-10-01
Feet below surface:	79.00	Feet to sea level:	Not Reported
Note:	Not Reported		

I39
North
1/2 - 1 Mile
Higher

CA WELLS CADWR0000006203

Well ID:	08S03W12Q002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	08S03W12Q002S	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=08S03W12Q002S&store_num=		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

GeoTracker Data: Not Reported

I40
North
1/2 - 1 Mile
Higher

FED USGS USGS40000134057

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W12Q001S	Type:	Well
Description:	Not Reported	HUC:	18070302
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:	109
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	85.00	Feet to sea level:	Not Reported
Note:	Not Reported		

I41
NNW
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003312

State Well #:	08S03W12Q002S	Station ID:	12728
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

I42
NNW
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003313

State Well #:	08S03W12Q001S	Station ID:	12727
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J43
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000134025

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S003W13D001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer:	California Coastal Basin aquifers	Aquifer Type:	Not Reported
Formation Type:	Not Reported	Well Depth:	59
Construction Date:	Not Reported	Well Hole Depth:	Not Reported
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	34.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**J44
NW
1/2 - 1 Mile
Higher**

FED USGS USGS40000134026

Organization ID:	USGS-CA	Type:	Well
Organization Name:	USGS California Water Science Center	HUC:	18070302
Monitor Location:	008S003W13D002S	Drainage Area Units:	Not Reported
Description:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Drainage Area:	Not Reported		
Contrib Drainage Area:	Not Reported		
Aquifer:	California Coastal Basin aquifers	Aquifer Type:	Not Reported
Formation Type:	Not Reported	Well Depth:	38
Construction Date:	Not Reported	Well Hole Depth:	Not Reported
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-09-01
Feet below surface:	36.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**K45
NNW
1/2 - 1 Mile
Lower**

FED USGS USGS40000134039

Organization ID:	USGS-CA	Type:	Well
Organization Name:	USGS California Water Science Center	HUC:	18070302
Monitor Location:	008S003W13C001S	Drainage Area Units:	Not Reported
Description:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Drainage Area:	Not Reported		
Contrib Drainage Area:	Not Reported		
Aquifer:	California Coastal Basin aquifers	Aquifer Type:	Not Reported
Formation Type:	Not Reported	Well Depth:	65
Construction Date:	19100101	Well Hole Depth:	Not Reported
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-11-01
Feet below surface:	16.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

K46
NNW
1/2 - 1 Mile
Lower

CA WELLS CADWR9000003301

State Well #:	08S03W13C001S	Station ID:	39577
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J47
NW
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003289

State Well #:	08S03W13D001S	Station ID:	33472
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J48
NW
1/2 - 1 Mile
Higher

CA WELLS CADWR9000003290

State Well #:	08S03W13D002S	Station ID:	12729
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92592	14	0

Federal EPA Radon Zone for RIVERSIDE County: 2

- 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 RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

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 and 2010 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 California's 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 Health 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.

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.

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

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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 IRRA 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

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix D

Temecula Parkway
Temecula Parkway and Bedford Court
Temecula, CA 92592

Inquiry Number: 7059016.4

July 19, 2022

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

07/19/22

Site Name:

Temecula Parkway
Temecula Parkway and Bedfor
Temecula, CA 92592
EDR Inquiry # 7059016.4

Client Name:

Earth Strata Geotechnical Services, Inc
42184 Remington Avenue
Temecula, CA 92590
Contact: Stephanie Jones



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Earth Strata Geotechnical Services, Inc were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	224450	Latitude:	33.478434 33° 28' 42" North
Project:	Vacant Property	Longitude:	-117.138552 -117° 8' 19" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	487127.35
		UTM Y Meters:	3704336.81
		Elevation:	1006.22' above sea level

Maps Provided:

2018 1901
2015
2012
1975, 1978, 1979
1968
1950
1948, 1949
1947

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2022 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2018 Source Sheets



Temecula
2018
7.5-minute, 24000



Pechanga
2018
7.5-minute, 24000



Murrieta
2018
7.5-minute, 24000



Bachelor Mountain
2018
7.5-minute, 24000

2015 Source Sheets



Temecula
2015
7.5-minute, 24000



Pechanga
2015
7.5-minute, 24000



Murrieta
2015
7.5-minute, 24000



Bachelor Mountain
2015
7.5-minute, 24000

2012 Source Sheets



Temecula
2012
7.5-minute, 24000



Pechanga
2012
7.5-minute, 24000



Murrieta
2012
7.5-minute, 24000



Bachelor Mountain
2012
7.5-minute, 24000

1975, 1978, 1979 Source Sheets



Temecula
1975
7.5-minute, 24000
Aerial Photo Revised 1975



Bachelor Mtn
1978
7.5-minute, 24000
Aerial Photo Revised 1973



Murrieta
1979
7.5-minute, 24000
Aerial Photo Revised 1976

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1968 Source Sheets



Pechanga
1968
7.5-minute, 24000
Aerial Photo Revised 1967

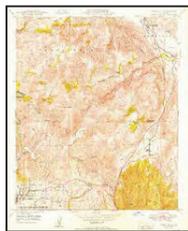


Temecula
1968
7.5-minute, 24000
Aerial Photo Revised 1967

1950 Source Sheets

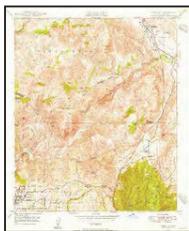


Pechanga
1950
7.5-minute, 24000
Aerial Photo Revised 1947



Temecula
1950
7.5-minute, 24000
Aerial Photo Revised 1947

1948, 1949 Source Sheets

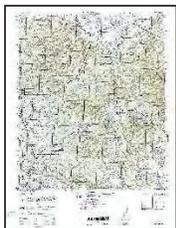


Temecula
1948
7.5-minute, 24000
Aerial Photo Revised 1947



Pechanga
1949
7.5-minute, 24000
Aerial Photo Revised 1947

1947 Source Sheets



TEMECULA
1947
15-minute, 50000

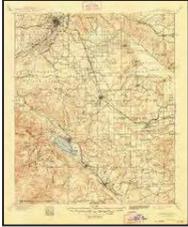


MURRIETA
1947
15-minute, 50000

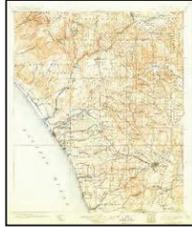
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

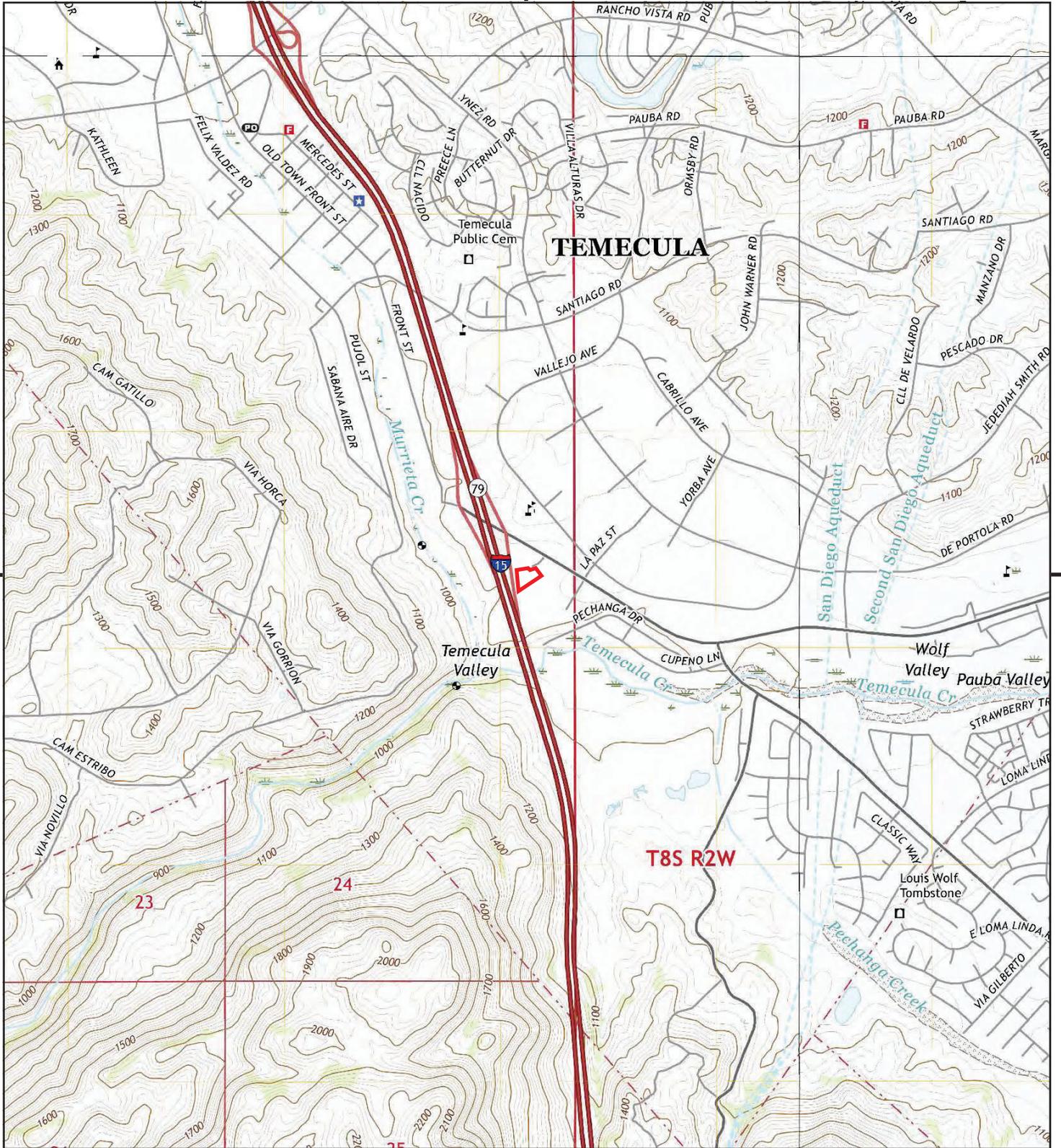
1901 Source Sheets



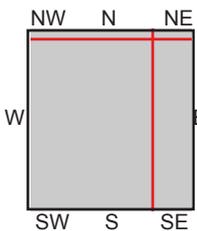
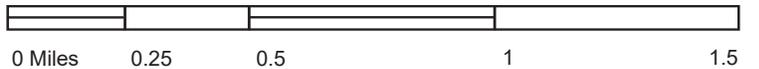
Elsinore
1901
30-minute, 125000



San Luis Rey
1901
30-minute, 125000



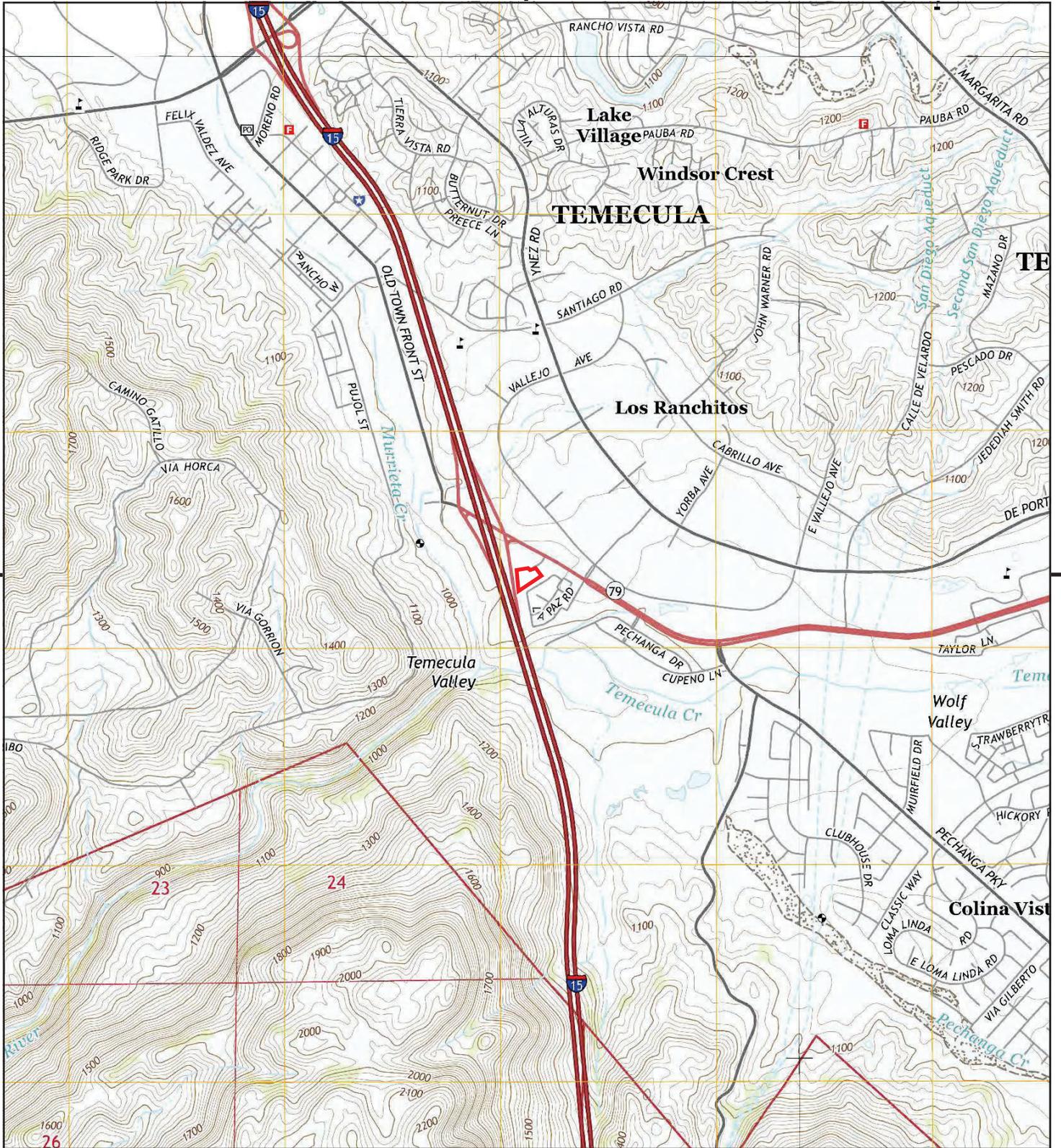
This report includes information from the following map sheet(s).



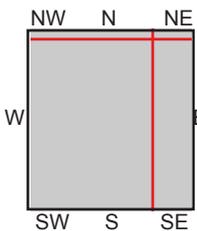
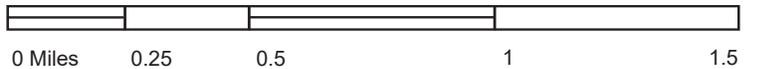
TP, Temecula, 2018, 7.5-minute
 NE, Bachelor Mountain, 2018, 7.5-minute
 SE, Pechanga, 2018, 7.5-minute
 NW, Murrieta, 2018, 7.5-minute

SITE NAME: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula, CA 92592
 CLIENT: Earth Strata Geotechnical Services, Inc





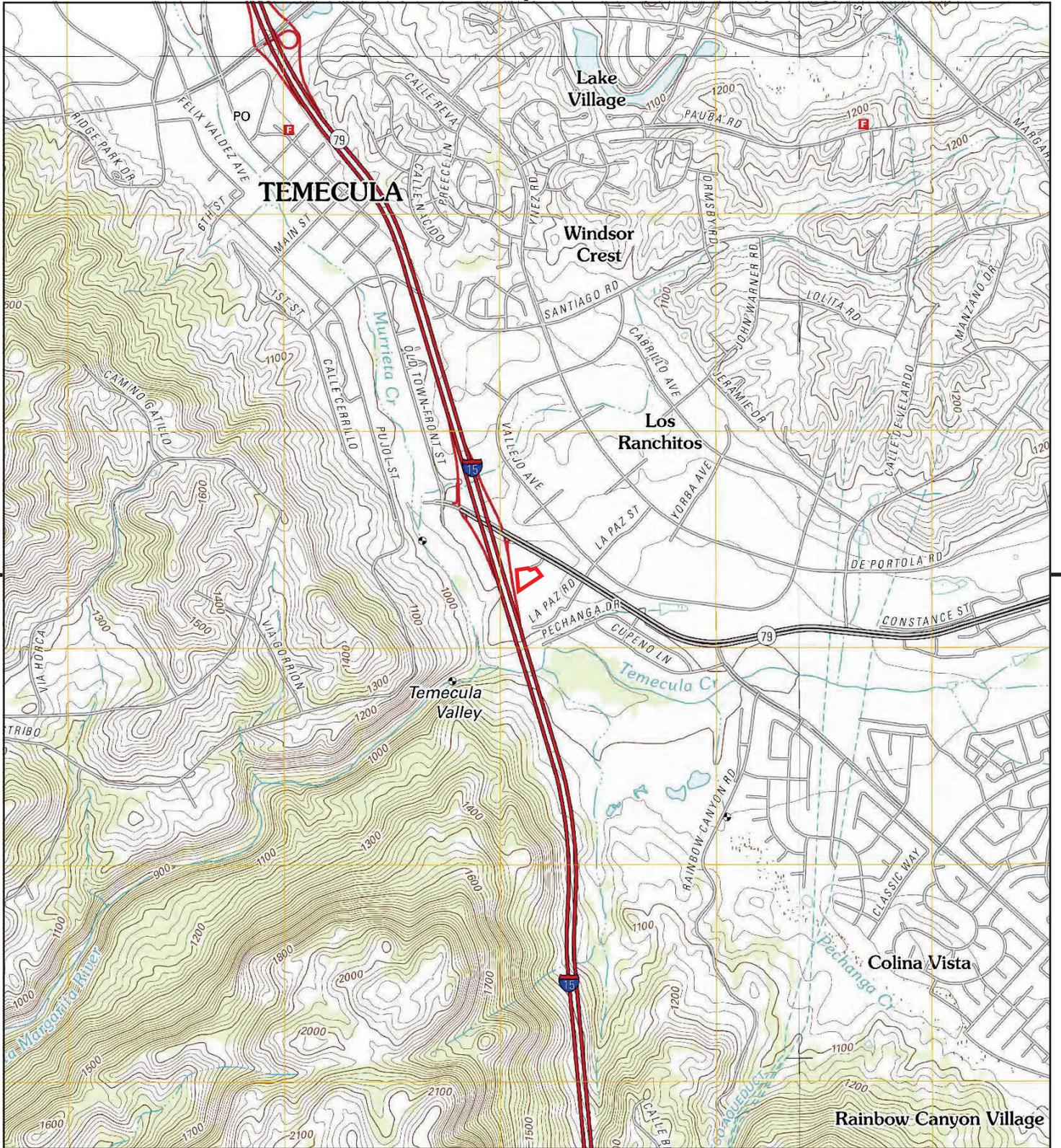
This report includes information from the following map sheet(s).



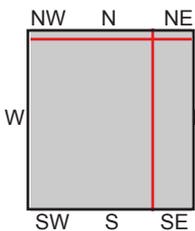
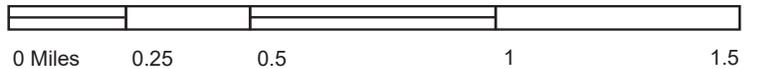
TP, Temecula, 2015, 7.5-minute
 NE, Bachelor Mountain, 2015, 7.5-minute
 SE, Pechanga, 2015, 7.5-minute
 NW, Murrieta, 2015, 7.5-minute

SITE NAME: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula, CA 92592
 CLIENT: Earth Strata Geotechnical Services, Inc





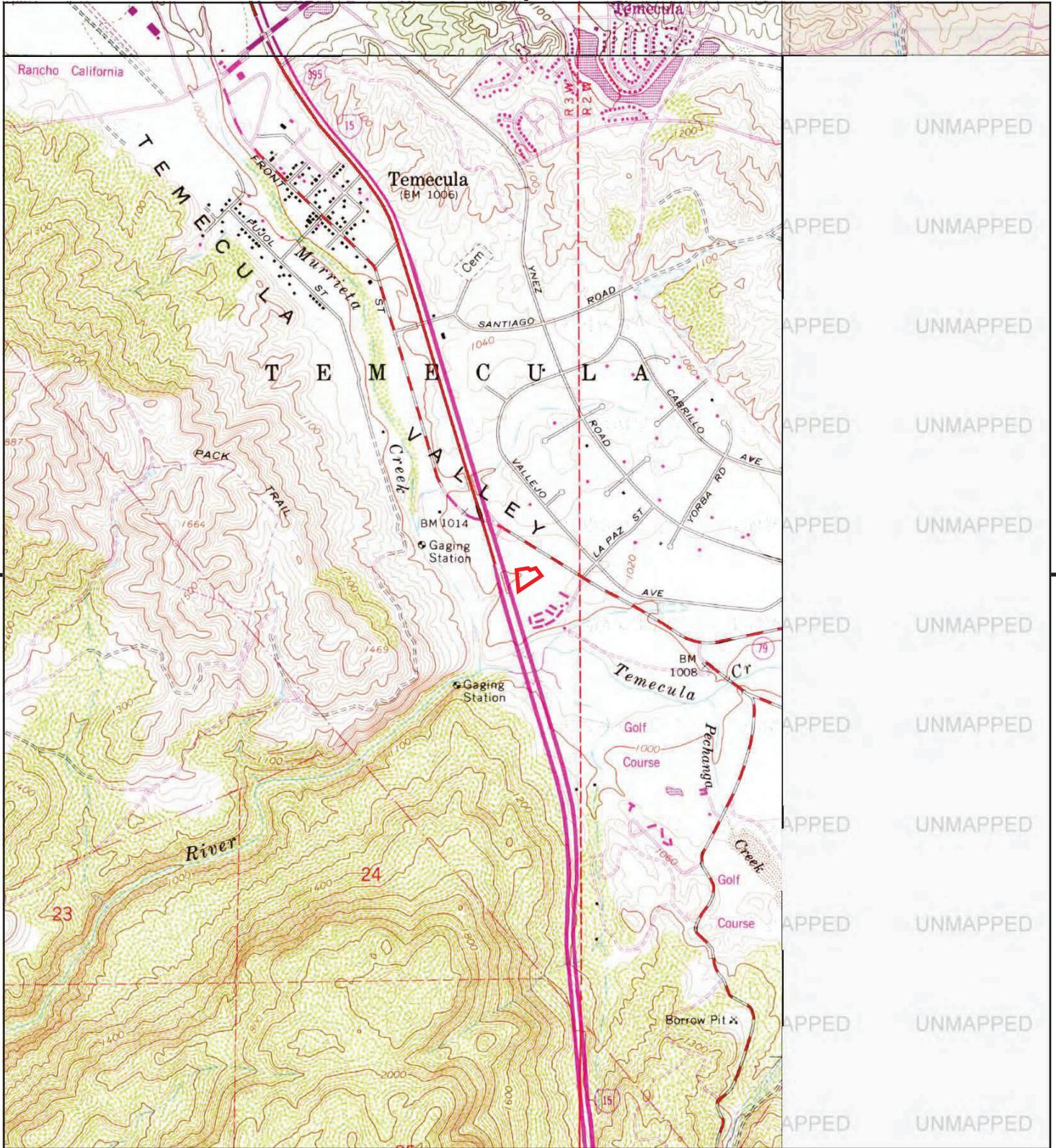
This report includes information from the following map sheet(s).



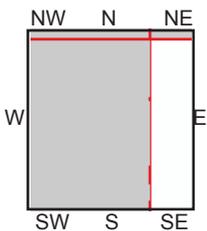
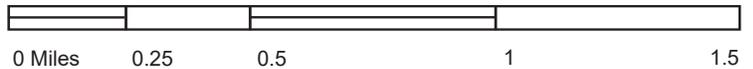
TP, Temecula, 2012, 7.5-minute
 NE, Bachelor Mountain, 2012, 7.5-minute
 SE, Pechanga, 2012, 7.5-minute
 NW, Murrieta, 2012, 7.5-minute

SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
 Temecula, CA 92592
CLIENT: Earth Strata Geotechnical Services, Inc





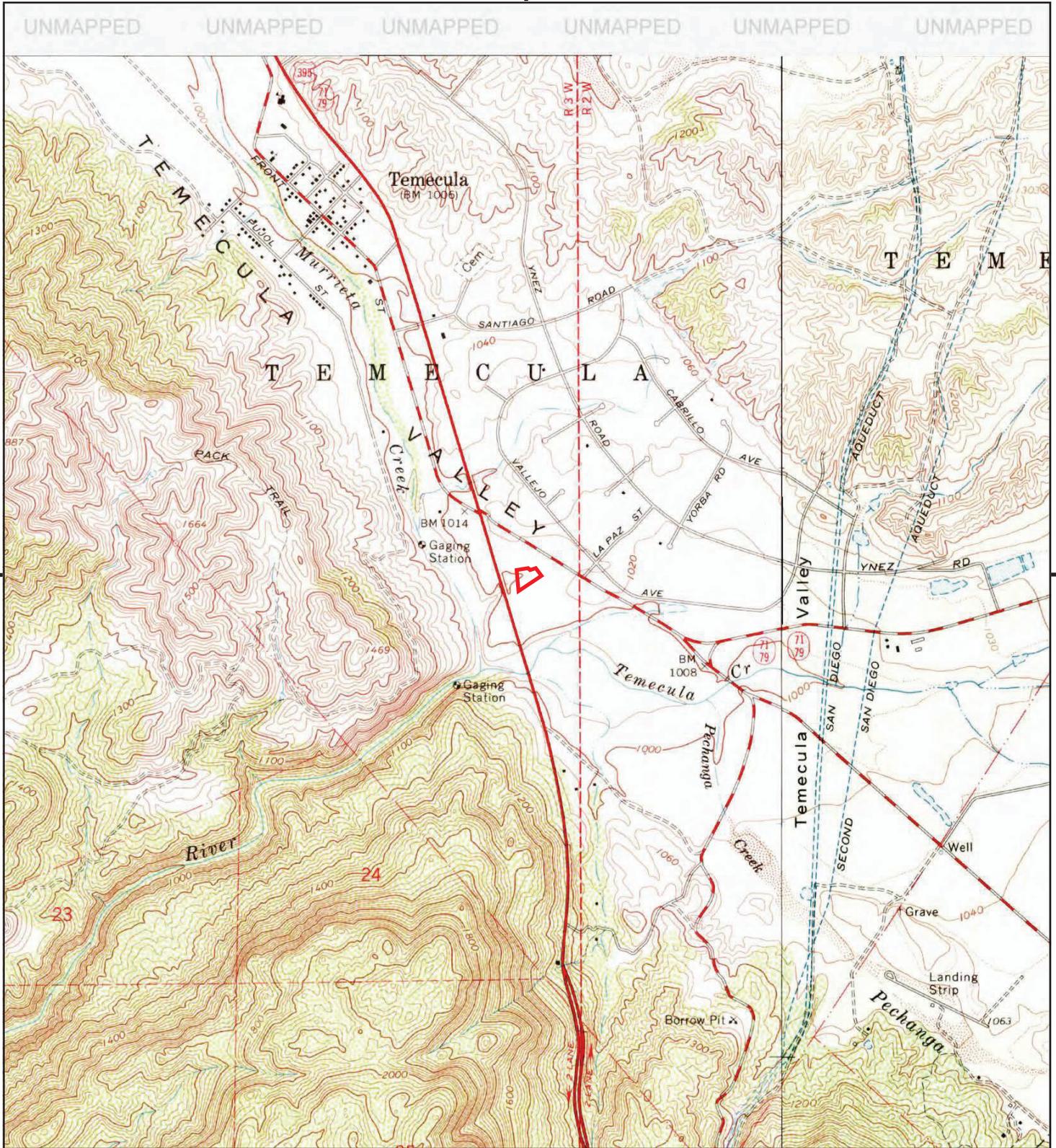
This report includes information from the following map sheet(s).



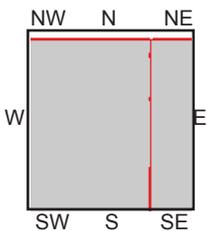
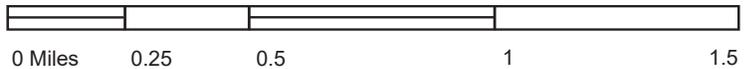
TP, Temecula, 1975, 7.5-minute
 NE, Bachelor Mtn, 1978, 7.5-minute
 NW, Murrieta, 1979, 7.5-minute

SITE NAME: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula, CA 92592
 CLIENT: Earth Strata Geotechnical Services, Inc





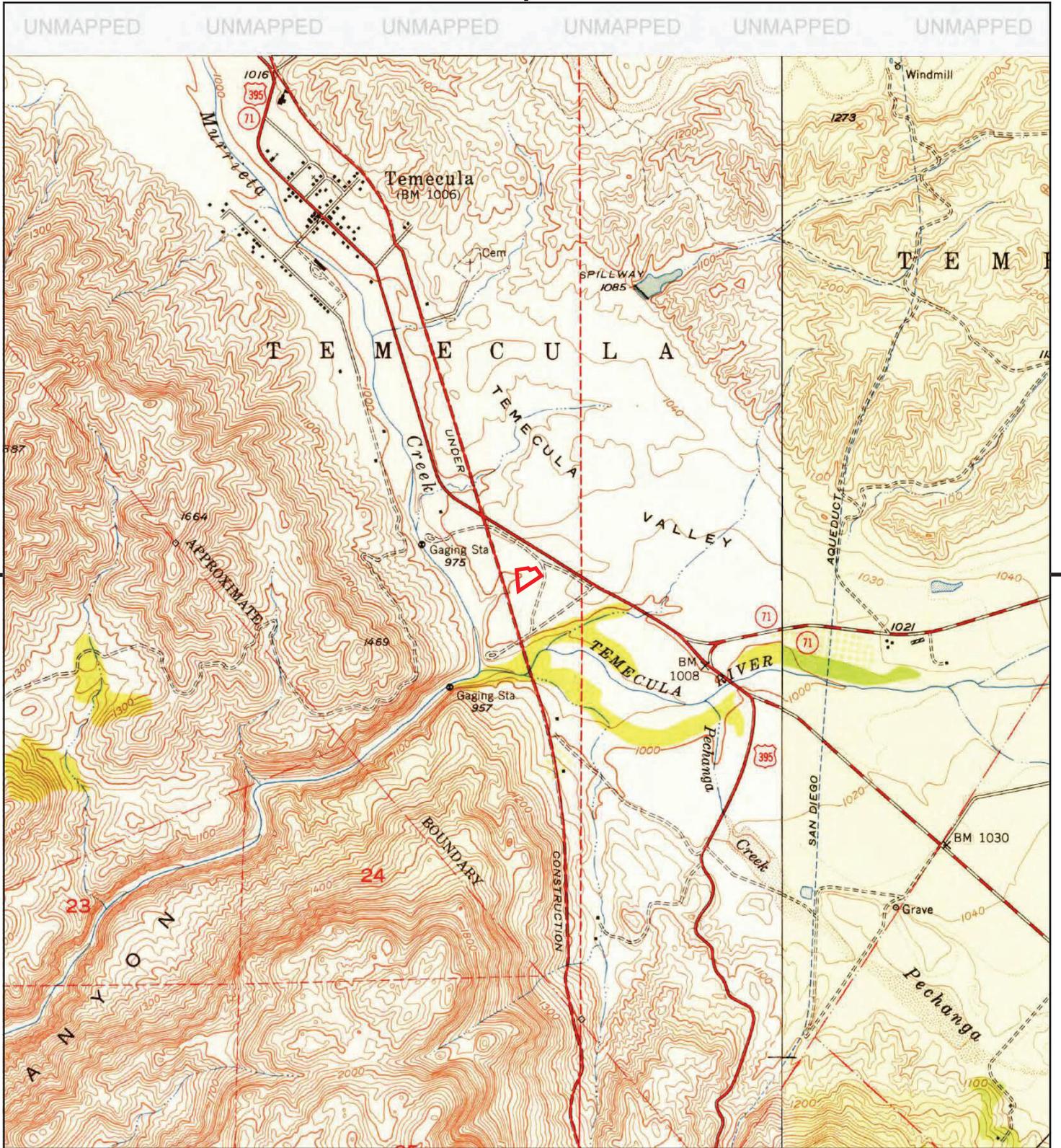
This report includes information from the following map sheet(s).



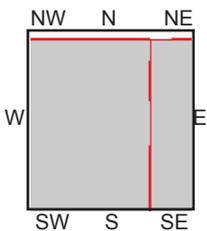
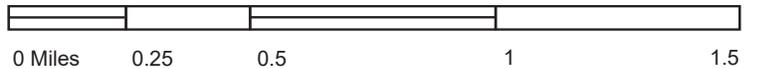
TP, Temecula, 1968, 7.5-minute
SE, Pechanga, 1968, 7.5-minute

SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
Temecula, CA 92592
CLIENT: Earth Strata Geotechnical Services, Inc





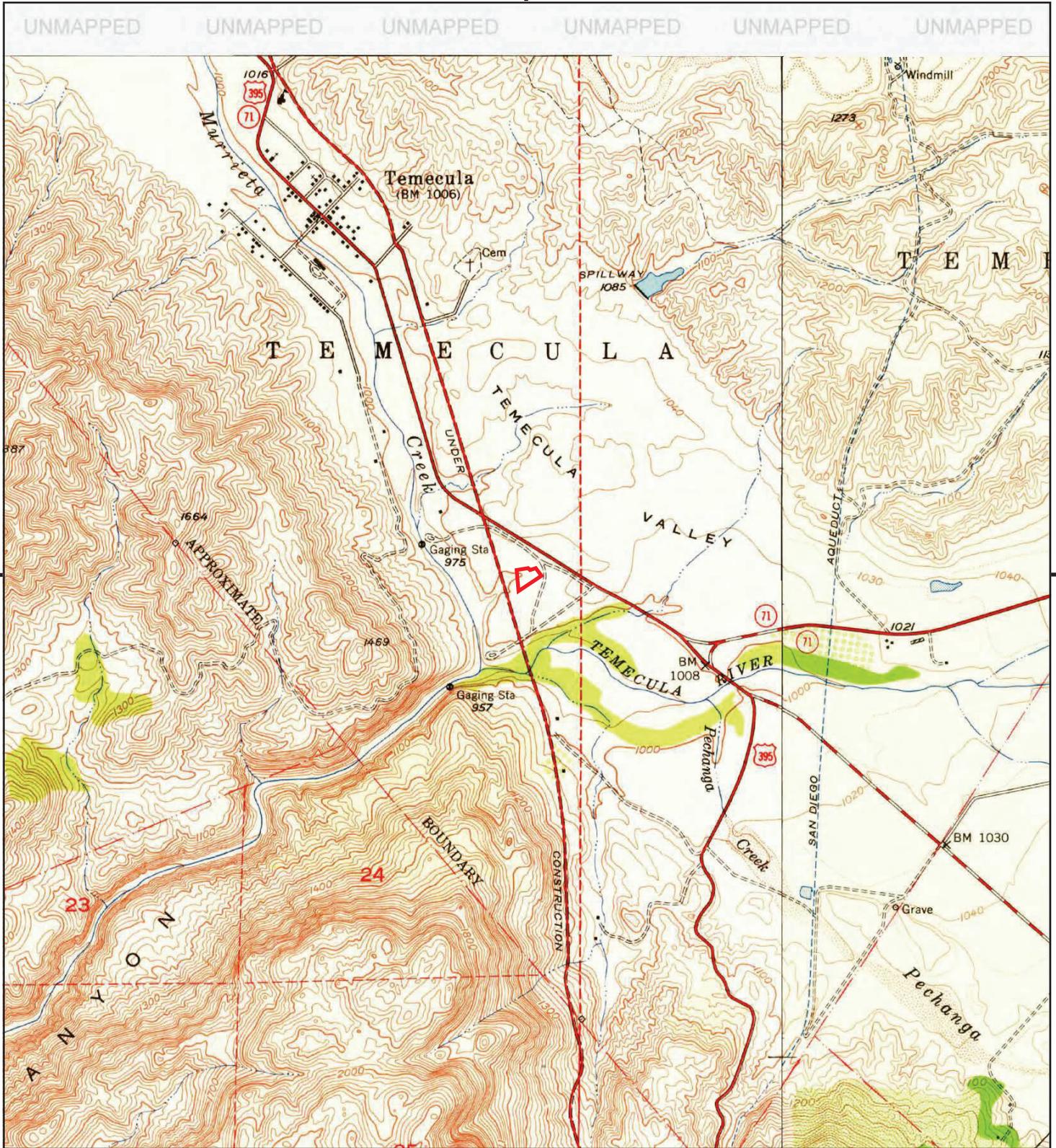
This report includes information from the following map sheet(s).



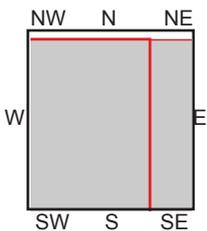
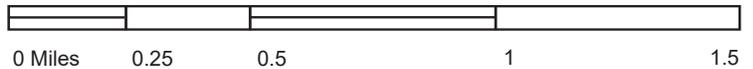
TP, Temecula, 1950, 7.5-minute
SE, Pechanga, 1950, 7.5-minute

SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
Temecula, CA 92592
CLIENT: Earth Strata Geotechnical Services, Inc





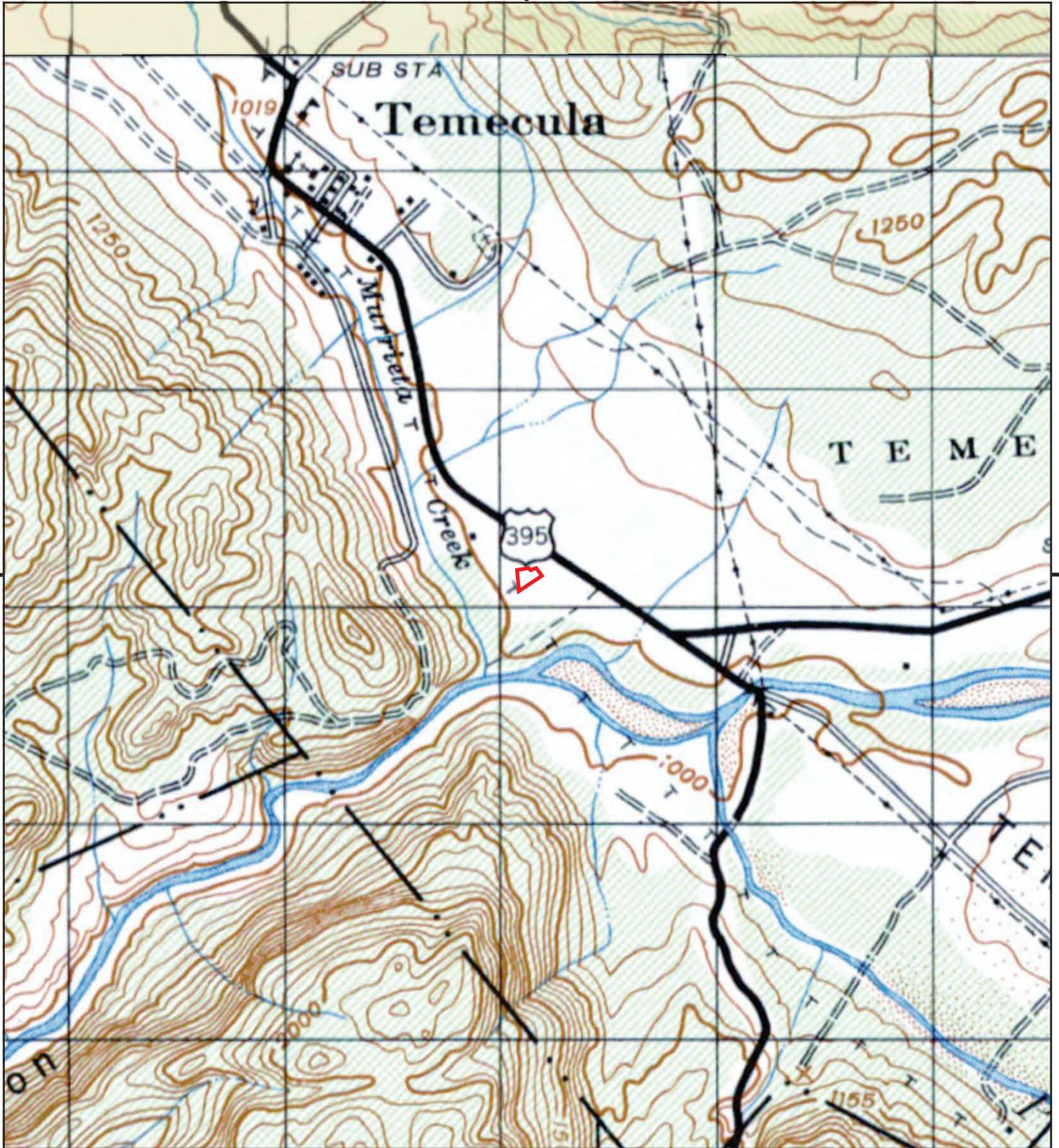
This report includes information from the following map sheet(s).



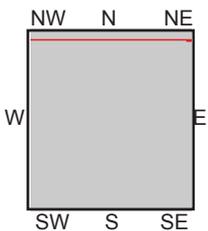
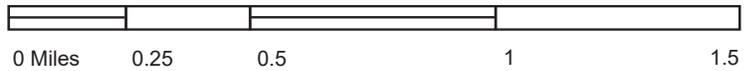
TP, Temecula, 1948, 7.5-minute
SE, Pechanga, 1949, 7.5-minute

SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
Temecula, CA 92592
CLIENT: Earth Strata Geotechnical Services, Inc





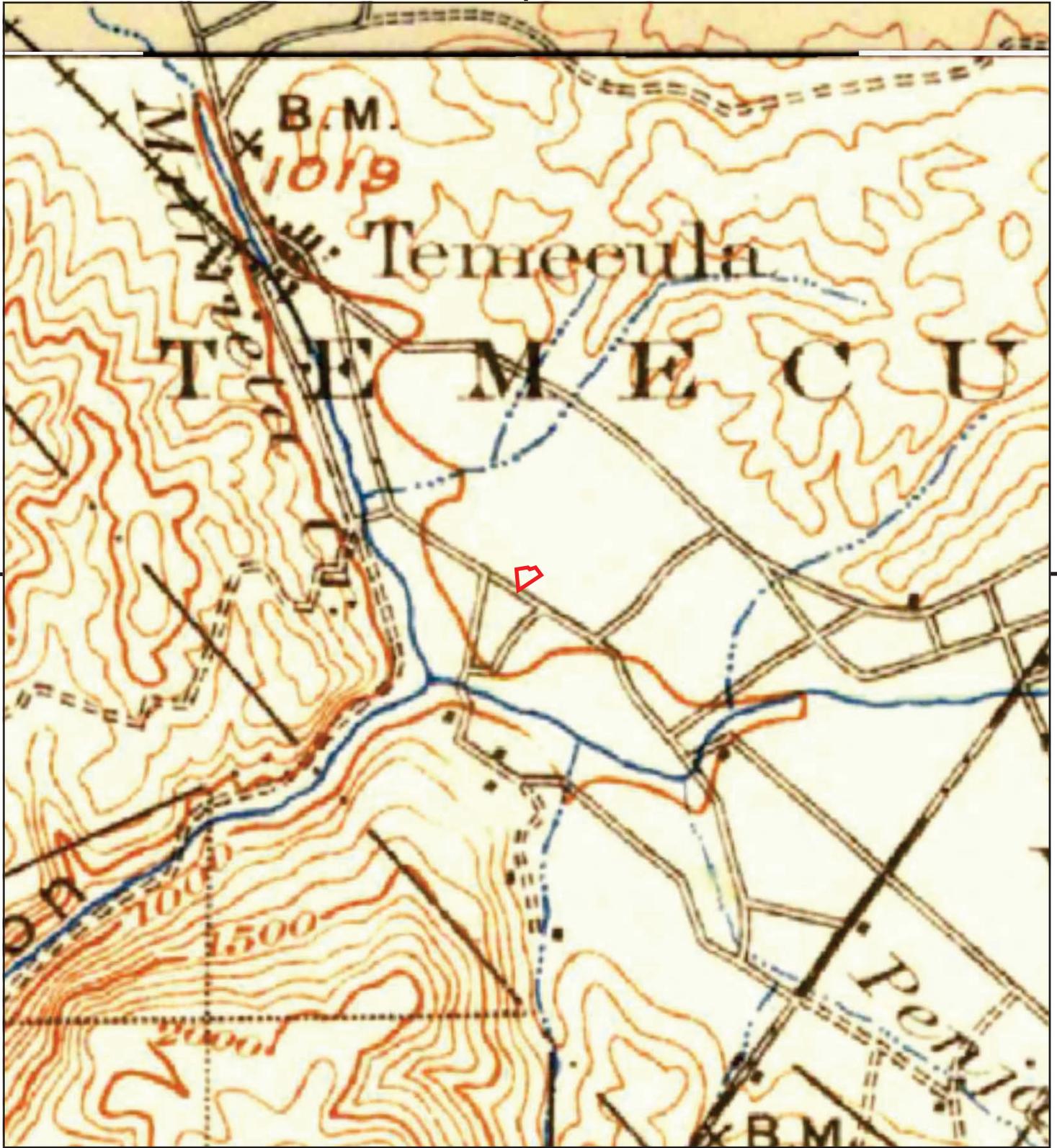
This report includes information from the following map sheet(s).



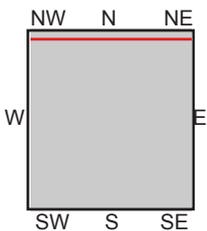
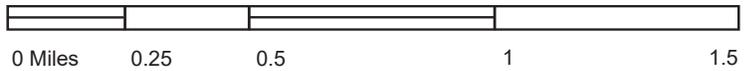
TP, TEMECULA, 1947, 15-minute
N, MURRIETA, 1947, 15-minute

SITE NAME: Temecula Parkway
ADDRESS: Temecula Parkway and Bedford Court
Temecula, CA 92592
CLIENT: Earth Strata Geotechnical Services, Inc





This report includes information from the following map sheet(s).



TP, San Luis Rey, 1901, 30-minute
N, Elsinore, 1901, 30-minute

SITE NAME: Temecula Parkway
 ADDRESS: Temecula Parkway and Bedford Court
 Temecula, CA 92592
 CLIENT: Earth Strata Geotechnical Services, Inc



Temecula Parkway
Temecula Parkway and Bedford Court
Temecula, CA 92592

Inquiry Number: 7059016.3

July 19, 2022

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

07/19/22

Site Name:

Temecula Parkway
Temecula Parkway and Bedford
Temecula, CA 92592
EDR Inquiry # 7059016.3

Client Name:

Earth Strata Geotechnical Services, Inc
42184 Remington Avenue
Temecula, CA 92590
Contact: Stephanie Jones



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Earth Strata Geotechnical Services, Inc were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # C3A1-41CF-AAD3
PO # 224450
Project Vacant Property

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: C3A1-41CF-AAD3

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™

Limited Permission To Make Copies

Earth Strata Geotechnical Services, Inc (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice. Copyright 2022 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

RE: Record Request - APN 922-210-042

DEH-Records Management <DEHRecordsMgmt@rivco.org>

Wed 7/20/2022 7:57 AM

To: Stephanie Jones <sjones@esgsinc.com>;

Hello,

We do not accept APN numbers for Hazardous Materials. Please feel free to update with an exact site address in order to move forward with the request.

Thank you

From: Stephanie Jones <sjones@esgsinc.com>

Sent: Tuesday, July 19, 2022 3:57 PM

To: DEH-Records Management <DEHRecordsMgmt@rivco.org>; DEH Land Use Records <LandUseRecords@rivco.org>

Subject: Record Request - APN 922-210-042

CAUTION: This email originated externally from the Riverside County email system. **DO NOT** click links or open attachments unless you recognize the sender and know the content is safe.

Please find the record request attached for the APN 922-210-042. It is my understanding that there are no known historical addresses.

Best Regards,

Stephanie Jones

Confidentiality Disclaimer

This email is confidential and intended solely for the use of the individual(s) to whom it is addressed. The information contained in this message may be privileged and confidential and protected from disclosure.

If you are not the author's intended recipient, be advised that you have received this email in error and that any use, dissemination, forwarding, printing, or copying of this email is strictly prohibited. If you have received this email in error please delete all copies, both electronic and printed, and contact the author immediately.

[County of Riverside California](#)

Re: Record Request - APN 922-210-042

DEH Land Use Records <LandUseRecords@rivco.org>

Tue 7/19/2022 4:17 PM

To: Stephanie Jones <sjones@esgsinc.com>;

Your request for septic tank and/or well records has been forwarded to the appropriate staff to be acted on as soon as possible.

Your request number is **71922-3**. Please keep this for tracking purposes.

Thank you,



Department of Environmental Health

Environmental Protection and Oversight Division

RECORDS—Landuse and Water Resources

Western Riverside County Office: 951-955-8980

Eastern Riverside County Office: 760-863-7570

landuserecords@rivco.org

From: Stephanie Jones <sjones@esgsinc.com>

Sent: Tuesday, July 19, 2022 3:57 PM

To: DEH-Records Management <DEHRecordsMgmt@rivco.org>; DEH Land Use Records <LandUseRecords@rivco.org>

Subject: Record Request - APN 922-210-042

CAUTION: This email originated externally from the Riverside County email system. **DO NOT** click links or open attachments unless you recognize the sender and know the content is safe. Please find the record request attached for the APN 922-210-042. It is my understanding that there are no known historical addresses.

Best Regards,
Stephanie Jones

Confidentiality Disclaimer

This email is confidential and intended solely for the use of the individual(s) to whom it is addressed. The information contained in this message may be privileged and confidential and protected from disclosure.

If you are not the author's intended recipient, be advised that you have received this email in error and that any use, dissemination, forwarding, printing, or copying of this email is strictly prohibited.

If you have received this email in error please delete all copies, both electronic and printed, and contact the author immediately.

[County of Riverside California](#)

[City of Temecula] Public Records Center Update - Stephanie Jones :: W007506-071922

City of Temecula Public Records Center <temeculaca@mycusthelp.net>

Mon 7/25/2022 3:37 PM

To: Stephanie Jones <sjones@esginc.com>;

--- Please respond above this line ---



July 25, 2022

Re: Public Records Act Request Dated July 19, 2022

Dear Stephanie Jones,

The City is in receipt of your Public Records Act Request dated July 19, 2022, for copies of the following document(s):

"All records (building permit, if any, UST, AST, LUST case,) for APN 922-210-042, which is located at the col-de-sac of Bedford Court and Temecula Parkway."

In accordance with Government Code Sections 6253(c) and 6255(b), this serves as the City's response to your request.

The City has conducted a thorough review of its files and does not have any documents responsive to your request.

Please feel free to contact our office if you have any further needs or questions.

Regards,

City of Temecula | City Clerk's Office | (951) 240-4225

[Click here to access the Public Records Request Center and view your requests.](#)



Appendix E



First American

Commitment

ALTA Commitment for Title Insurance

ISSUED BY

First American Title Insurance Company

File No: NCS-1131177-ONT1

COMMITMENT FOR TITLE INSURANCE

Issued By

FIRST AMERICAN TITLE INSURANCE COMPANY

NOTICE

IMPORTANT-READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACTIONAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions; and the Commitment Conditions, ***First American Title Insurance Company***, a Nebraska Corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured.

If all of the Schedule B, Part I-Requirements have not been met within six months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

First American Title Insurance Company

Kenneth D. DeGiorgio, President

Greg L. Smith, Secretary

If this jacket was created electronically, it constitutes an original document.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

COMMITMENT CONDITIONS

1. DEFINITIONS

- (a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.
- (b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
- (c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.
- (d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
- (e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
- (f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.
- (g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.
- (h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I—Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:

- (a) the Notice;
- (b) the Commitment to Issue Policy;
- (c) the Commitment Conditions;
- (d) Schedule A;
- (e) Schedule B, Part I—Requirements; and
- (f) Schedule B, Part II—Exceptions.

4. COMPANY'S RIGHT TO AMEND

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. LIMITATIONS OF LIABILITY

- (a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
 - (i) comply with the Schedule B, Part I—Requirements;
 - (ii) eliminate, with the Company's written consent, any Schedule B, Part II—Exceptions; or
 - (iii) acquire the Title or create the Mortgage covered by this Commitment.
- (b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.
- (c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.
- (d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.
- (e) The Company shall not be liable for the content of the Transaction Identification Data, if any.
- (f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I—Requirements have been met to the satisfaction of the Company.
- (g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT

- (a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.
- (b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.
- (c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
- (d) The deletion or modification of any Schedule B, Part II—Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
- (e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.
- (f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. ARBITRATION

Arbitration provision intentionally removed.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.



First American

Schedule A

ALTA Commitment for Title Insurance

ISSUED BY

First American Title Insurance Company

File No: NCS-1131177-ONT1

Transaction Identification Data for reference only:

Issuing Agent: First American Title Insurance Company National Commercial Services

Commitment No.: NCS-1131177-ONT1

Property Address: 1 Bedford Court, Temecula, CA

Revision No.:

Issuing Office: 3281 E Guasti Road, Suite 440, Ontario, CA 91761

Issuing Office File No.: NCS-1131177-ONT1

Escrow Officer/Assistant: Phyllis Chambers/Danielle Santo

Phone: (909)518-0552/(909)510-6216

Email: pchambers@firstam.com/dsanto@firstam.com

Title Officer/Assistant: Erin West/IE Title Assistants

Phone: (909)510-6215/

Email:

ewest@firstam.com/ietitleassistants@firstam.com

SCHEDULE A

1. Commitment Date: May 13, 2022 at 7:30 AM

2. Policy to be issued:

(a) 2006 ALTA® Standard Owner Policy
Proposed Insured: Catalyst Commercial Group, Inc.
Proposed Policy Amount: \$ 4,400,000.00

(b) 2006 ALTA® Extended Loan Policy
Proposed Insured: To Be Determined
Proposed Policy Amount: \$ To Be Determined

(c) 2006 ALTA® Policy
Proposed Insured:
Proposed Policy Amount: \$

3. The estate or interest in the Land described or referred to in this Commitment is

Fee Simple

4. The Title is, [at the Commitment Date, vested in:](#)

Margaret Lily Lai, as trustee of the Margaret Lai Trust, dated January 28, 2021, as to an undivided one-half (1/2) interest;

Shiuh Ching Wu, a single man, as to an undivided 1/4 interest;

Daniel Tzun-Tsong Wu and Cindy Yu-Fang Cheng, Trustees of the Laurel Property Trust, dated June 1, 2017, as to an undivided 1/4 interest.

5. The Land is described as follows:

See Exhibit "A" attached hereto and made a part hereof

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.



First American

Schedule BI & BII

ALTA Commitment for Title Insurance

ISSUED BY

First American Title Insurance Company

File No: NCS-1131177-ONT1

Commitment No.: NCS-1131177-ONT1

SCHEDULE B, PART I

Requirements

All of the following Requirements must be met:

- A. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.
- B. Pay the agreed amount for the estate or interest to be insured.
- C. Pay the premiums, fees, and charges for the Policy to the Company.
- D. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.
- E. Releases(s) or Reconveyance(s) of Item(s): None
- F. Other: None
- G. You must give us the following information:
 - a. Any off record leases, surveys, etc.
 - b. Statement(s) of Identity, all parties.
 - c. Other:

With respect to the trust referred to in the vesting:

- a. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
- b. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
- c. Other requirements which the Company may impose following its review of the material required herein and other information which the Company may require.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

A deed from the spouse of any married vestee herein be recorded in the public records, or the joinder of the spouse of any married vestee named herein on any conveyance, encumbrance or lease to be executed by the vestee.

The deed should contain the following statement:

"It is the express intent of the grantor, being the spouse of the grantee, to convey all right, title and interest of the grantor, community or otherwise, in and to the herein described property to the grantee as his/her sole and separate property."

The following additional requirements, as indicated by "X", must be met:

- H. Provide information regarding any off-record matters, which may include, but are not limited to: leases, recent works of improvement, or commitment statements in effect under the Environmental Responsibility Acceptance Act, Civil Code Section 850, et seq.

The Company's Owner's Affidavit form (as provided by the company) must be completed and submitted prior to close in order to satisfy this requirement. This Commitment will then be subject to such further exceptions and/or requirements as may be deemed necessary.

- I. An ALTA/NSPS survey of recent date, which complies with the current minimum standard detail requirements for ALTA/NSPS land title surveys, must be submitted to the Company for review. This Commitment will then be subject to such further exceptions and/or requirements as may be deemed necessary.

- J. The following LLC documentation is required from:
- (i) a copy of the Articles of Organization
 - (ii) a copy of the Operating Agreement, if applicable
 - (iii) a Certificate of Good Standing and/or other evidence of current Authority to Conduct Business within the State
 - (iv) express Company Consent to the current transaction

- K. The following partnership documentation is required :
- (i) a copy of the partnership agreement, including all applicable amendments thereto
 - (ii) a Certificate of Good Standing and/or other evidence of current Authority to Conduct Business within the State
 - (iii) express Partnership Consent to the current transaction

- L. The following corporation documentation is required:
- (i) a copy of the Articles of Incorporation
 - (ii) a copy of the Bylaws, including all applicable Amendments thereto
 - (iii) a Certificate of Good Standing and/or other evidence of current Authority to Conduct Business within the State
 - (iv) express Corporate Resolution consenting to the current transaction

- M. Based upon the Company's review of that certain partnership/operating agreement dated **Not disclosed** for the proposed insured herein, the following requirements must be met:

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

Any further amendments to said agreement must be submitted to the Company, together with an affidavit from one of the general partners or members stating that it is a true copy, that said partnership or limited liability company is in full force and effect, and that there have been no further amendments to the agreement. This Commitment will then be subject to such further requirements as may be deemed necessary.

- N. A copy of the complete lease, as referenced in Schedule A, #3 herein, together with any amendments and/or assignments thereto, must be submitted to the Company for review, along with an affidavit executed by the present lessee stating that it is a true copy, that the lease is in full force and effect, and that there have been no further amendments to the lease. This Commitment will then be subject to such further requirements as may be deemed necessary.
- O. Approval from the Company's Underwriting Department must be obtained for issuance of the policy contemplated herein and any endorsements requested thereunder. This Commitment will then be subject to such further requirements as may be required to obtain such approval.
- P. Potential additional requirements, if ALTA Extended coverage is contemplated hereunder, and work on the land has commenced prior to close, some or all of the following requirements, and any other requirements which may be deemed necessary, may need to be met:
- Q. The Company's "Indemnity Agreement I" must be executed by the appropriate parties.
- R. Financial statements from the appropriate parties must be submitted to the Company for review.
- S. A copy of the construction contract must be submitted to the Company for review.
- T. An inspection of the Land must be performed by the Company for verification of the phase of construction.
- U. The Company's "Mechanic's Lien Risk Addendum" form must be completed by a Company employee, based upon information furnished by the appropriate parties involved.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.



First American

Schedule BI & BII (Cont.)

ALTA Commitment for Title Insurance

ISSUED BY

First American Title Insurance Company

File No: NCS-1131177-ONT1

Commitment No.: NCS-1131177-ONT1

SCHEDULE B, PART II

Exceptions

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.

The Policy will not insure against loss or damage resulting from the terms and provisions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

1. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I-Requirements are met.
2. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
3. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
4. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
5. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
7. General and special taxes and assessments for the fiscal year 2022-2023, a lien not yet due or payable.
8. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

9. Abutter's rights of ingress and egress to or from the freeway adjoining the herein described property have been relinquished in the document recorded October 4, 1967 as Instrument No. [105961](#) of Official Records.
10. Covenants, conditions, restrictions and easements in the document recorded March 3, 1972 as Instrument No. [29072](#) of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition, or restriction, if any, indicating a preference, limitation, or discrimination based on race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, familial status, marital status, disability, handicap, veteran or military status, genetic information, national origin, source of income as defined in subdivision (p) of Section 12955, or ancestry, to the extent that such covenants, conditions or restrictions violate applicable state or federal laws. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.
11. Abutter's rights of ingress and egress to or from State Highway I-15 have been relinquished in the document recorded September 15, 1972 as Instrument No. [117868](#) of Official Records.
12. An easement for drainage purposes and incidental purposes, recorded March 24, 1981 as Instrument No. [51291](#) of Official Records.
In Favor of: Rancho Meadows Homeowners Association Inc.
Affects: as described therein
13. Easements, Covenants and Conditions contained in the deed from Kaiser Development Company, a corporation organized under the laws of the State of California, as Grantor, to Tomond Properties, a general partnership, as Grantee, recorded December 16, 1985 as Instrument No. [282807](#) of Official Records. Reference being made to the document for full particulars.

Document(s) declaring modifications thereof recorded July 3, 1991 as Instrument No. [227487](#) of Official Records.

14. An easement shown or dedicated on the map of Parcel Map 21592 recorded May 18, 1988 and on file in [Book 150, Page 49](#), of Parcel Maps.
For: Drainage and incidental purposes.
15. The effect of an environmental constraint note affecting said map on file in the office of the Riverside County Surveyor, in E.C.S. book 14 page(s) 31.
16. An easement for right of way for underground electrical supply systems and communication systems and free access and incidental purposes, recorded May 18, 1988 as Instrument No. [133505](#) of Official Records.
In Favor of: Southern California Edison Company, a corporation, its successors and assigns
Affects: as described therein
17. An easement for pole lines and incidental purposes, recorded October 4, 1988 as Instrument No. [286673](#) of Official Records.
In Favor of: General Telephone Company of California
Affects: as described therein

The location of the easement cannot be determined from record information.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

18. An easement for sewer and road purposes and incidental purposes, recorded December 21, 1988 as Instrument No. [373748](#) of Official Records.
In Favor of: Eastern Municipal Water District
Affects: as described therein

19. Covenants, conditions, restrictions, easements, assessments, liens, charges, terms and provisions in the document recorded January 10, 1989 as Instrument No. [8234](#) of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604(c), of the United States Codes. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.

20. The terms and provisions contained in the document entitled "Condition Subsequent Extension Agreement" recorded December 27, 1989 as Instrument No. [451929](#) of Official Records.

21. An agency agreement dated May 4, 1990 by and between Tomand Properties and Rancho California Water District wherein it is agreed that said district is designated as exclusive agent for the extraction, diversion, storage, blending and distribution of all local water, recorded August 6, 1990 as Instrument No. [290223](#) of Official Records of Riverside County, California.

22. The terms and provisions contained in the document entitled "Amendment to Owner Participation Agreement" recorded May 23, 1996 as Instrument No. [191150](#) of Official Records.

23. This item has been intentionally deleted.

24. We find no outstanding voluntary liens of record affecting subject property. An inquiry should be made concerning the existence of any unrecorded lien or other indebtedness which could give rise to any security interest in the subject property.

25. Water rights, claims or title to water, whether or not shown by the public records.

26. Rights of parties in possession.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

ALERT - CA Senate Bill 2 imposes an additional fee of \$75 up to \$225 at the time of recording on certain transactions effective January 1, 2018. Please contact your First American Title representative for more information on how this may affect your closing.

1. Taxes for proration purposes only for the fiscal year 2021-2022.
 First Installment: \$8,295.01, PAID
 Second Installment: \$8,295.01, PAID
 Tax Rate Area: 013-004
 APN: 922-210-042

2. The property covered by this report is vacant land.

3. According to the public records, there has been no conveyance of the land within a period of twenty four months prior to the date of this report, except as follows:

A document recorded February 05, 2021 as Instrument No. 2021-0079696 of Official Records.
 From: Aliser Shiou King Chai, as trustee of The Survivor Trust (aka Trust A) of The Chai Trust Dated August 18, 1993, as to an undivided one-half (1/2) interest
 To: Aliser Shiou King Chai, an unmarried woman, as to an undivided one-half (1/2) interest

A document recorded February 10, 2021 as Instrument No. 2021-0090781 of Official Records.
 From: Aliser Shiou King Chai, an unmarried woman, as to an undivided one-half (1/2) interest
 To: Margaret Lily Lai, as trustee of the Margaret Lai Trust, dated January 28, 2021, and any amendments thereto, as to an undivided one-half (1/2) interest

4. This preliminary report/commitment was prepared based upon an application for a policy of title insurance that identified land by street address or assessor's parcel number only. It is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

The map attached, if any, may or may not be a survey of the land depicted thereon. First American Title Insurance Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of this Commitment or the Policy, if any, to which the map is attached.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.



First American

ISSUED BY

First American Title Insurance Company

File No: NCS-1131177-ONT1

Exhibit A

File No.: NCS-1131177-ONT1

The Land referred to herein below is situated in the City of Temecula, County of Riverside, State of California, and is described as follows:

PARCEL 2, AS SHOWN BY PARCEL MAP 21592, ON FILE IN [BOOK 150 PAGES 49 AND 50](#), OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, AS MAY HAVE BEEN AMENDED BY THAT CERTIFICATE OF CORRECTION EXECUTED BY CHARLES J. BACHMANN, DATED FEBRUARY 14, 1996, RECORDED ON OCTOBER 17, 1996 AS INSTRUMENT NO. [397411](#), OF OFFICIAL RECORDS.

For conveyancing purposes only: APN 922-210-042

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by First American Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions.

Copyright 2006-2016 American Land Title Association. All rights reserved.

The use of this Form (or any derivative thereof) is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.



ENVIRONMENTAL SITE ASSESSMENT TRANSACTION SCREEN QUESTIONNAIRE

This document is an excerpt of Practice E1528-06: Standard Practice for Environmental Site Assessments: Transaction Screen Process, which is under the jurisdiction of ASTM Committee E50 on Environmental Assessment as is the direct responsibility of Subcommittee E50.02 on Commercial Real Estate Transactions. This questionnaire represents only Sections 5 and 6 of Practice E 1528-06 and should not be construed as being the complete standard. It is necessary to refer to the full standard prior to using this questionnaire. COPYRIGHT © 2006 ASTM INTERNATIONAL, West Conshohocken, PA. Prior edition copyrighted 2000. Stock # ADJE152806. For the complete standard, or to order additional copies of this questionnaire, contact ASTM Customer service at (610) 832-9585.

5. Introduction to Transaction Screen Questionnaire

5.1 *Process*--The transaction screen process consists of asking questions contained within the transaction screen questionnaire of owners and occupants of the property, observing site conditions at the property with direction provided by the transaction screen questionnaire, and, to the extent reasonably ascertainable, conducting limited research regarding certain government records and certain standard historical sources. The questions asked of owners are the same questions as those asked of occupants.

5.2 *Guide*--The transaction screen questionnaire is followed by a guide designed to assist the person completing the transaction screen questionnaire. The guide to the transaction screen questionnaire is set out in Sections 7-10 of this practice. The guide is divided into three sections: Guide for Owner/Occupant Inquiry, Guide to Site Visit, and Guide to Government Records/Historical Sources Inquiry.

5.2.1 To assist the user, its employee or agent, or the preparer in preparing a report, the guide repeats each of the questions set out in the transaction screen questionnaire in both the guide for owner/occupant inquiry and the guide to site visit. The questions regarding government records/historical sources inquiry are also repeated in the guide to that section.

5.2.2 The guide also describes the procedures to be followed to determine if reliance upon the information in a prior transaction screen is appropriate under this practice.

5.2.3 A user, his employee or agent, or preparer conducting the transaction screen process should not use the transaction screen questionnaire without reference to or without familiarity with the guide based on prior use of the guide.

5.3 The user may either conduct the transaction screen process, or delegate it to an employee or agent or may contract with a third party to prepare the questionnaire on behalf of the user. No matter who prepares the questionnaire, the user remains responsible for the decision to conduct limited environmental due diligence and the impact of that decision on risk management.

5.4 The preparer conducting the transaction screen process should use good faith efforts in determining answers to the questions set forth in the transaction screen questionnaire. The user should take time and care to check whatever records are in the user's possession and forward relevant information or specialized knowledge to the preparer.

5.5 *Knowledge*--All answers should be given to the best of the owner's or occupant's knowledge. The most knowledgeable person available should be chosen to answer the questions.

5.5.1 While the person conducting the transaction screen has an obligation to ask the questions in the transaction screen questionnaire, others may have no obligation to answer them.

5.5.2 The transaction screen questionnaire and the transaction screen guide sometimes include the phrase "to the best of your knowledge." This phrase does not impose a constructive knowledge standard. It is intended as an assurance to the person being questioned that he or she is not obligated to search out information he or she does not currently have in order to answer the particular question.

5.6 *Conclusions Regarding Affirmative or Unknown Answers*--Once a transaction screen questionnaire has been completed, it shall be presented to the user. Subject to 5.6 through 5.7, an affirmative, unknown, or no response is presumed to be a potential environmental concern. If any of the questions set forth in the transaction screen questionnaire are answered in the affirmative, the preparer must document the reason for the affirmative answer. If any of the questions are not answered or the answer is unknown, the user should document such nonresponse or answer of unknown and evaluate it in light of the other information obtained in the transaction screen process, including, in particular, the site visit and the government records/historical sources inquiry. If the user decides no further inquiry is warranted after receiving no response, an answer of unknown, or an affirmative answer, the user must document the reasons for any such conclusion.

5.6.1 Upon obtaining an affirmative answer, an answer of unknown or no response, the user should first refer to the guide. The guide may provide sufficient explanation to allow a user to conclude that no further inquiry is appropriate with respect to the particular question.

5.6.2 If the guide to a particular question does not, in itself, permit a user to conclude that no further inquiry is appropriate, then the user should consider other information obtained from the transaction screen process relating to this question. For example, while on the site performing a site visit, a person may find a storage tank on the property and therefore answer Question 10 of the transaction screen questionnaire in the affirmative. However, during or subsequent to the owner/occupant inquiry, the owner may establish that substances now or historically contained in the tank (for example, water) are not likely to cause contamination.

5.6.3 If either the guide to the question or other information obtained during the transaction screen process does not permit a user to conclude no further inquiry is appropriate with respect to such question, then the user must determine, in the exercise of the user's reasonable business judgment, based upon the totality of unresolved affirmative answers or answers of unknown received during the transaction screen process, whether further inquiry may be limited to those specific issues identified as of concern.

5.7 *Presumption*--A presumption exists that further inquiry is necessary if an affirmative answer is given to a question or because the answer was unknown or no response was given. In rebutting this presumption, the user should evaluate information obtained from each component of the transaction screen process and consider whether sufficient information has been obtained to conclude that no further inquiry is necessary. The user must determine, in the exercise of the user's reasonable business judgment, the scope of such further inquiry.

5.8 *Further Inquiry*--Upon completing the transaction screen questionnaire, if the user concludes that further inquiry or action is needed (for example, consult with an environmental consultant, contractor, governmental authority, or perform additional governmental and/or historical records review), the user should proceed with such inquiry. (Note that if the user determines to proceed with a Phase I Environment Site Assessment, the user may apply the current Practice E 1527 or alternatively the provisions of EPA's regulation "Standards and Practices for All Appropriate Inquiries," 40 C.F.R. Part 312.)

5.9 *Signature*--The user and the preparer of the transaction screen questionnaire must complete and sign the questionnaire as provided at the end of the questionnaire.

6. Transaction Screen Questionnaire

6.1 *Persons to Be Questioned*-The following questions should be asked of (1) the current owner of the property, (2) any major occupant of the property or, if the property does not have any major occupants, at least 10 % of the occupants of the property, and (3) in addition to the current owner and the occupants identified in (2), any occupant likely to be using, treating, generating, storing, or disposing of hazardous substances or petroleum products on or from the property. A major occupant is any occupant using at least 40 % of the leasable area of the property or any anchor tenant when the property is a

shopping center. In a multifamily property containing both residential and commercial uses, the preparer does not need to ask questions of the residential occupants. The preparer should ask each person to answer all questions to the best of the respondent's actual knowledge and in good faith. When completing the site visit column, the preparer should be sure to observe the property and any buildings and other structures on the property. The guide to this transaction screen questionnaire (see Sections 7-10) provides further details on the appropriate use of this questionnaire. (See Note 2.)
NOTE 2-Unk = "unknown" or "no response."

Description of Site Address:

Question	Owner			Occupants (if applicable)			Observed During Site Visit		If yes, provide description
	Yes	No	Unk	Yes	No	Unk	Yes	No	
1a. Is the property used for an industrial use?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1b. Is any adjoining property used for an industrial use?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2a. Did you observe evidence or do you have any prior knowledge that the property has been used for an industrial use in the past?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2b. Did you observe evidence or do you have any prior knowledge that any adjoining property has been used for an industrial use in the past?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3a. Is the property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3b. Is any adjoining property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4a. Did you observe evidence or do you have any prior knowledge that the property has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4b. Did you observe evidence or do you have any prior knowledge that any adjoining property has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5a. Are there currently any damaged or discarded automotive or industrial batteries, pesticides, paints, or other chemicals in individual containers of >5 gal (19 L) in volume or 50 gal (190 L) in the aggregate, stored on or used at the property or at the facility?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5b. Did you observe evidence or do you have any prior knowledge that there have been previously any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemicals in individual containers of >5 gal (19 L) in volume or 50 gal (190 L) in the aggregate, stored on or used at the property or at the facility?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6a. Are there currently any industrial drums (typically 55 gal (208 L)) or sacks of chemicals located on the property or at the facility?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6b. Did you observe evidence or do you have any prior knowledge that there have been previously any industrial drums (typically 55 gal (208 L)) or sacks of chemicals located on the property or at the facility?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7a. Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the property that originated from a contaminated site?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

*Unk = "unknown" or "no response"

Copyright © 2006 ASTM INTERNATIONAL, West Conshohocken, PA

This document is an excerpt of E 1528-06, Standard Practice for Environmental Site Assessments: Transaction Screen Process, which is under the jurisdiction of ASTM Committee E50 on Environmental Assessments and is the direct responsibility of Subcommittee E50.02 on Commercial Real Estate Transactions. This questionnaire represents only Sections 3 and 6 of Practice E 1528-06 and should not be construed as being the complete standard. If necessary to refer to the full standard prior to using this questionnaire. For the complete standard, or to order additional copies of this questionnaire, contact ASTM Customer Service at (610) 832-9585.

Question	Owner			Occupants (if applicable)			Observed During Site Visit		If yes, provide description
7b. Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the property that is of an unknown origin?	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input checked="" type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
8a. Are there currently any pits, ponds, or lagoons located on the property in connection with waste treatment or waste disposal?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
8b. Did you observe evidence or do you have any prior knowledge that there have been previously, any pits, ponds, or lagoons located on the property in connection with waste treatment or waste disposal?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
9a. Is there currently any stained soil on the property?	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input checked="" type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
9b. Did you observe evidence or do you have any prior knowledge that there has been previously, any stained soil on the property?	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input checked="" type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
10a. Are there currently any registered or unregistered storage tanks (above or underground) located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
10b. Did you observe evidence or do you have any prior knowledge that there have been previously, any registered or unregistered storage tanks (above or underground) located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
11a. Are there currently any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
11b. Did you observe evidence or do you have any prior knowledge that there have been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
12a. Is there currently evidence of leaks, spills or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
12b. Did you observe evidence or do you have any prior knowledge that there have been previously any leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring drains, walls, ceilings or exposed grounds on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
13a. If the property is served by a private well or non-public water system, is there evidence or do you have prior knowledge that contaminants have been identified in the well or system that exceed guidelines applicable to the water system?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
13b. If the property is served by a private well or non-public water system, is there evidence or do you have prior knowledge that the well has been designated as contaminated by any government environment health agency?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	
14. Does the owner or occupant of the property have any knowledge of environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>			
15a. Has the owner or occupant of the property been informed of the past existence of hazardous substances or petroleum products with respect to the property or any facility located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>			
15b. Has the owner or occupant of the property been informed of the current existence of hazardous substances or petroleum products with respect to the property or any facility located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>			
15c. Has the owner or occupant of the property been informed of the past existence of environmental violations with respect to the property or any facility located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>			
15d. Has the owner or occupant of the property been informed of the current existence of environmental violations with respect to the property or any facility located on the property?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unk <input type="radio"/>	Yes <input type="radio"/>	No <input type="radio"/>	Unk <input type="radio"/>			

Question	Owner	Occupants (if applicable)	Observed During Site Visit	If yes, provide description
16. Does the owner or occupant of the property have any knowledge of any environmental site assessment of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>		
17. Does the owner or occupant of the property know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance or petroleum products involving the property by any owner or occupant of the property?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>		
18a. Does the property discharge waste-water (not including sanitary waste or storm water) onto or adjacent to the property and/or into a storm water system?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/>	
18b. Does the property discharge waste water (not including sanitary waste or storm water) onto or adjacent to the property and/or into a sanitary sewer system?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/>	
19. Did you observe evidence or do you have any prior knowledge that any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials have been dumped above grade, buried and/or burned on the property?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/>	
20. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCBs?	Yes <input type="radio"/> No <input checked="" type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/> Unk <input type="radio"/>	Yes <input type="radio"/> No <input type="radio"/>	

Government Records/Historical Sources Inquiry
(See guide, Section 10)

21. Do any of the following federal, state, or tribal government record systems list the property or any property within the search distance noted below (where available).	Approximate Minimum Search Distance, miles (kilometres)	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal NPL site	1.0	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal Delisted NPL site	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal CERCLIS	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal CERCLIS NFRAP site	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal RCRA CORRACTS facilities	1.0	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal RCRA non-CORRACTS TSD	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal RCRA generators	property and adjoining properties	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Federal institutional control/engineering control registries	property only			
Federal ERNS	property only	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal lists of hazardous waste sites identified for investigation or remediation:				
State and tribal-equivalent NPL	1.0	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal-equivalent	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal-landfill and/or solid waste disposal site lists	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal-leaking storage tank lists	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal registered storage tank lists	property and adjoining properties	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal institutional control/engineering control registries	property only	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal voluntary cleanup sites	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
State and tribal Brownfield sites	0.5	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
22. Based upon a review of fire insurance maps (10.2.3) or local street directories (10.2.3), all as specified in the guide, are any buildings or other improvements on the property or on an adjoining property identified as having been used for an industrial use or uses likely to lead to contamination of the property?		Yes <input type="radio"/>	No <input checked="" type="radio"/>	Unavailable <input type="radio"/>

Result

The Owner questionnaire answers were provided was completed by:

Name Brandon Humann
Title Principal
Firm Catalyst Commercial Group
Address 38605 Calistoga Drive, Ste 150
Murrieta, CA 92563
Phone Number 951-395-0000
Date 07/22/2022
Role (s) at the site _____
Number of years at the site _____
Relationship to use (e.g. principal, employee, agent, consultant) _____

The Occupant questionnaire answers were provided by:

Name _____
Title _____
Firm _____
Address _____
Phone Number _____
Date _____
Role (s) at the site _____
Number of years at the site _____
Relationship to use (e.g. principal, employee, agent, consultant) _____

The Site Visit questionnaire was completed by:

Name _____
Title _____
Firm _____
Address _____
Phone Number _____
Date _____
Role (s) at the site _____
Number of years at the site _____
Relationship to use (e.g. principal, employee, agent, consultant) _____

It is the user's responsibility to draw conclusions regarding affirmative or unknown answers.

The Government Records and Historical Sources Inquiry questionnaire was completed by:

Name _____
Title _____
Firm _____
Address _____
Phone Number _____
Date _____
Role (s) at the site _____
Number of years at the site _____
Relationship to use (e.g. principal, employee, agent, consultant) _____

User's relationship to the site (for example, owner, prospective purchaser, lender, etc.)

If the preparer (s) is different from the user, complete the following:

Name of User _____
User's Address _____
User's Phone Number _____

Copies of the completed questionnaires have been filed at:

Copies of the completed questionnaires have been mailed or delivered to:

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

Signature: _____
Date: _____
Signature: _____
Date: _____
Signature: _____
Date: _____

To order additional copies of this questionnaire,
contact ASTM International, Customer Service.

phone: (610) 832-9585

fax: (610) 9555

e-mail: service@astm.org



100 Barr Harbor Drive
PO Box C700
West Conshohocken, PA 19428-2959

Appendix G
Preliminary Hydrology Report



Preliminary Hydrology Report

for

Bedford Court Temecula

APN: 922-210-042

Bedford Court, Temecula, CA 92592

AUGUST 2024

PREPARED FOR:

Catalyst Commercial Group
38605 Calistoga Dr. Ste. 150
Murrieta, CA 92563

PREPARED BY:

Kimley»Horn

3801 University Ave., Suite 300
Riverside, CA 92501
(951) 543-9868

Copyright © 2024 Kimley-Horn and Associates, Inc.
KHA Project # 195444002

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Certification by Engineer



Leticia Alvarez, PE

08/15/2024
Date



Contents

Introduction	5
Project Description	5
Location	5
Methodology	6
Drainage Characteristics	7
FEMA Mapping	7
Groundwater	7
Pre-development Condition	7
Post-Development Condition	8
Stormwater Mitigation	8
Hydraulic Analysis.....	9
Conclusion	10

Appendices

Appendix A - Location Map	11
Appendix B - FIRM MAP	12
Appendix C - Hydrology Manual Reference Material	13
Appendix D - NOAA Rain Data	14
Appendix E – Soils Information	15
Appendix F - Existing and Proposed Drainage Maps	16
Appendix G - Rational Method Analysis	17
Appendix H - Unit Hydrograph Analysis	18
Appendix I - Basin Routing Analysis.....	19
Appendix J - Sizing Calculations	20

Tables

Table 1: Pre-Development Flows	8
Table 2: Post-Development Flows (Un-mitigated)	8
Table 3: Proposed 100-year Final (Mitigated) Flows	9
Table 4: Basin Stage Storage	9

Figures

FIGURE 1: LOCATION MAP	6
------------------------------	---

References

Hydrology Manual. Riverside County Flood Control and Water Conservation District, April 1978.

INTRODUCTION

Kimley-Horn and Associates has been retained to prepare a Preliminary Hydrology Report for the proposed commercial development in Bedford Court, Temecula, California. The purpose of this report is to demonstrate final analysis of the hydrologic and hydraulic conditions associated with the development of the project site. To do so, the following is the scope of this report:

- Discuss the pre-development discharge patterns and points
- Discuss the post-development discharge patterns and points
- Determine the offsite flow rates for the 10-year and 100-year events
- Determine the pre-development onsite flow rates for the 10-year and 100-year events
- Determine the post-development un-mitigated flow rates for the 10-year and 100-year events
- Determine required post-development onsite mitigation for the 100-year event

Even though this report discusses stormwater, this report is not a Stormwater Pollution Prevention Plan (SWPPP), a Groundwater Study, a Geotechnical Report, nor a Water Quality Management Plan (WQMP). Each of these separate reports discusses separate aspects of stormwater. Portions of the Geotechnical Report are utilized and referenced for the purpose of this report. Similarly, the requirements of the WQMP are considered for the stormwater mitigation and sizing of outlet structures for this project.

PROJECT DESCRIPTION

The existing vacant lot will be developed into the proposed commercial development consisting of a Quick Quack Car Wash and a Drive-Thru Restaurant. The proposed Quick Quack Car Wash development will include a proposed car wash building, vacuum, and parking stalls. The proposed Drive-Thru Restaurant will include a proposed restaurant building, patio, double drive-thru lanes, and parking. Site improvements will include but are not limited to onsite grading, domestic water service, sanitary sewer service, storm drain infrastructure, pavement, landscaping, and irrigation. The project site is approximately 1.87 acres and is located in the City of Temecula, within Riverside County. The APN for the project site area is 922-210-042. Appendix A contains an aerial photograph that depicts the project location.

LOCATION

The site is located at the end of Bedford Court cul-de-sac in the City of Temecula, within Riverside County. The project site is bordered by Interstate 15 to the west, commercial development to the north, east, and south, and Bedford Court to the northeast. For reference see Appendix A and Figure 1 for the Location Map.

FIGURE 1: LOCATION MAP



METHODOLOGY

The hydrologic and hydraulic analyses were completed following the methods outlined in the RCFC & WCD Hydrology Manual. The rational method was used to estimate time of concentrations and peak flow rates generated from the existing and proposed 10-year and 100-year storm events. The synthetic unit hydrograph method was used to determine the onsite existing and proposed hydrographs for the 1-hour, 3-hour, 6-hour and 24-hour durations of the 100-year storm event. The CivilDesign Engineering Software – 2018 Version 9.0 was used to complete the rational method and synthetic unit hydrograph analyses. The results of the rational method analyses are included in Appendix G and the results of the synthetic unit hydrograph analyses are included in Appendix H. Bentley's PondPack V8i was used to complete the basin routing using the Modified Puls's Method. The results of the analyses are included in Appendix I. Complete onsite and offsite drainage system analyses will be provided in the Final Hydrology Report.

The rainfall data used for the analyses is important for the flow and runoff results. For the rational method analysis, the rainfall data incorporated into CivilDesign from the Riverside County Flood Control and Water Conservation District Hydrology Manual was used. Pervious and impervious values were found for each drainage area for rational method analysis of the proposed development. Based on the impervious values, the adequate land use/development type was used for the calculations. See appendix C for development types used. The rainfall data for the Temecula area was utilized due to the location of the project site. For the synthetic unit hydrograph analysis, the rainfall data from NOAA Atlas 14 for Temecula, CA was used. See Appendix D for rainfall data.

The type of soil and soil conditions are major factors affecting infiltration/detention and resultant storm water runoff. The Natural Resources Conservation Service (NRCS) has classified soil into one general hydrologic

soil group for comparing infiltration and runoff rates. The group is based on properties that influence runoff, such as water infiltration rate, texture, natural discharge, and moisture condition. The runoff potential is based on the amount of runoff at the end of a long duration storm that occurs after wetting and swelling of the soil not protected by vegetation. Using the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey online tool and Plate C-1.16 of the Hydrology Manual, it was determined that the hydrologic soil group classification onsite is C. Soil type C is defined as soils having low infiltration rates (high runoff potential). Similarly, per the Geotechnical Engineering Investigation prepared by Earth Strata Geotechnical Services, Inc. dated May 16, 2024, the site is considered to have poor infiltration rates, with the observed average infiltration rate of 0.12 in/hr, without a factor of safety. See Appendix E for the soil information.

In addition, antecedent moisture condition (AMC) II was used to calculate the 10-year peak flows and AMC III was used to calculate the 100-year peak flows based on the hydrology manual. The land use for the proposed drainage subareas were selected based on the characteristics of the proposed development. See Appendix D Plate D-5.6 for the impervious percentages that correspond to each land use. The combination of the soil and coverage type was used as the basis for selecting the appropriate curve numbers used to calculate the soil loss rates. See Appendix C for reference.

DRAINAGE CHARACTERISTICS

FEMA MAPPING

The site is mainly located in Zone X-unshaded per the Federal Emergency Management Administration (FEMA) Flood Insurance Rate Map (FIRM) panel 06065C3285G, dated August 28, 2008. Flood Zone X-unshaded is defined by FEMA to have minimal flood hazard. No portion of the site is located within the special flood hazard area inundated by the 100-year flood. For reference, see Appendix B, FIRM Map.

GROUNDWATER

Groundwater was not encountered during the Geotechnical field investigation prepared by Earth Strata Geotechnical Services, Inc. Per the report, it should be noted that localized groundwater could be encountered during grading due to the limited number of exploratory locations. Additional information can be found in the Geotechnical Engineering Report by Terracon Consultants, Inc dated May 16, 2024.

PRE-DEVELOPMENT CONDITION

The existing site is currently vacant and does not have a predominant drainage pattern. The existing site drains randomly, eventually draining to a low point at the northwesterly portion of the site, spilling over the existing wall. The site is approximately 100% pervious, with no existing development. There is an existing underground 42" RCP storm drain running through the northerly part of the site, which is tributary to an existing headwall at the northwest part of the site. Currently there is no storm drain infrastructure available for the sites drainage. The existing site does not accept off-site flows from any of the adjacent properties.

Table 1 shows a summary of the pre-development flows for the onsite and offsite drainage areas. See Appendix F for the Existing Drainage Map and Appendix G for the rational method calculations.

Table 1: Pre-Development Flows

Drainage Area	Drainage Area (AC)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
DA-A	1.87	2.76	4.97

POST-DEVELOPMENT CONDITION

Under proposed conditions, the project site has been divided into seven (7) onsite drainage areas for hydrologic analysis. Drainage Areas DA-1 through DA-7 sheet flow along proposed pavement or landscape into low points throughout the site. All the low points lead to proposed modular wetland systems for treatment and then discharge into the proposed underground detention system. Flows from the detention system will be conveyed via a 12" outlet pipe to an existing 42" RCP pipe running through the northerly part of the site. It is speculated that the proposed project is tributary to the existing 42" RCP storm drain pipe, and also that the pipe has the capacity to accept the flows of the proposed development. Further analysis will be done during final engineering to ensure downstream facilities are not negatively impacted.

Table 2 shows a summary of the post-development flows prior to detention. Table 2 contains the values for the 10- and 100-year unit hydrograph analysis, as well as the peak flows for the 1-hr, 3-hr, 6-hr, and 24-hr 100 year storm events. See Appendix F for the Proposed Drainage Map, Appendix G for the rational method calculations, and Appendix H for unit hydrograph analysis.

Table 2: Post-Development Flows (Un-mitigated)

Drainage Area/s	Drainage Area (AC)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)	Q _{100 1 hr} (cfs)	Q _{100 3 hr} (cfs)	Q _{100 6 hr} (cfs)	Q _{100 24 hr} (cfs)
DA-1, DA-2, DA-3, DA-4, DA-5, DA-6, DA-7	1.87	3.73	6.20	8.23	4.75	4.43	1.79

STORMWATER MITIGATION

For proposed onsite flows, stormwater mitigation is needed to ensure the proposed flows do not negatively impact the existing downstream drainage facilities. The proposed development increases onsite flows discharging from the site. To mitigate the increase in flows, an underground detention system and overflow pipe are proposed.

The volume of storage provided in the underground detention system along with the size of the outflow is intended to restrict peak flows in the proposed condition to levels equal to or less than the existing 100-year flows. Flows from the 100-year 24-hr storm event were calculated based off of the synthetic unit hydrograph analysis created from CivilDesign Engineering Software – 2018 Version 9.0. Based on the basin routing for the 1, 3, 6 and 24-hr durations of the 100-year storm event, the highest routed (mitigated) onsite outflows from the underground detention system result in proposed flows that are less than the existing flows for the onsite. See Appendix H for the unit hydrograph analysis, and Appendix I for basin routing analysis.

Table 3 shows a summary of the proposed 100-year final mitigated flows compared to the existing flows.

Table 3: Proposed 100-year Final (Mitigated) Flows

Drainage Area/s	Drainage Area (AC)	Q _{100 1 hr} (cfs)	Q _{100 3 hr} (cfs)	Q _{100 6 hr} (cfs)	Q _{100 24 hr} (cfs)
DA-1, DA-2, DA-3, DA-4, DA-5, DA-6, DA-7	1.87	4.86	3.90	3.74	1.78

Table 4 shows the proposed basin stage storage.

Table 4: Basin Stage Storage

Elevation (ft)	Cumulative Volume (cf)
1003.22	0.0
1003.38	72.6
1003.55	202.6
1003.72	367.2
1003.88	557.5
1004.05	768.2
1004.22	995.0
1004.38	1,234.8
1004.55	1,485.0
1004.72	1,743.2
1004.88	2,007.2
1005.05	2,275.0
1005.22	2,544.7
1005.38	2,814.4
1005.55	3,082.2
1005.72	3,346.2
1005.88	3,604.3
1006.05	3,854.5
1006.22	4,094.4
1006.38	4,321.2
1006.55	4,531.8
1006.72	4,722.2
1006.88	4,886.8
1007.05	5,016.8
1007.22	5,089.4

HYDRAULIC ANALYSIS

The calculated peak flows from the analyses discussed above along with the offsite flows will be used to size the onsite drainage devices. All drainage devices will be sized in the Final Hydrology Report.

CONCLUSION

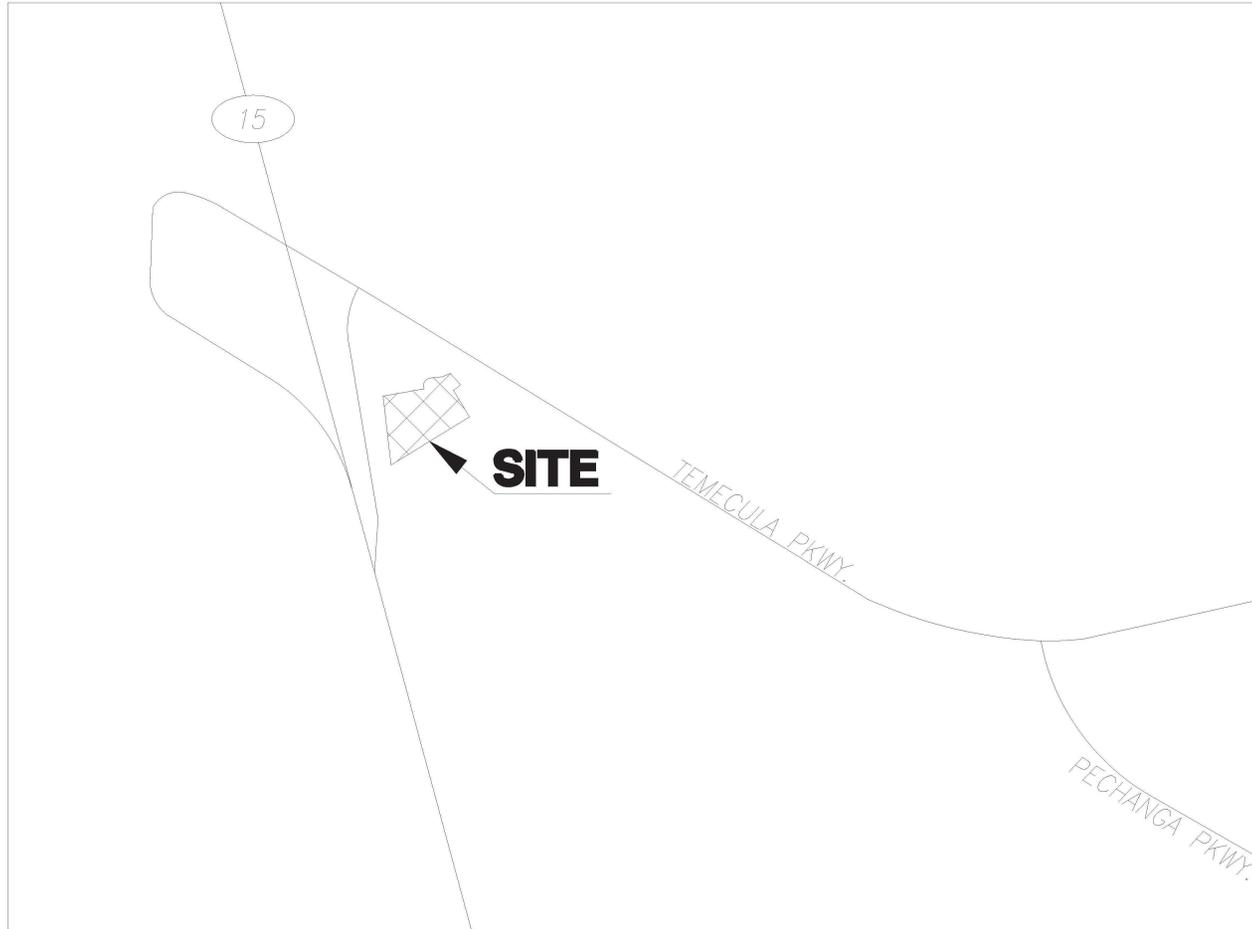
In conclusion, the following was covered in this report:

- The pre-development discharge patterns and points were discussed
- The post-development discharge patterns and points were discussed
- The pre-development flow rates for the 10-year and 100-year events were determined
- The post-development un-mitigated flow rates for the 10-year and 100-year events were determined
- The post-development stormwater mitigation for the 100-year 1, 3, 6, and 24-hr event were analyzed
- The post-development final flow rate was proven to be less than the existing design flowrate for the downstream systems

As discussed in the contents of this report, the development of the existing vacant site into the proposed development is not expected to cause a significant impact to downstream systems for storms up to the 100-year condition. The mitigated development discharges less stormwater flows than the existing site conditions.

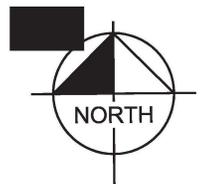
Appendix A - Location Map

VICINITY MAP

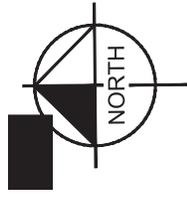


VICINITY MAP

NOT TO SCALE



LOCATION MAP



Appendix B - FIRM MAP

National Flood Hazard Layer FIRMette



117°08'35"W 33°28'58"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth
Zone AE, AO, AH, VE, AR
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
Zone X

Future Conditions 1% Annual Chance Flood Hazard
Zone X

Area with Reduced Flood Risk due to Levee. See Notes.
Zone X

Area with Flood Risk due to Levee
Zone D

OTHER AREAS OF FLOOD HAZARD

NO SCREEN
Zone X

Area of Minimal Flood Hazard
Zone X

Effective LOMRs
Zone D

Area of Undetermined Flood Hazard
Zone D

OTHER AREAS

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

Cross Sections with 1% Annual Chance Water Surface Elevation

- 20.2
- 17.5

Coastal Transect

Base Flood Elevation Line (BFE)

Limit of Study

OTHER FEATURES

- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

Digital Data Available

No Digital Data Available

Unmapped

MAP PANELS

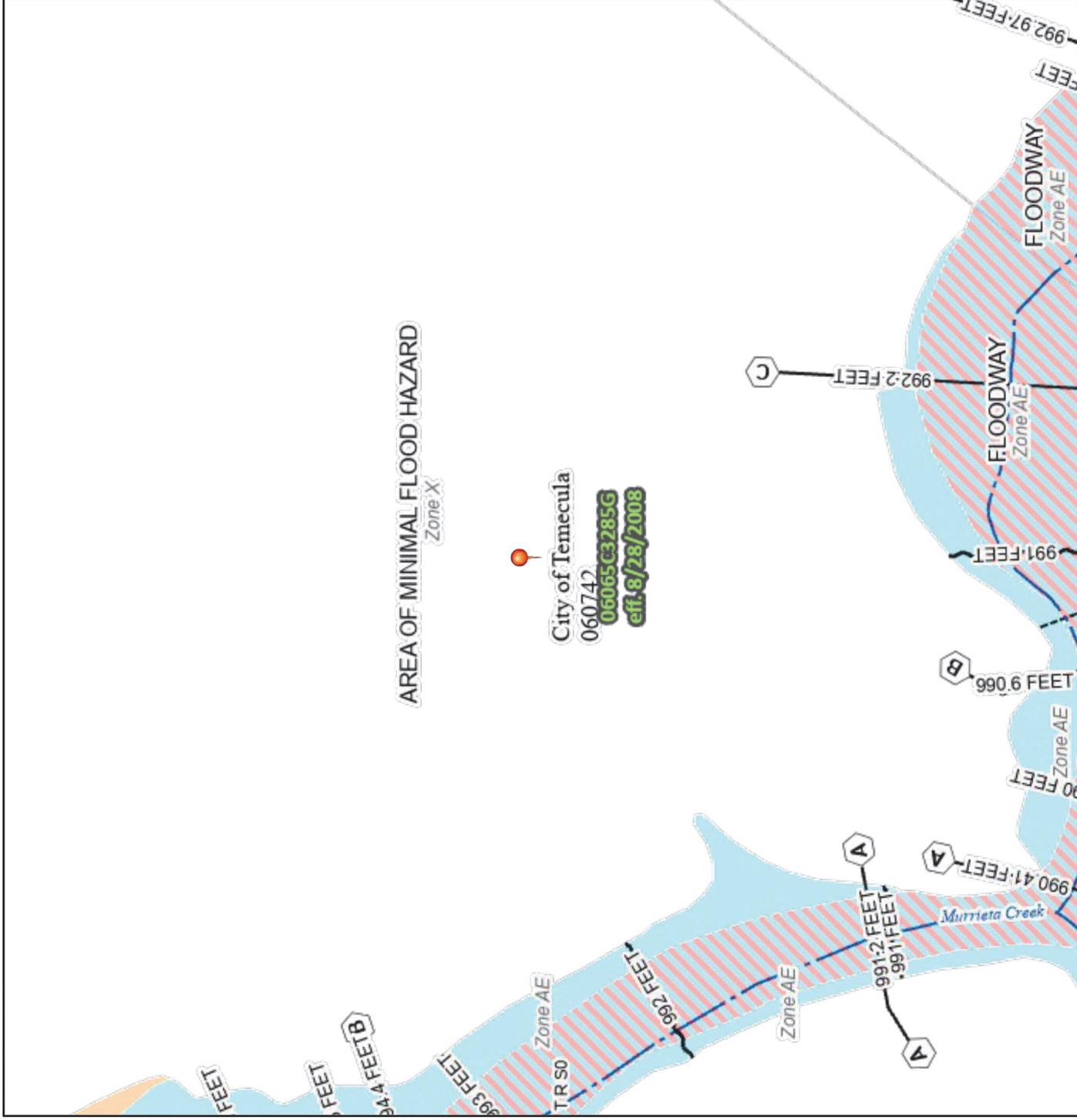


The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/8/2024 at 10:16 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Appendix C - Hydrology Manual Reference Material

Residential Landscaping (Lawn, Shrubs, etc.) - The pervious portions of commercial establishments, single and multiple family dwellings, trailer parks and schools where the predominant land cover is lawn, shrubbery and trees.

Row Crops - Lettuce, tomatoes, beets, tulips or any field crop planted in rows far enough apart that most of the soil surface is exposed to rainfall impact throughout the growing season. At plowing, planting and harvest times it is equivalent to fallow.

Small Grain - Wheat, oats, barley, flax, etc. planted in rows close enough that the soil surface is not exposed except during planting and shortly thereafter.

Legumes - Alfalfa, sweetclover, timothy, etc. and combinations are either planted in close rows or broadcast.

Fallow - Fallow land is land plowed but not yet seeded or tilled.

Woodland - grass - Areas with an open cover of broadleaf or coniferous trees usually live oak and pines, with the intervening ground space occupied by annual grasses or weeds. The trees may occur singly or in small clumps. Canopy density, the amount of ground surface shaded at high noon, is from 20 to 50 percent.

Woodland - Areas on which coniferous or broadleaf trees predominate. The canopy density is at least 50 percent. Open areas may have a cover of annual or perennial grasses or of brush. Herbaceous plant cover under the trees is usually sparse because of leaf or needle litter accumulation.

Chaparral - Land on which the principal vegetation consists of evergreen shrubs with broad, hard, stiff leaves such as manzonita, ceanothus and scrub oak. The brush cover is usually dense or moderately dense. Diffusely branched evergreen shrubs with fine needle-like leaves, such as chamise and redchank, with dense high growth are also included in this soil cover.

Annual Grass - Land on which the principal vegetation consists of annual grasses and weeds such as annual bromes, wild barley, soft chess, ryegrass and filaree.

Irrigated Pasture - Irrigated land planted to perennial grasses and legumes for production of forage and which is cultivated only to establish or renew the stand of plants. Dry land pasture is considered as annual grass.

Meadow - Land areas with seasonally high water table, locally called cienegas. Principal vegetation consists of sod-forming grasses interspersed with other plants.

Orchard (Deciduous) - Land planted to such deciduous trees as apples, apricots, pears, walnuts, and almonds.

Orchard (Evergreen) - Land planted to evergreen trees which include citrus and avocados and coniferous plantings.

Turf - Golf courses, parks and similar lands where the predominant cover is irrigated mowed close-grown turf grass. Parks in which trees are dense may be classified as woodland.

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

SCS
COVER TYPE
DESCRIPTIONS

Curve (I) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
<u>NATURAL COVERS -</u>					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate, Canopy density is at least 50 percent.)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	25	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
<u>URBAN COVERS -</u>					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
<u>AGRICULTURAL COVERS -</u>					
Fallow (Land plowed but not tilled or seeded)		77	86	91	94

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

CURVE NUMBERS
FOR
PERVIOUS AREAS

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
AGRICULTURAL COVERS (Continued)					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87

Notes:

1. All curve numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:

Poor-Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.

Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Figure C-2 for definition of cover types.

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

CURVE NUMBERS
FOR
PERVIOUS AREAS

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent (2)
Natural or Agriculture	0 - 0	0
Public Park	10 - 25	15
School	30 - 50	40
Single Family Residential: (3)		
2.5 acre lots	5 - 15	10
1 acre lots DA-6	10 - 25	20
2 dwellings/acre	20 - 40	30
3-4 dwellings/acre	30 - 50	40
5-7 dwellings/acre	35 - 55	50
8-10 dwellings/acre	50 - 70	60
More than 10 dwellings/acre	65 - 90	80
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments DA-4, DA-7	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial DA-1, DA-5	80 - 100	90

DA-2, DA-3 UNDEVELOPED WITH GOOD COVER (LANDSCAPE AREAS)

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area shall always be made, and a review of aerial photos, where available, may assist in estimating the percentage of impervious cover in developed areas.
3. For typical equestrian subdivisions increase impervious area 5 percent over the values recommended in the table above.

Appendix D - NOAA Rain Data



NOAA Atlas 14, Volume 6, Version 2
Location name: Temecula, California, USA*
Latitude: 33.4787°, Longitude: -117.1377°
Elevation: 1015 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 Tryppaluk, 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 & aeriels](#)

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	0.126 (0.106-0.152)	0.165 (0.139-0.199)	0.219 (0.183-0.265)	0.265 (0.220-0.323)	0.331 (0.265-0.418)	0.384 (0.301-0.496)	0.441 (0.336-0.584)	0.502 (0.371-0.685)	0.589 (0.417-0.840)	0.660 (0.451-0.976)
10-min	0.181 (0.152-0.218)	0.237 (0.199-0.285)	0.314 (0.263-0.379)	0.380 (0.315-0.463)	0.474 (0.380-0.599)	0.551 (0.431-0.711)	0.632 (0.482-0.837)	0.719 (0.532-0.982)	0.844 (0.598-1.20)	0.946 (0.646-1.40)
15-min	0.219 (0.184-0.263)	0.287 (0.241-0.345)	0.380 (0.318-0.459)	0.460 (0.381-0.560)	0.574 (0.459-0.724)	0.666 (0.521-0.860)	0.764 (0.583-1.01)	0.870 (0.644-1.19)	1.02 (0.723-1.46)	1.14 (0.781-1.69)
30-min	0.333 (0.280-0.400)	0.436 (0.366-0.524)	0.577 (0.483-0.697)	0.698 (0.579-0.851)	0.872 (0.698-1.10)	1.01 (0.792-1.31)	1.16 (0.885-1.54)	1.32 (0.978-1.80)	1.55 (1.10-2.21)	1.74 (1.19-2.57)
60-min	0.514 (0.432-0.618)	0.673 (0.565-0.810)	0.892 (0.746-1.08)	1.08 (0.895-1.31)	1.35 (1.08-1.70)	1.56 (1.22-2.02)	1.79 (1.37-2.38)	2.04 (1.51-2.79)	2.40 (1.70-3.42)	2.69 (1.83-3.97)
2-hr	0.738 (0.620-0.887)	0.967 (0.812-1.16)	1.28 (1.07-1.54)	1.54 (1.27-1.87)	1.90 (1.52-2.40)	2.19 (1.71-2.82)	2.49 (1.90-3.30)	2.80 (2.08-3.83)	3.25 (2.30-4.63)	3.60 (2.46-5.33)
3-hr	0.898 (0.755-1.08)	1.18 (0.989-1.42)	1.55 (1.30-1.87)	1.86 (1.55-2.27)	2.30 (1.84-2.90)	2.63 (2.06-3.40)	2.98 (2.28-3.96)	3.35 (2.48-4.58)	3.86 (2.74-5.51)	4.27 (2.92-6.32)
6-hr	1.30 (1.10-1.57)	1.71 (1.44-2.06)	2.25 (1.88-2.72)	2.70 (2.24-3.28)	3.31 (2.65-4.18)	3.79 (2.96-4.89)	4.27 (3.26-5.66)	4.78 (3.54-6.53)	5.48 (3.88-7.82)	6.03 (4.12-8.92)
12-hr	1.75 (1.47-2.11)	2.30 (1.93-2.77)	3.03 (2.53-3.65)	3.62 (3.00-4.41)	4.43 (3.54-5.59)	5.06 (3.96-6.53)	5.70 (4.35-7.55)	6.36 (4.71-8.68)	7.27 (5.15-10.4)	7.98 (5.45-11.8)
24-hr	2.26 (2.00-2.61)	2.99 (2.64-3.46)	3.95 (3.48-4.58)	4.74 (4.14-5.54)	5.82 (4.93-7.02)	6.67 (5.53-8.20)	7.53 (6.10-9.48)	8.43 (6.65-10.9)	9.66 (7.32-13.0)	10.6 (7.80-14.8)
2-day	2.62 (2.31-3.02)	3.54 (3.12-4.09)	4.79 (4.22-5.55)	5.85 (5.11-6.84)	7.36 (6.23-8.88)	8.57 (7.11-10.5)	9.84 (7.98-12.4)	11.2 (8.84-14.5)	13.1 (9.95-17.7)	14.7 (10.8-20.4)
3-day	2.71 (2.40-3.13)	3.72 (3.28-4.30)	5.14 (4.52-5.95)	6.36 (5.56-7.43)	8.14 (6.89-9.82)	9.61 (7.97-11.8)	11.2 (9.07-14.1)	12.9 (10.2-16.7)	15.4 (11.7-20.7)	17.5 (12.8-24.3)
4-day	2.96 (2.61-3.41)	4.09 (3.61-4.73)	5.70 (5.02-6.61)	7.11 (6.21-8.31)	9.19 (7.78-11.1)	10.9 (9.06-13.4)	12.8 (10.4-16.1)	14.9 (11.7-19.2)	17.9 (13.6-24.1)	20.5 (15.0-28.5)
7-day	3.47 (3.07-4.01)	4.83 (4.26-5.59)	6.78 (5.96-7.85)	8.49 (7.41-9.92)	11.0 (9.33-13.3)	13.2 (10.9-16.2)	15.5 (12.6-19.5)	18.1 (14.3-23.4)	21.9 (16.6-29.5)	25.2 (18.5-35.0)
10-day	3.78 (3.34-4.36)	5.28 (4.66-6.10)	7.43 (6.54-8.61)	9.33 (8.14-10.9)	12.1 (10.3-14.6)	14.5 (12.0-17.9)	17.1 (13.9-21.6)	20.0 (15.8-25.9)	24.3 (18.4-32.7)	28.0 (20.5-38.9)
20-day	4.72 (4.17-5.46)	6.72 (5.93-7.76)	9.57 (8.42-11.1)	12.1 (10.6-14.1)	15.9 (13.4-19.1)	19.0 (15.8-23.4)	22.5 (18.2-28.4)	26.4 (20.8-34.1)	32.2 (24.4-43.3)	37.1 (27.2-51.6)
30-day	5.67 (5.01-6.54)	8.12 (7.17-9.40)	11.6 (10.3-13.5)	14.8 (12.9-17.2)	19.4 (16.4-23.4)	23.3 (19.3-28.7)	27.6 (22.3-34.7)	32.4 (25.5-41.8)	39.4 (29.9-53.1)	45.5 (33.3-63.2)
45-day	6.64 (5.87-7.67)	9.56 (8.44-11.1)	13.7 (12.1-15.9)	17.4 (15.2-20.4)	22.9 (19.4-27.6)	27.5 (22.8-33.8)	32.5 (26.3-40.9)	38.1 (30.0-49.3)	46.4 (35.1-62.4)	53.4 (39.2-74.2)
60-day	7.77 (6.86-8.97)	11.2 (9.85-12.9)	16.0 (14.1-18.5)	20.2 (17.7-23.7)	26.5 (22.4-32.0)	31.8 (26.4-39.1)	37.6 (30.4-47.3)	43.9 (34.7-56.8)	53.4 (40.5-71.8)	61.3 (45.0-85.3)

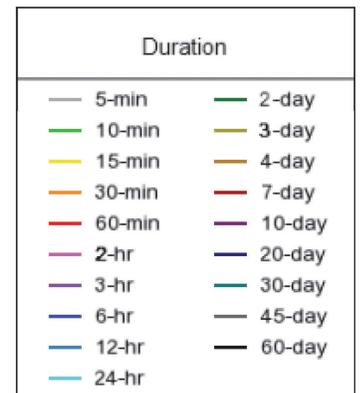
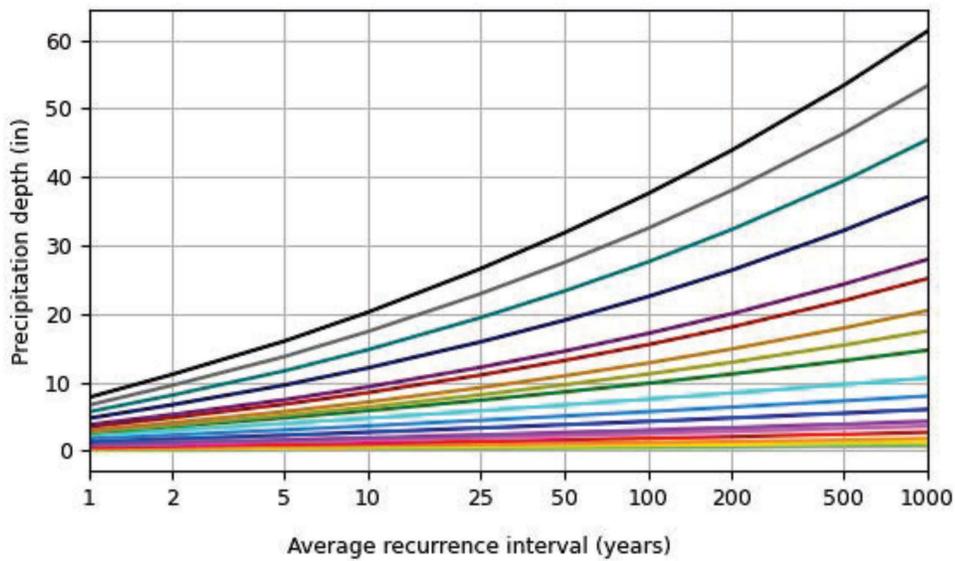
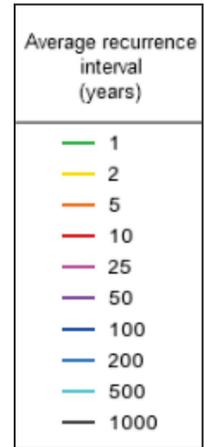
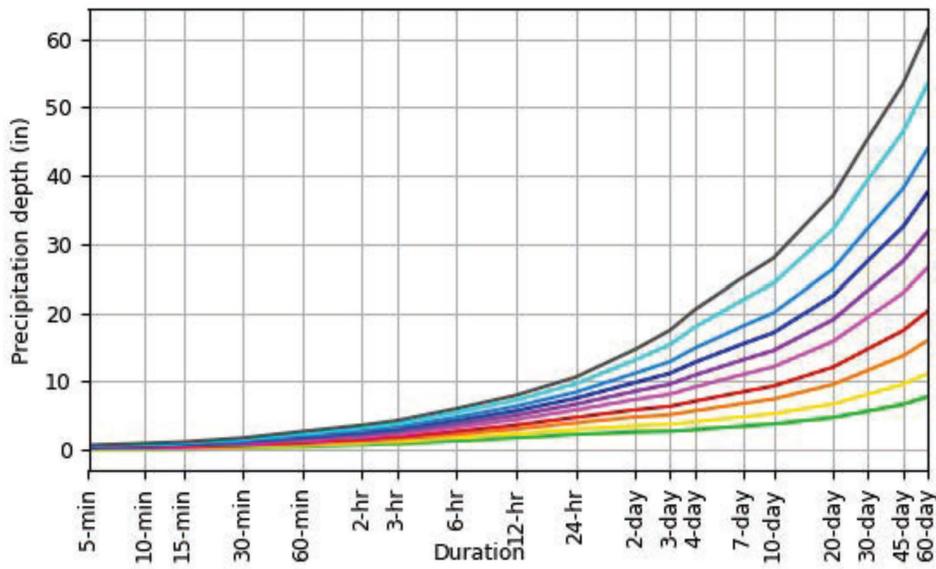
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves

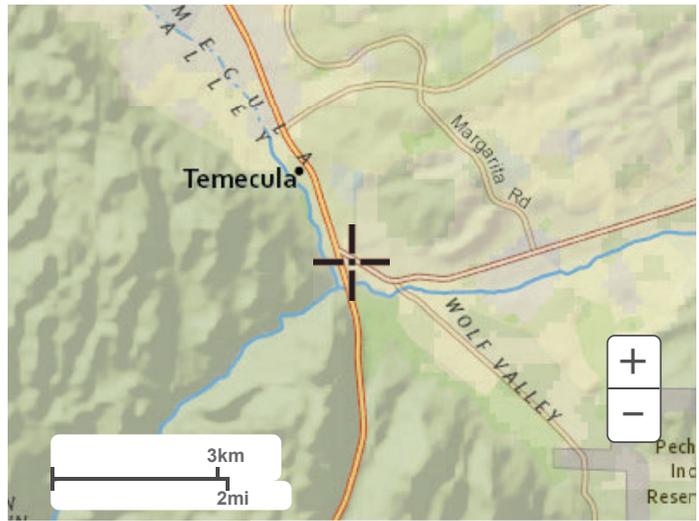
Latitude: 33.4787°, Longitude: -117.1377°



[Back to Top](#)

Maps & aerials

Small scale terrain



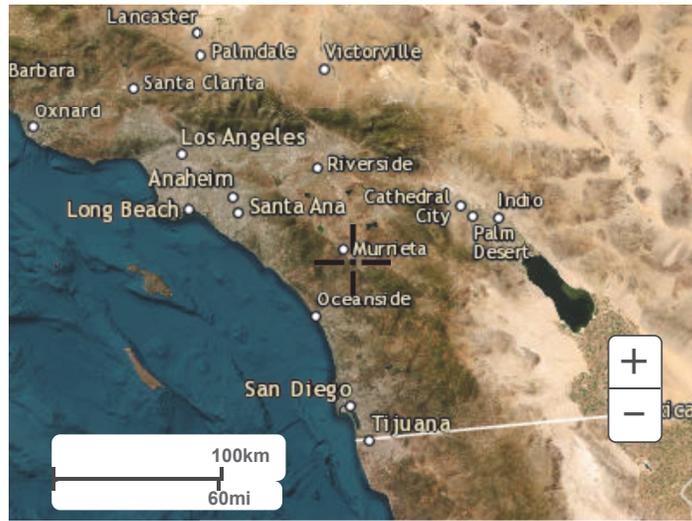
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)



NOAA Atlas 14, Volume 6, Version 2
Location name: Temecula, California, USA*
Latitude: 33.4787°, Longitude: -117.1377°
Elevation: 1015 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 Tryppaluk, 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 & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.51 (1.27-1.82)	1.98 (1.67-2.39)	2.63 (2.20-3.18)	3.18 (2.64-3.88)	3.97 (3.18-5.02)	4.61 (3.61-5.95)	5.29 (4.03-7.01)	6.02 (4.45-8.22)	7.07 (5.00-10.1)	7.92 (5.41-11.7)
10-min	1.09 (0.912-1.31)	1.42 (1.19-1.71)	1.88 (1.58-2.27)	2.28 (1.89-2.78)	2.84 (2.28-3.59)	3.31 (2.59-4.27)	3.79 (2.89-5.02)	4.31 (3.19-5.89)	5.06 (3.59-7.22)	5.68 (3.88-8.40)
15-min	0.876 (0.736-1.05)	1.15 (0.964-1.38)	1.52 (1.27-1.84)	1.84 (1.52-2.24)	2.30 (1.84-2.90)	2.66 (2.08-3.44)	3.06 (2.33-4.05)	3.48 (2.58-4.75)	4.08 (2.89-5.82)	4.58 (3.12-6.77)
30-min	0.666 (0.560-0.800)	0.872 (0.732-1.05)	1.15 (0.966-1.39)	1.40 (1.16-1.70)	1.74 (1.40-2.20)	2.02 (1.58-2.61)	2.32 (1.77-3.08)	2.64 (1.96-3.61)	3.10 (2.20-4.42)	3.48 (2.37-5.14)
60-min	0.514 (0.432-0.618)	0.673 (0.565-0.810)	0.892 (0.746-1.08)	1.08 (0.895-1.31)	1.35 (1.08-1.70)	1.56 (1.22-2.02)	1.79 (1.37-2.38)	2.04 (1.51-2.79)	2.40 (1.70-3.42)	2.69 (1.83-3.97)
2-hr	0.369 (0.310-0.443)	0.483 (0.406-0.582)	0.638 (0.534-0.771)	0.768 (0.637-0.935)	0.949 (0.760-1.20)	1.09 (0.856-1.41)	1.24 (0.948-1.65)	1.40 (1.04-1.91)	1.62 (1.15-2.32)	1.80 (1.23-2.66)
3-hr	0.299 (0.251-0.359)	0.392 (0.329-0.472)	0.516 (0.432-0.624)	0.620 (0.514-0.755)	0.764 (0.611-0.964)	0.877 (0.686-1.13)	0.994 (0.757-1.32)	1.12 (0.826-1.52)	1.29 (0.911-1.84)	1.42 (0.970-2.10)
6-hr	0.217 (0.182-0.261)	0.285 (0.239-0.344)	0.376 (0.314-0.454)	0.450 (0.373-0.548)	0.552 (0.442-0.697)	0.632 (0.494-0.815)	0.713 (0.544-0.945)	0.798 (0.591-1.09)	0.915 (0.648-1.30)	1.01 (0.687-1.49)
12-hr	0.145 (0.122-0.175)	0.191 (0.160-0.230)	0.251 (0.210-0.303)	0.300 (0.249-0.365)	0.367 (0.294-0.463)	0.419 (0.328-0.541)	0.473 (0.360-0.626)	0.528 (0.390-0.720)	0.603 (0.427-0.860)	0.662 (0.452-0.980)
24-hr	0.094 (0.083-0.108)	0.124 (0.109-0.143)	0.164 (0.144-0.190)	0.197 (0.172-0.230)	0.242 (0.205-0.292)	0.277 (0.230-0.341)	0.313 (0.254-0.395)	0.351 (0.277-0.454)	0.402 (0.305-0.541)	0.442 (0.324-0.615)
2-day	0.054 (0.048-0.062)	0.073 (0.064-0.085)	0.099 (0.087-0.115)	0.121 (0.106-0.142)	0.153 (0.129-0.184)	0.178 (0.148-0.219)	0.205 (0.166-0.258)	0.233 (0.184-0.301)	0.273 (0.207-0.368)	0.305 (0.224-0.425)
3-day	0.037 (0.033-0.043)	0.051 (0.045-0.059)	0.071 (0.062-0.082)	0.088 (0.077-0.103)	0.113 (0.095-0.136)	0.133 (0.110-0.164)	0.155 (0.125-0.195)	0.179 (0.141-0.231)	0.214 (0.162-0.288)	0.242 (0.178-0.337)
4-day	0.030 (0.027-0.035)	0.042 (0.037-0.049)	0.059 (0.052-0.068)	0.074 (0.064-0.086)	0.095 (0.080-0.115)	0.113 (0.094-0.139)	0.133 (0.108-0.167)	0.154 (0.122-0.200)	0.186 (0.141-0.251)	0.213 (0.156-0.296)
7-day	0.020 (0.018-0.023)	0.028 (0.025-0.033)	0.040 (0.035-0.046)	0.050 (0.044-0.059)	0.065 (0.055-0.079)	0.078 (0.064-0.096)	0.092 (0.074-0.116)	0.107 (0.084-0.139)	0.130 (0.098-0.175)	0.149 (0.109-0.208)
10-day	0.015 (0.013-0.018)	0.021 (0.019-0.025)	0.030 (0.027-0.035)	0.038 (0.033-0.045)	0.050 (0.042-0.061)	0.060 (0.050-0.074)	0.071 (0.057-0.089)	0.083 (0.065-0.107)	0.101 (0.076-0.136)	0.116 (0.085-0.162)
20-day	0.009 (0.008-0.011)	0.013 (0.012-0.016)	0.019 (0.017-0.023)	0.025 (0.022-0.029)	0.033 (0.027-0.039)	0.039 (0.032-0.048)	0.046 (0.038-0.059)	0.054 (0.043-0.071)	0.067 (0.050-0.090)	0.077 (0.056-0.107)
30-day	0.007 (0.006-0.009)	0.011 (0.009-0.013)	0.016 (0.014-0.018)	0.020 (0.017-0.023)	0.026 (0.022-0.032)	0.032 (0.026-0.039)	0.038 (0.031-0.048)	0.044 (0.035-0.058)	0.054 (0.041-0.073)	0.063 (0.046-0.087)
45-day	0.006 (0.005-0.007)	0.008 (0.007-0.010)	0.012 (0.011-0.014)	0.016 (0.014-0.018)	0.021 (0.017-0.025)	0.025 (0.021-0.031)	0.030 (0.024-0.037)	0.035 (0.027-0.045)	0.042 (0.032-0.057)	0.049 (0.036-0.068)
60-day	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.011 (0.009-0.012)	0.014 (0.012-0.016)	0.018 (0.015-0.022)	0.022 (0.018-0.027)	0.026 (0.021-0.032)	0.030 (0.024-0.039)	0.037 (0.028-0.049)	0.042 (0.031-0.059)

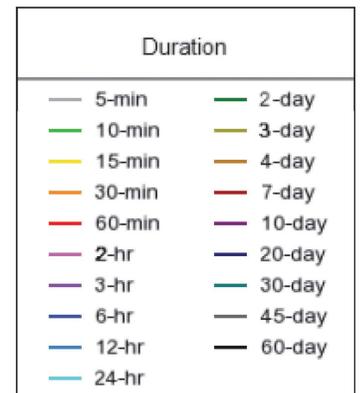
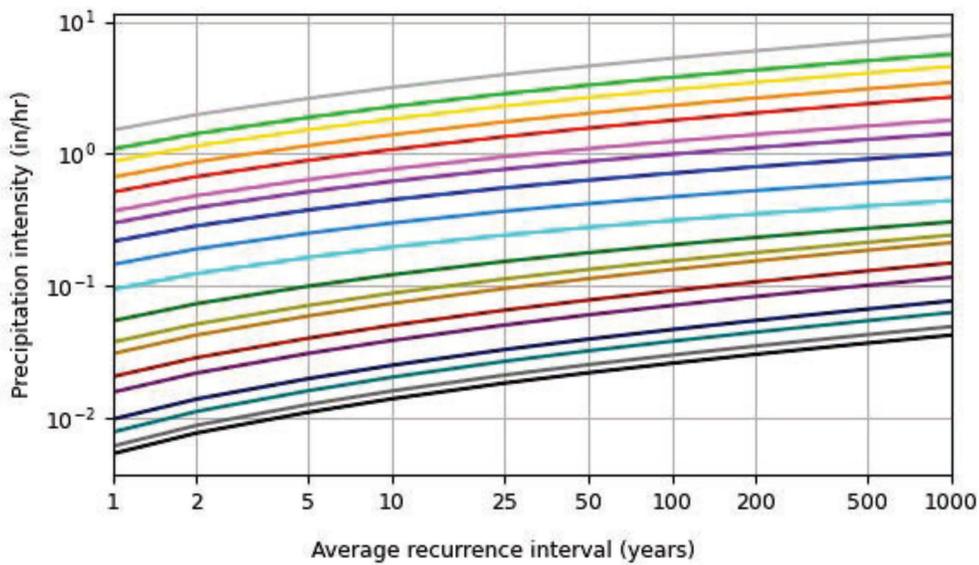
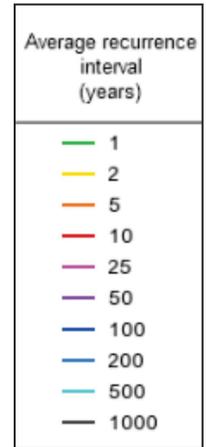
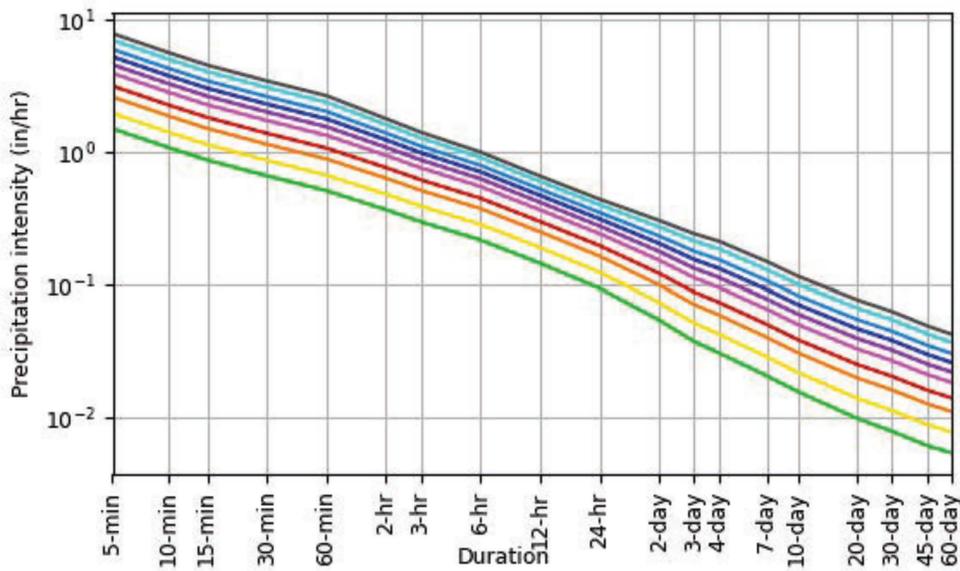
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

[Back to Top](#)

PF graphical

PDS-based intensity-duration-frequency (IDF) curves

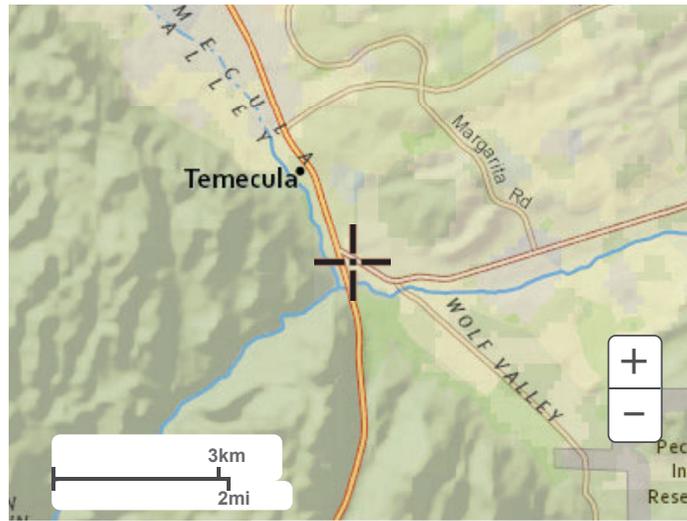
Latitude: 33.4787°, Longitude: -117.1377°



[Back to Top](#)

Maps & aerials

Small scale terrain



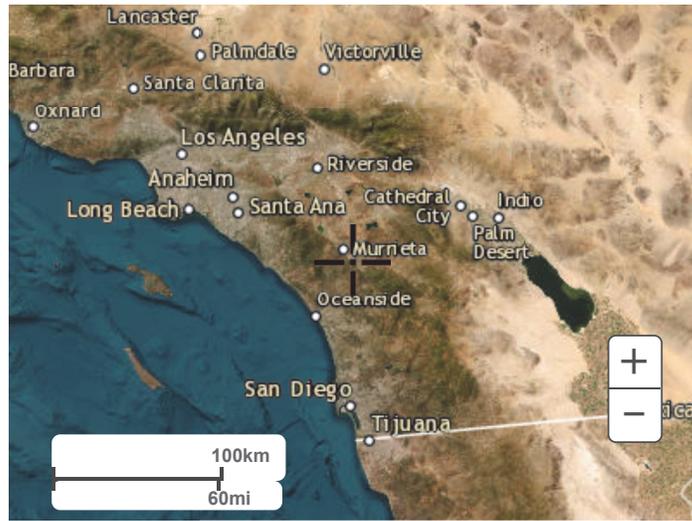
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Appendix E – Soils Information



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Western Riverside Area, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Western Riverside Area, California.....	13
RnD2—Ramona and Buren loams, 5 to 15 percent slopes, eroded.....	13
References	15

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:923 if printed on A landscape (11" x 8.5") sheet.



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 Map Unit Polygons
 - Soil Map Unit Lines
 - Soil Map Unit Points
- Special Point Features**
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features**
 - Streams and Canals
- Transportation**
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**
 - Aerial Photography
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Western Riverside Area, California
 Survey Area Data: Version 16, 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: Mar 14, 2022—Mar 17, 2022

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RnD2	Ramona and Buren loams, 5 to 15 percent slopes, eroded	1.9	100.0%
Totals for Area of Interest		1.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

RnD2—Ramona and Buren loams, 5 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcyk
Elevation: 250 to 3,500 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Ramona and similar soils: 50 percent
Buren and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ramona

Setting

Landform: Terraces, alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 23 inches: fine sandy loam
H3 - 23 to 68 inches: sandy clay loam
H4 - 68 to 74 inches: gravelly sandy loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Description of Buren

Setting

Landform: Terraces, alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear, convex
Parent material: Alluvium

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 28 inches: loam
H3 - 28 to 37 inches: loam
H4 - 37 to 52 inches: cemented

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 37 to 40 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Buren

Percent of map unit: 5 percent
Hydric soil rating: No

Hanford

Percent of map unit: 5 percent
Hydric soil rating: No

Ramona

Percent of map unit: 5 percent
Hydric soil rating: No

References

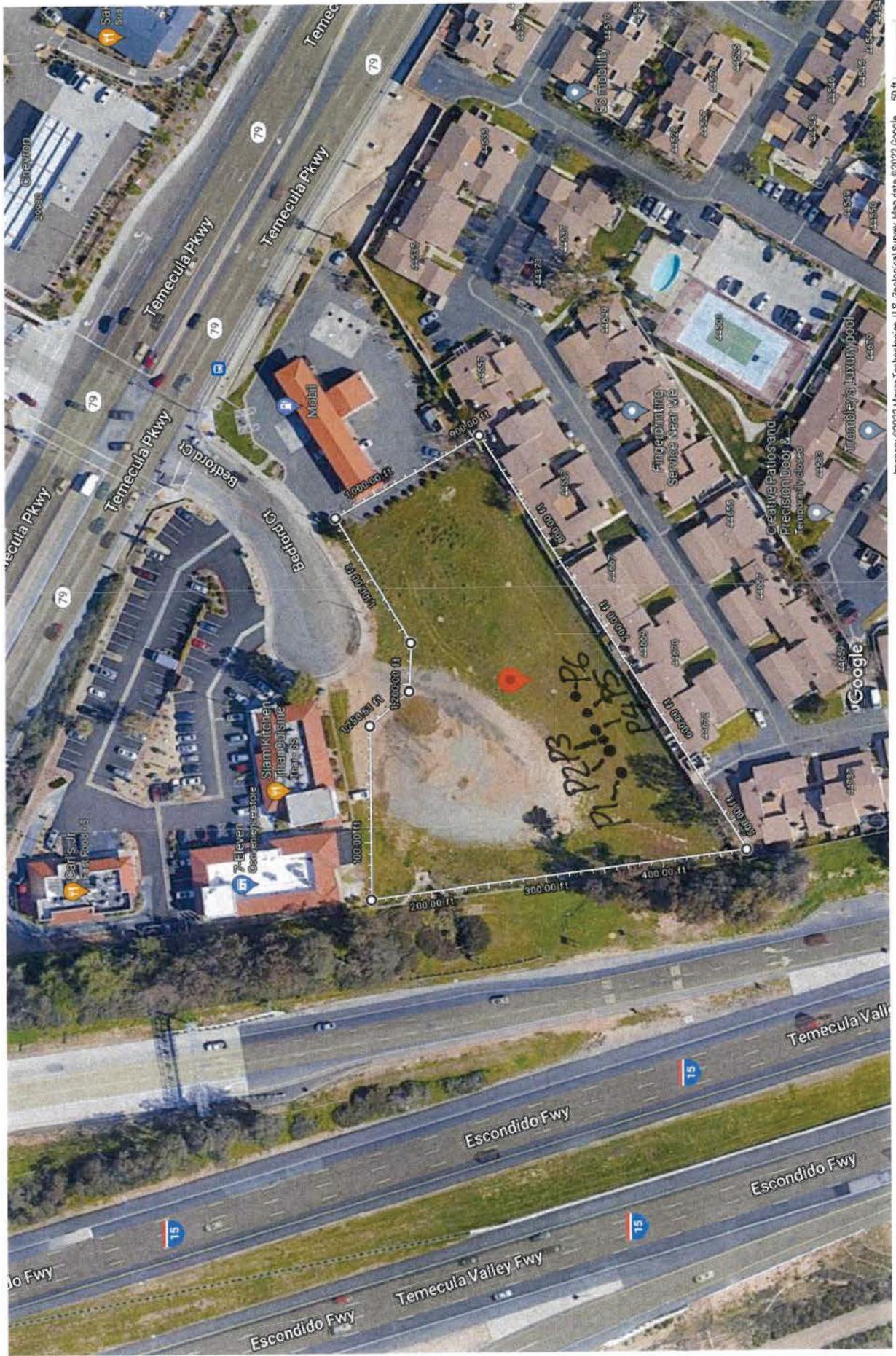
- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



The following equation was used in order to convert the percolation rates to infiltration rates.

$$I_i = \frac{\Delta H (60) r}{\Delta t (r + 2H_{avg})}$$

TEST NUMBER	PERCOLATION HOLE DIAMETER (inches)	HOLE DEPTH (ft.)	PERCOLATION RATE (mpi)	INFILTRATION RATE (in/hour)	DESCRIPTION
P-1	8	5	24	0.15	Silty SAND
P-2	8	5	30	0.12	Silty SAND
P-3	8	5	20	0.17	Silty SAND
P-4	8	5	20	0.18	Silty SAND
P-5	8	5	24	0.15	Silty SAND
P-6	8	5	20	0.18	Silty SAND

The infiltration test rates ranged from 0.12 to 0.18 inches per hour. A factor of safety of 3 should be applied to the measured infiltration rates.

May 16, 2024

Project No. 224450-10B

Mr. Brandon Humann
Catalyst Commercial Group
38605 Calistoga Drive Suite 150
Murrieta, CA 92563

Subject: Updated Preliminary Geotechnical Interpretive Report, Proposed Drive-Thru Coffee Shop and Express Carwash, Assessor's Parcel Number 922-210-042, Located on Bedford Court, City of Temecula, Riverside County, California

Earth Strata Geotechnical Services is pleased to present our updated preliminary geotechnical interpretive report for the proposed drive-thru coffee shop and express carwash, Assessor's Parcel Number 922-210-042, located on Bedford Court southwest of Temecula Parkway in the City of Temecula, Riverside County, California. The purpose of this study is to evaluate the nature, distribution, engineering properties, and geologic strata underlying the site with respect to the proposed development.

Earth Strata Geotechnical Services appreciates the opportunity to offer our consultation and advice on this project. In the event that you have any questions, please do not hesitate to contact the undersigned at your earliest convenience.

Respectfully submitted,

EARTH STRATA GEOTECHNICAL SERVICES



Stephen M. Poole, PE, GE
Principal Engineer



Aaron G. Wood, PG, CEG
Principal Geologist



SMP/AGW/mw

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
INTRODUCTION	1
SITE DESCRIPTION	1
PROPOSED DEVELOPMENT AND GRADING	1
FIELD EXPLORATION AND LABORATORY TESTING	3
Field Exploration	3
Laboratory Testing	3
FINDINGS.....	3
Regional Geology.....	3
Local Geology	4
Faulting	4
Landslides.....	8
CONCLUSIONS AND RECOMMENDATIONS	8
General	8
Earthwork.....	8
Earthwork and Grading	8
Clearing and Grubbing	8
Excavation Characteristics	8
Groundwater	8
Ground Preparation for Fill Areas	9
Oversize Rock	9
Compacted Fill Placement	9
Import Earth Materials	9
Cut/Fill Transitions	10
Cut Areas	11
Shrinkage, Bulking and Subsidence	11
Geotechnical Observations	11
Post Grading Considerations	12
Slope Landscaping and Maintenance	12
Site Drainage	12
Utility Trenches	12
SEISMIC DESIGN CONSIDERATIONS.....	13
Ground Motions.....	13
Primary Seismic Hazards	14
Secondary Seismic Hazards	14
Liquefaction and Lateral Spreading	14
General	15
Allowable Bearing Values.....	15
Settlement.....	15
Lateral Resistance.....	15
Structural Setbacks and Building Clearance	16
Foundation Observations	17
Expansive Soil Considerations	17
Very Low Expansion Potential (Expansion Index of 20 or Less)	17
Footings.....	17

Building Floor Slabs	17
Corrosivity	18
RETAINING WALLS	19
Active and At-Rest Earth Pressures	19
Subdrain System	19
Temporary Excavations	20
Retaining Wall Backfill	20
CONCRETE FLATWORK	20
Thickness and Joint Spacing	20
Subgrade Preparation	20
GRADING PLAN REVIEW AND CONSTRUCTION SERVICES	21
REPORT LIMITATIONS	21

Attachments:

- Figure 1 – Vicinity Map (Page 2)
- Figure 2 – Regional Geologic Map (Page 5)
- Figure 3 – Regional Geologic Map (Page 6)
- Figure 4 – Regional Geologic Map (Page 7)
- APPENDIX A – References (Rear of Text)
- APPENDIX B – Exploratory Logs (Rear of Text)
- APPENDIX C – Laboratory Procedures and Test Results (Rear of Text)
- APPENDIX D – Seismicity (Rear of Text)
- APPENDIX E – General Earthwork and Grading Specifications (Rear of Text)
- Plate 1 – Geotechnical Map (Rear of Text)

INTRODUCTION

Earth Strata Geotechnical Services is pleased to present our updated 7preliminary geotechnical interpretive report for the proposed development. The purpose of this study was to evaluate the nature, distribution, engineering properties, and geologic strata underlying the site with respect to the proposed development, and then provide preliminary grading and foundation design recommendations based on the plans you provided. The general location of the subject property is indicated on the Vicinity Map, Figure 1. The plans you provided were used as the base map to show geologic conditions within the subject site, see Geotechnical Map, Plate 1.

SITE DESCRIPTION

The subject property is located on Bedford Court, southwest of Temecula Parkway in the City of Temecula, Riverside County, California. The approximate location of the site is shown on the Vicinity Map, Figure 1.

The subject property is comprised of an undeveloped parcel of land. Topographic relief at the subject property is relatively low with the terrain being generally flat. Elevations at the site range from approximately 1,015 to 1,020 feet above mean sea level (msl), for a difference of about 5± feet across the entire site. Drainage within the subject property generally flows to the west.

The site is currently bordered by Interstate 15 Freeway to the west, commercial development to the north, a gasoline station to the east, and residential development to the south. Most of the vegetation on the site consists of moderate amounts of annual weeds/grasses, along with small to large trees bordering the western portion of the subject site.

PROPOSED DEVELOPMENT AND GRADING

The proposed commercial development is expected to consist of concrete, wood or steel framed one-story structures utilizing slab on grade construction with associated streets, landscape areas, and utilities. The current development plans include two (2) building pads positioned throughout the site. The plans provided by you were utilized in our exploration and form the base for our Geotechnical Map, Plate 1.



224450-10A APPROXIMATE SITE LOCATION

FIELD EXPLORATION AND LABORATORY TESTING

Field Exploration

Subsurface exploration within the subject site was performed on October 24, 2022 for the exploratory excavations. A truck mounted hollow-stem-auger drill rig was utilized to drill six (6) borings throughout the site to a maximum depth of 16 feet. An underground utilities clearance was obtained from Underground Service Alert of Southern California, prior to the subsurface exploration.

Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions may have been reconciled to reflect laboratory test results with regard to ASTM D 2487.

Associated with the subsurface exploration was the collection of bulk (disturbed) samples and relatively undisturbed samples of earth materials for laboratory testing and analysis. The relatively undisturbed samples were obtained with a 3 inch outside diameter modified California split-spoon sampler lined with 1-inch-high brass rings. Samples obtained using a hollow stem auger drill rig, were mechanically driven with successive 30 inch drops of a 140-pound automatic trip safety hammer. The blow count per one-foot increment was recorded in the boring logs. The central portions of the driven samples were placed in sealed containers and transported to our laboratory for testing and analysis. The approximate exploratory locations are shown on Plate 1 and descriptive logs are presented in Appendix B.

Laboratory Testing

Maximum dry density/optimum moisture content, expansion potential, pH, resistivity, sulfate content, chloride content, and in-situ density/moisture content were determined for selected undisturbed and bulk samples of earth materials, considered representative of those encountered. An evaluation of the test data is reflected throughout the Conclusions and Recommendations section of this report. A brief description of laboratory test criteria and summaries of test data are presented in Appendix C.

FINDINGS

Regional Geology

Regionally, the site is located in the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges are characterized by northwest trending steep mountain ranges separated by sediment filled elongated valleys. The dominant structural geologic features reflect the northwest trend of the province. Associated with and subparallel to the San Andreas Fault are the San Jacinto Fault, Newport-Inglewood, and the Whittier-Elsinore Fault. The Santa Ana Mountains abut the west side of the Elsinore Fault while the Perris Block forms the other side of the fault zone to the east. The Perris Block is bounded to the east by the San Jacinto Fault. The northern perimeter of the Los Angeles basin forms part of a northerly dipping blind thrust fault at the boundary between the Peninsular Ranges Province and the Transverse Range Province.

The mountainous regions within the Peninsular Ranges Province are comprised of Pre-Cretaceous, metasedimentary, and metavolcanic rocks along with Cretaceous plutonic rocks of the Southern California

Batholith. The low lying areas are primarily comprised of Tertiary and Quaternary non-marine alluvial sediments consisting of alluvial deposits, sandstones, claystones, siltstones, conglomerates, and occasional volcanic units. A map illustrating the regional geology is presented on the Regional Geologic Map, Figure 2.

Local Geology

The earth materials on the site are primarily comprised of artificial fill and Quaternary alluvial materials. A general description of the dominant earth materials observed on the site is provided below:

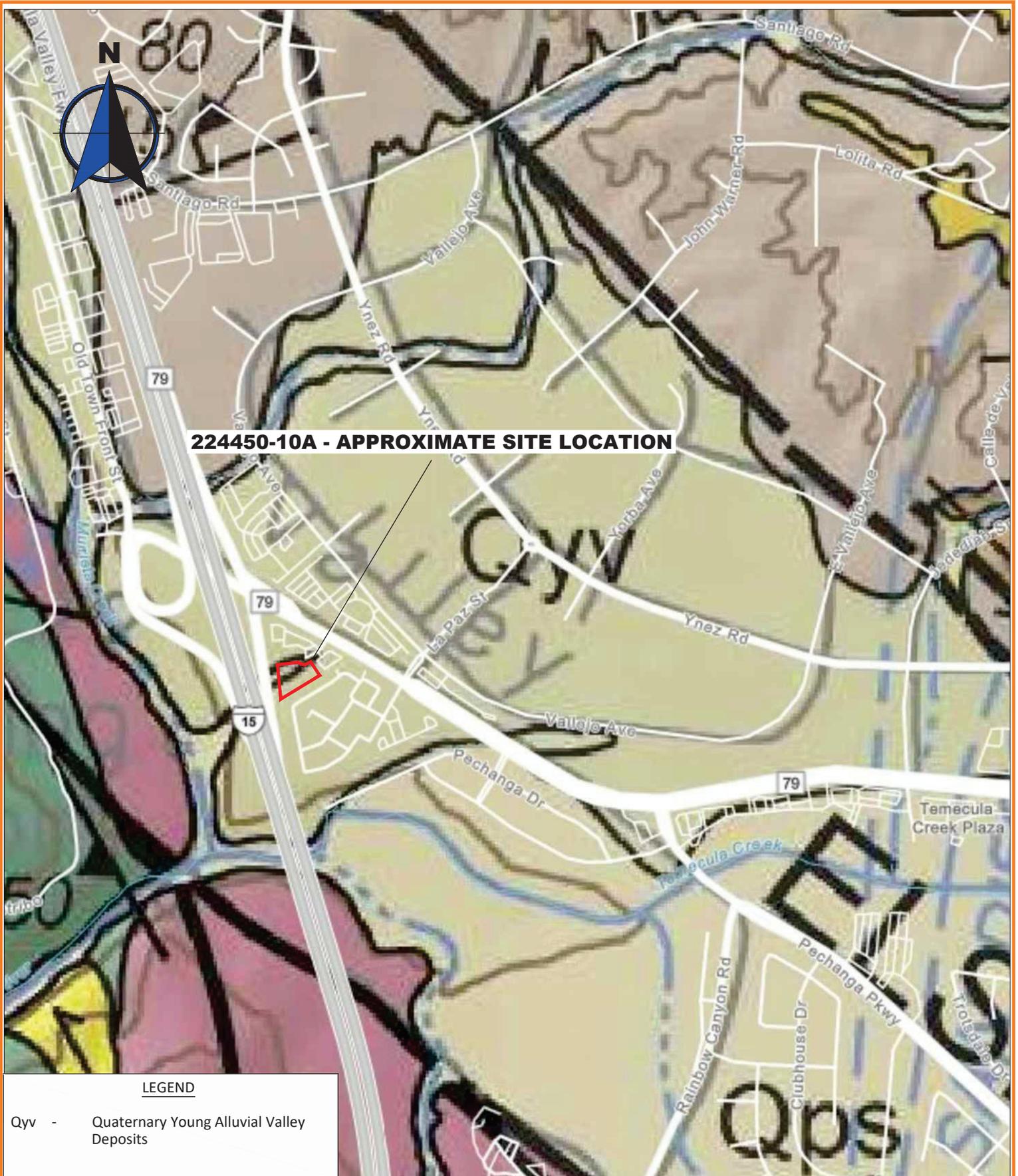
- Artificial Fill, Compacted (map symbol Afc): Compacted artificial fill materials were encountered throughout the site within the upper 7 to 10 feet during exploration. These materials are typically locally derived from the native materials and consist generally of brown to dark brown to reddish brown silty sand and sandy silt.
- Quaternary Young Alluvial Valley deposits (map symbol Qyv): Quaternary alluvial deposits were generally encountered below the artificial fill to the full depth of our exploration. These materials primarily consisted of light to dark brown, reddish brown, fine to coarse grained sand with varying amounts of silt and clay. These materials were generally noted to be slightly moist to moist, dense to very dense.

Faulting

The project is located in a seismically active region and as a result, significant ground shaking will likely impact the site within the design life of the proposed project. The geologic structure of the entire southern California area is dominated by northwest-trending faults associated with the San Andreas Fault system, which accommodates for most of the right lateral movement associated with the relative motion between the Pacific and North American tectonic plates. Known active faults within this system include the Newport-Inglewood, Whittier-Elsinore, San Jacinto and San Andreas Faults.

The site is not located within an Alquist-Priolo Earthquake Fault Zone, established by the State of California to restrict the construction of new habitable structures across identifiable traces of known active faults. An active fault is defined by the State of California as having surface displacement within the past 11,000 years or during the Holocene geologic time period. However, the site is located within the projected fault zone connecting two Riverside County Fault Zones associated with segments of the Willard Fault to the north, and the Murrieta Creek Wolf Valley Fault to the south (see Figure 3 – County Fault Map and Figure 4 – AP Fault Map).

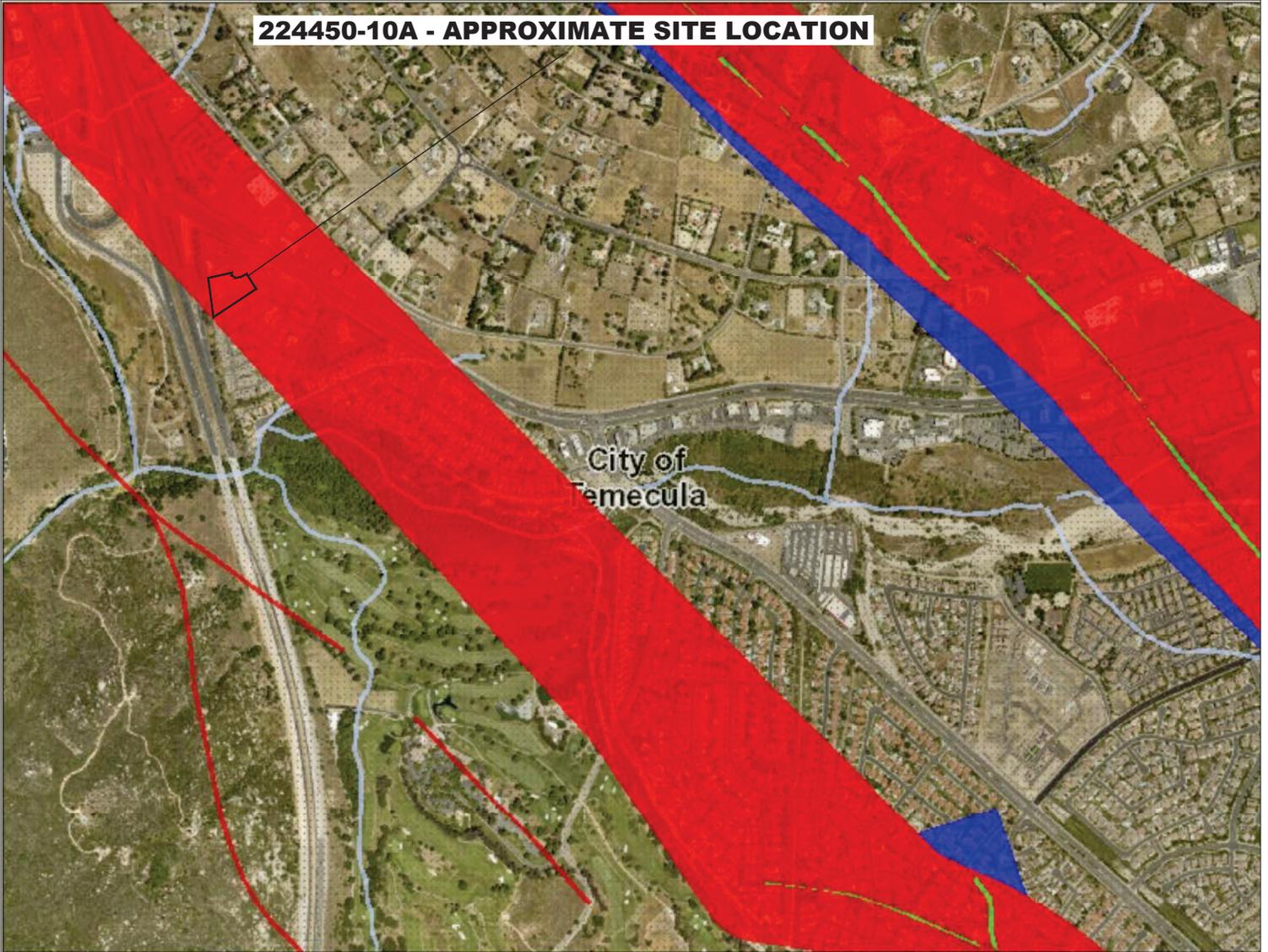
Based on our review of regional geologic maps and applicable computer programs (USGS Seismic Design Maps, Caltrans ARS online, and USGS Earthquake Hazard Programs), the Elsinore Fault with an approximate source to site distance of 1.25 kilometers is the closest known active fault anticipated to produce the highest ground accelerations, with an anticipated maximum modal magnitude of 7.74. A list of faults as well as a list of significant historical seismic events within a 100km radius of the subject site are included in Appendix D.



REFERENCES: Kennedy, M.P., Tan, S.S., Bovard, K.R., Alvarez, R.M., Watson, M.J., and Gutierrez, C.I., 2007, Geologic map of the Oceanside 30x60-minute quadrangle, California, California Geological Survey, Regional Geologic Map RGM-2, 1:100,000.

Earth Strata Geotechnical Services, Inc. Geotechnical, Environmental and Materials Testing Consultants www.ESGSINC.com (951) 397-8315	PROPOSED DRIVE-THRU COFFEE SHOP REGIONAL GEOLOGIC MAP	224450-10A SCALE 1:18,056 OCT 2022 FIGURE 2
--	--	---

224450-10A - APPROXIMATE SITE LOCATION



Legend

Faults

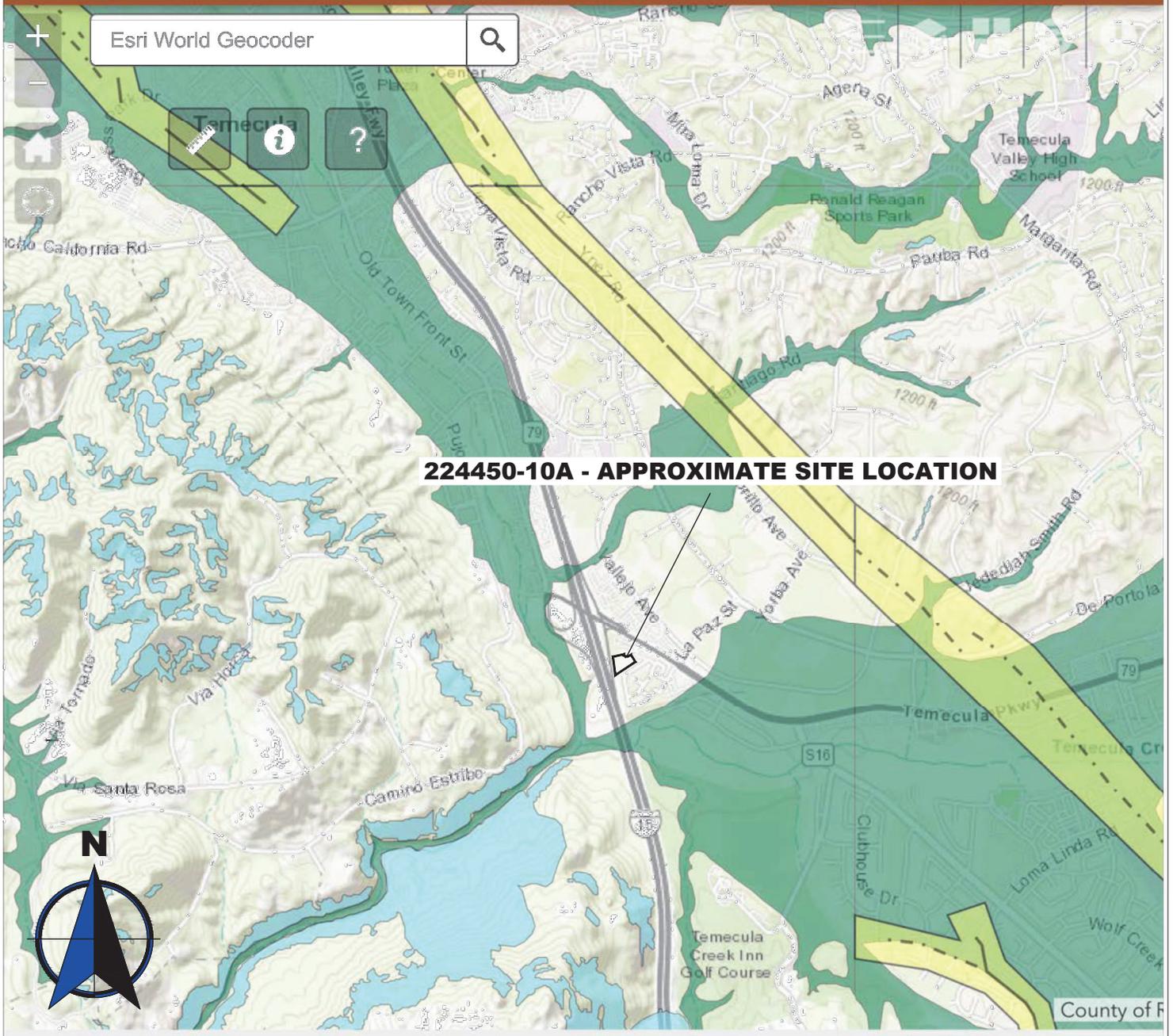
-  OTHER AUTHORITY
-  ALQUIST-PRIOLO
-  RIVERSIDE COUNTY

Fault Zones

-  OTHER FAULT ZONE
-  COUNTY FAULT ZONE
-  EL SINORE FAULT ZONE
-  SAN ANDREAS FAULT ZONE
-  SAN JACINTO FAULT ZONE

Earthquake Zones of Required Investigation

CGS Homepage



224450-10A - APPROXIMATE SITE LOCATION

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

PROPOSED DRIVE-THRU COFFEE SHOP

224450-10A

Alquist-Priolo Zone Maps

SEE BAR SCALE

OCT 2022

FIGURE 4

Landslides

Landslide debris was not observed during our subsurface exploration and no ancient landslides are known to exist on the site. No landslides are known to exist, or have been mapped, in the vicinity of the site. Geologic mapping of the site conducted during our investigation, and review of aerial imagery of the site, reveal no geomorphic expressions indicative of landsliding.

CONCLUSIONS AND RECOMMENDATIONS

General

From geotechnical and engineering geologic points of view, the subject property is considered suitable for the proposed development, provided the following conclusions and recommendations are incorporated into the plans and are implemented during construction.

Earthwork

Earthwork and Grading

The provisions of the 2022 California Building Code (CBC), including the General Earthwork and Grading Specifications in the last Appendix of this report, should be applied to all earthwork and grading operations, as well as in accordance with all applicable grading codes and requirements of the appropriate reviewing agency. Unless specifically revised or amended herein, grading operations should also be performed in accordance with applicable provisions of our General Earthwork and Grading Specifications within the last appendix of this report.

Clearing and Grubbing

Vegetation including trees, grasses, weeds, brush, shrubs, or any other debris should be stripped from the areas to be graded and properly disposed of offsite. In addition, laborers should be utilized to remove any roots, branches, or other deleterious materials during grading operations.

Earth Strata Geotechnical Services should be notified at the appropriate times to provide observation and testing services during Clearing and Grubbing operations. Any buried structures or unanticipated conditions should be brought to our immediate attention.

Excavation Characteristics

Based on the results of our exploration and experience with similar projects in similar settings, the near surface earth materials, will be readily excavated with conventional earth moving equipment.

Groundwater

Groundwater was not observed during our subsurface exploration. It should be noted that localized groundwater could be encountered during grading due to the limited number of exploratory locations or other factors.

Ground Preparation for Fill Areas

For each area to receive compacted fill, the removal of low density, compressible earth materials, such as disturbed artificial fill, should continue until firm competent artificial fill is encountered. Removal excavations are subject to verification by the project engineer, geologist or their representative. Prior to placing compacted fills, the exposed bottom in each removal area should be scarified to a depth of 6 inches or more, watered or air dried as necessary to achieve near optimum moisture conditions and then compacted to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557.

The intent of remedial grading is to diminish the potential for hydro-consolidation, slope instability, and/or settlement. Remedial grading should extend beyond the perimeter of the proposed structures a horizontal distance equal to the depth of excavation or a minimum of 5 feet, whichever is greater. For cursory purposes the anticipated removal depths are shown on the enclosed Geotechnical Map, Plate 1. In general, the anticipated removal depths should vary from 3 to 5 feet below existing grade.

Wet Removals

Wet alluvial materials will probably not be encountered within the low lying areas of the site. If removals of wet alluvial materials are required, special grading equipment and procedures can greatly reduce overall costs. Careful planning by an experienced grading contractor can reduce the need for special equipment, such as swamp cats, draglines, excavators, pumps, and top loading earthmovers. Possible solutions may include the placement of imported angular rock and/or geotextile ground reinforcement. More specific recommendations can be provided based on the actual conditions encountered. Drying or mixing of wet materials with dry materials will be needed to bring the wet materials to near optimum moisture prior to placing wet materials into compacted fills.

Oversize Rock

Oversize rock is not expected to be encountered during grading. Oversize rock that is encountered (i.e., rock exceeding a maximum dimension of 12 inches) should be disposed of offsite or stockpiled onsite and crushed for future use. The disposal of oversize rock is discussed in greater detail in General Earthwork and Grading Specifications within the last appendix of this report.

Compacted Fill Placement

Compacted fill materials should be placed in 6 to 8 inch maximum (uncompacted) lifts, watered or air dried as necessary to achieve uniform near optimum moisture content and then compacted to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557.

Import Earth Materials

Should import earth materials be needed to achieve final design grades, all potential import materials should be free of deleterious/oversize materials, non-expansive, and approved by the project geotechnical consultant prior to delivery onsite.

Fill Slopes

When properly constructed, fill slopes less than 30 feet high with inclinations of 2:1 (h:v) or flatter are considered to be grossly stable. Keyways are required at the toe of all fill slopes higher than 5 feet and steeper than 5:1 (h:v). Keyways should be a minimum of 10 feet wide and 2 feet into competent earth materials, as measured on the downhill side. In order to establish keyway removals, backcuts should be cut no steeper than 1:1 or as recommended by the geotechnical engineer or engineering geologist. Compacted fill should be benched into competent earth materials.

Cut Slopes

When properly constructed, cut slopes into alluvial materials up to 10 feet high with inclinations of 2:1 (h:v) or flatter are considered grossly stable. Cut slopes should be observed by the engineering geologist or his representative during grading, but are anticipated to be stable.

Stabilization Fills

Currently, stabilization fills will not be required for cut slopes in the bedrock. Our engineering geologist or his representative should be called to evaluate all slopes during grading. In the event that unfavorable geologic conditions are encountered, recommendations for stabilization fills or flatter slopes will be provided.

Fill Over Cut Slopes

The fill portion of fill over cut slopes should not be constructed until the cut portion of the slope has been cut to finish grade. The earth materials and geologic structure exposed along the cut slope should be evaluated with regard to suitability for compacted fills or foundations and for stability. If the cut materials are determined to be competent, then the construction of the keyway and subdrain system may commence or additional remedial recommendations will be provided.

Temporary Backcuts

It is the responsibility of the grading contractor to follow all Cal-OSHA requirements with regard to excavation safety. Where existing developments are upslope, adequate slope stability to protect those developments must be maintained. Temporary backcuts will be required to accomplish removals of unsuitable materials and possibly, to perform canyon removals, stabilization fills, and/or keyways. Backcuts should be excavated at a gradient of 1:1 (h:v) or flatter. Flatter backcuts may be required where geologic structure or earth materials are unfavorable. It is imperative that grading schedules minimize the exposure time of the unsupported excavations. All excavations should be stabilized within 30 days of initial excavation.

Cut/Fill Transitions

Cut/fill transitions should be eliminated from all building areas where the depth of fill placed within the "fill" portion exceeds proposed footing depths. This is to diminish distress to structures resulting from excessive differential settlement. The entire foundation of each structure should be

founded on a uniform bearing material. This should be accomplished by overexcavating the “cut” portion and replacing the excavated materials as properly compacted fill. Refer to the following table for recommended depths of overexcavation.

DEPTH OF FILL (“fill” portion)	DEPTH OF OVEREXCAVATION (“cut” portion)
Up to 5 feet	Equal Depth
5 to 10 feet	5 feet
Greater than 10 feet	One-half the thickness of fill placed on the “fill” portion (10 feet maximum)

Overexcavation of the “cut” portion should extend beyond the building perimeter a horizontal distance equal to the depth of overexcavation or a minimum of 5 feet, whichever is greater.

Cut Areas

In cut areas, an area a minimum of 5 feet beyond the footprint of the proposed structures should overexcavated until; competent bottoms are achieved; to a minimum 3 feet below the proposed foundations; or per the Overexcavation Table above; (whichever is greater) and replaced with compacted fill. Final determination of areas that require overexcavation should be determined in the field by a representative of Earth Strata Geotechnical Services.

Shrinkage, Bulking and Subsidence

Volumetric changes in earth material quantities will occur when poorly consolidated earth materials are replaced with properly compacted fill. Estimates of the percent shrinkage/bulking factors for the various geologic units observed on the subject property are based on in-place densities and on the estimated average percent of relative compaction achieved during grading.

GEOLOGIC UNIT	SHRINKAGE (%)
Artificial Fill	5 to 10
Alluvium	10 to 15

Subsidence from scarification and recompaction of exposed bottom surfaces is expected to be negligible to approximately 0.01 foot.

The estimates of shrinkage/bulking and subsidence are intended as an aid for project engineers in determining earthwork quantities. Since many variables can affect the accuracy of these estimates, they should be used with caution and contingency plans should be in place for balancing the project.

Geotechnical Observations

Clearing operations, removal of unsuitable materials, and general grading procedures should be observed by the project geotechnical consultant or his representative. No compacted fill should be placed without observations by the geotechnical consultant or his representative to verify the adequacy of the removals.

The project geotechnical consultant or his representative should be present to observe grading operations and to check that minimum compaction requirements and proper lift thicknesses are being met, as well as to verify compliance with the other recommendations presented herein.

Post Grading Considerations

Slope Landscaping and Maintenance

Adequate slope and building pad drainage is essential for the long term performance of the subject site. The gross stability of graded slopes should not be adversely affected, provided all drainage provisions are properly constructed and maintained. Engineered slopes should be landscaped with deep rooted, drought tolerant maintenance free plant species, as recommended by the project landscape architect.

Site Drainage

Control of site drainage is important for the performance of the proposed project. Roof gutters are recommended for the proposed structures. Pad and roof drainage should be collected and transferred to driveways, adjacent streets, storm-drain facilities, or other locations approved by the building official in non-erosive drainage devices. Drainage should not be allowed to pond on the pad or against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters located within retaining wall backfill should be sealed to prevent moisture intrusion into the backfill. Planters located next to structures should be sealed to the depth of the footings. Drainage control devices require periodic cleaning, testing and maintenance to remain effective.

At a minimum, pad drainage should be designed at the minimum gradients required by the CBC. To divert water away from foundations, the ground surface adjacent to foundations should also be graded at the minimum gradients required per the CBC.

Utility Trenches

All utility trench backfill should be compacted at near optimum moisture to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557. For utility trench backfill within pavement areas the upper 6 inches of subgrade materials should be compacted to 95 percent of the maximum dry density determined by ASTM D 1557. This includes within the street right-of-ways, utility easements, under footings, sidewalks, driveways and building floor slabs, as well as within or adjacent to any slopes. Backfill should be placed in approximately 6 to 8 inch maximum loose lifts and then mechanically compacted with a hydro-hammer, rolling with a sheepsfoot, pneumatic tampers, or similar equipment. The utility trenches should be tested by the project geotechnical engineer or their representative to verify minimum compaction requirements are obtained.

In order to minimize the penetration of moisture below building slabs, all utility trenches should be backfilled with compacted fill, lean concrete or concrete slurry where they undercut the perimeter foundation. Utility trenches that are proposed parallel to any building footings (interior and/or exterior trenches), should not be located within a 1:1 (h:v) plane projected downward from the outside bottom edge of the footing.

SEISMIC DESIGN CONSIDERATIONS

Ground Motions

Structures are required to be designed and constructed to resist the effects of seismic ground motions as provided in the 2022 California Building Code Section 1613. The design is dependent on the site class, occupancy category I, II, III, or IV, mapped spectral accelerations for short periods (S_s), and mapped spectral acceleration for a 1-second period (S_1).

In order for structural design to comply with the 2022 CBC, the USGS “US Seismic Design Maps” online tool was used to compile spectral accelerations for the subject property based on data and maps jointly compiled by the United States Geological Survey (USGS) and the California Geological Survey (CGS). The data found in the following table is based on the Maximum Considered Earthquake (MCE) with 5% damped ground motions having a 2% probability of being exceeded in 50 years (2,475 year return period).

The seismic design coefficients were determined by a combination of the site class, mapped spectral accelerations, and occupancy category. The following seismic design coefficients should be implemented during design of the proposed structures. Summaries of the Seismic Hazard Deaggregation graphs and test data are presented in Appendix D.

2022 CBC	FACTOR (ASCE 7-16)
Site Location	Latitude: 33.478368° (North) Longitude: -117.138550°(West)
Site Class	D - Default
Mapped Spectral Accelerations for short periods, S_s	1.574
Mapped Spectral Accelerations for 1-Second Period, S_1	0.584
Maximum Considered Earthquake Spectral Response Acceleration for Short Periods, S_{ms}	1.889
Maximum Considered Earthquake Spectral Response Acceleration for 1-Second Period, $S_{m1(+50\% \text{ increase})}^*$	1.577*
Design Spectral Response Acceleration for Short Periods, S_{Ds}	1.259
Design Spectral Response Acceleration for 1-Second Period, S_{D1}^*	1.051*
Seismic Design Category	D
Importance Factor Based on Occupancy Category	II

*See ASCE 7-16/Supplement 3

We performed the probabilistic seismic hazard assessment for the site in accordance with the 2022 CBC, Section 1803.5.11 and 1803.5.12. The probabilistic seismic hazard maps and data files were jointly prepared by the United States Geological Survey (USGS) and the California Geological Survey (CGS) and can be found at the CGS Probabilistic Seismic Hazards Mapping Ground Motion Page. Actual ground shaking intensities at the site may be substantially higher or lower based on complex variables such as the near source directivity effects, depth and consistency of earth materials, topography, geologic structure, direction of fault rupture, and seismic wave reflection, refraction, and attenuation rates. The mean peak ground acceleration was calculated to be 0.849g.

Primary Seismic Hazards

While the site is located within a Riverside County Fault Zone; that zone is a projection connecting two widely separated segments of the Willard Fault to the north, and the Murrieta Creek/Wolf Valley Fault to the south (see Figure 3 and Figure 4). Given that the primary trace of the Willard Fault continues southward approximately 0.26 miles southwest of the subject site; and that the trace of the Wolf Valley Fault projects westward approximately 1.17 miles southeast of the subject site, while the northward branching splay of the Elsinore Fault Zone in the area lies approximately 1.39 miles southeast of the subject site; it would seem the linear connection of these two widely separated fault zones is a tenuous projection of minimal certainty.

Given the uncertainty of the projected fault zone, the lack of geomorphic expression indicative of faulting through the subject site and the overall trend of established faults to project away from the subject site; and the lack of faulting discovered in the course of the developments which surround the subject site; it is our conclusion that the probability of surface fault rupture due to faulting is considered low. As such no fault related setbacks are required at this time..

Secondary Seismic Hazards

Secondary effects of seismic shaking considered as potential hazards include several types of ground failure as well as induced flooding. Different types of ground failure, which could occur as a consequence of severe ground shaking at the site, include landslides, ground lurching, shallow ground rupture, and liquefaction/lateral spreading. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from faults, topography, the state of subsurface earth materials, groundwater conditions, and other factors. Based on our experience, subsurface exploration, and laboratory testing, all of the above secondary effects of seismic activity are considered unlikely.

Seismically induced flooding is normally a consequence of a tsunami (seismic sea wave), a seiche (i.e., a wave-like oscillation of surface water in an enclosed basin that may be initiated by a strong earthquake) or failure of a major reservoir or retention system up gradient of the site. Since the site is at an elevation of more than 100 feet above mean sea level and is located more than 10 miles inland from the nearest coastline of the Pacific Ocean, the potential for seismically induced flooding due to a tsunami is considered nonexistent. Since no enclosed bodies of water lie adjacent to or up gradient of the site, the likelihood for induced flooding due to a dam failure or a seiche overcoming the dam's freeboard is considered nonexistent.

Liquefaction and Lateral Spreading

Liquefaction occurs as a result of a substantial loss of shear strength or shearing resistance in loose, saturated, cohesionless earth materials subjected to earthquake induced ground shaking. Potential impacts from liquefaction include loss of bearing capacity, liquefaction related settlement, lateral movements, and surface manifestation such as sand boils. Seismically induced settlement occurs when loose sandy soils become denser when subjected to shaking during an earthquake. The three factors determining whether a site is likely to be subject to liquefaction include seismic shaking, type and consistency of earth materials, and groundwater level. The proposed structures will be supported by compacted fill and competent alluvium, with groundwater at a depth greater than 17 feet. As such, the potential for earthquake induced liquefaction and lateral spreading beneath the proposed structures is

considered very low to remote due to the recommended compacted fill, relatively low groundwater level, and the dense nature of the deeper onsite earth materials.

TENTATIVE FOUNDATION DESIGN RECOMMENDATIONS

General

Provided grading is performed in accordance with the recommendations of this report, shallow foundations are considered feasible for support of the proposed structures. Tentative foundation recommendations are provided herein and graphic presentations of relevant recommendations may also be included on the enclosed map.

Allowable Bearing Values

An allowable bearing value of 2,500 pounds per square foot (psf) is recommended for design of 24-inch square pad footings and 12-inch-wide continuous footings founded at a minimum depth of 12 inches below the lowest adjacent final grade. This value may be increased by 20 percent for each additional 1-foot of width and/or depth to a maximum value of 3,500 psf. Recommended allowable bearing values include both dead and frequently applied live loads and may be increased by one third when designing for short duration wind or seismic forces.

Settlement

Based on the settlement characteristics of the earth materials that underlie the building sites and the anticipated loading, we estimate that the maximum total settlement of the footings will be less than approximately $\frac{3}{4}$ inch. Differential settlement is expected to be about $\frac{1}{2}$ inch over a horizontal distance of approximately 20 feet, for an angular distortion ratio of 1:480. It is anticipated that the majority of the settlement will occur during construction or shortly after the initial application of loading.

The above settlement estimates are based on the assumption that the grading and construction are performed in accordance with the recommendations presented in this report and that the project geotechnical consultant will observe or test the earth material conditions in the footing excavations.

Lateral Resistance

Passive earth pressure of 250 psf per foot of depth to a maximum value of 2,500 psf may be used to establish lateral bearing resistance for footings. For areas covered with hardscape, passive earth pressure may be taken from the surface. For areas without hardscape, the upper 12 inches of the soil profile must be neglected when calculating passive earth pressure. A coefficient of friction of 0.36 times the dead load forces may be used between concrete and the supporting earth materials to determine lateral sliding resistance. The above values may be increased by one-third when designing for short duration wind or seismic forces. When combining passive and friction for lateral resistance, the passive component should be reduced by one third. In no case shall the lateral sliding resistance exceed one-half the dead load for clay, sandy clay, sandy silty clay, silty clay, and clayey silt.

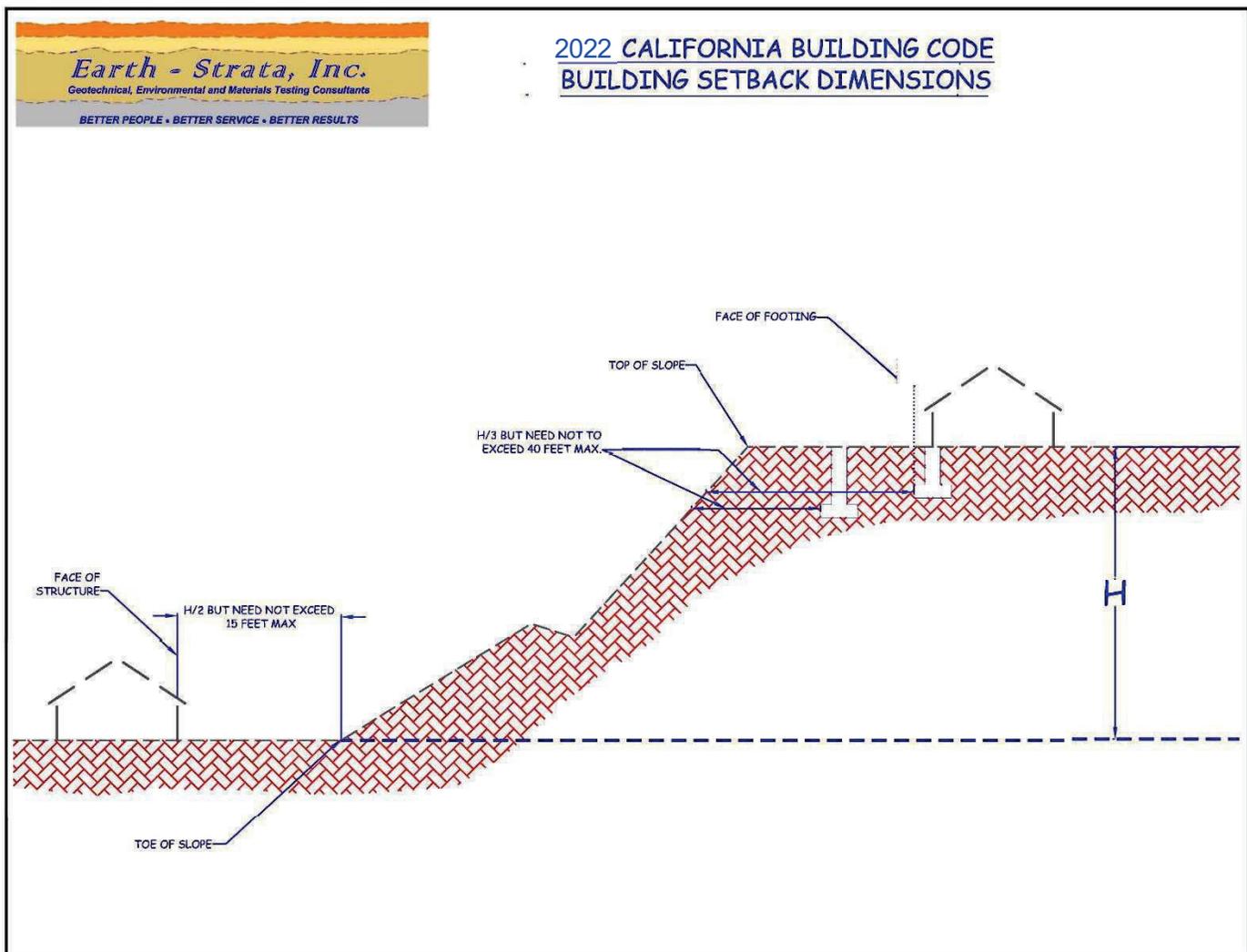
The above lateral resistance values are based on footings for an entire structure being placed directly against either compacted fill or competent bedrock.

Structural Setbacks and Building Clearance

Structural setbacks are required per the 2022 California Building Code (CBC). Additional structural setbacks are not required due to geologic or geotechnical conditions within the site. Improvements constructed in close proximity to natural or properly engineered and compacted slopes can, over time, be affected by natural processes including gravity forces, weathering, and long term secondary settlement. As a result, the CBC requires that buildings and structures be setback or footings deepened to resist the influence of these processes.

For structures that are planned near ascending and descending slopes, the footings should be embedded to satisfy the requirements presented in the CBC, Section 1808.7 as illustrated in the following Foundation Clearances from Slopes diagram.

FOUNDATION CLEARANCES FROM SLOPES



When determining the required clearance from ascending slopes with a retaining wall at the toe, the height of the slope shall be measured from the top of the wall to the top of the slope.

Foundation Observations

In accordance with the 2022 CBC and prior to the placement of forms, concrete, or steel, all foundation excavations should be observed by the geologist, engineer, or his representative to verify that they have been excavated into competent bearing materials. The excavations should be per the approved plans, moistened, cleaned of all loose materials, trimmed neat, level, and square. Any moisture softened earth materials should be removed prior to steel or concrete placement.

Earth materials from foundation excavations should not be placed in slab on grade areas unless the materials are tested for expansion potential and compacted to a minimum of 90 percent of the maximum dry density.

Expansive Soil Considerations

Preliminary laboratory test results indicate onsite earth materials exhibit an expansion potential of **VERY LOW** as classified in accordance with 2022 CBC Section 1803.5.3 and ASTM D 4829. Additional, testing for expansive soil conditions should be conducted upon completion of rough grading. The following recommendations should be considered the very minimum requirements, for the earth materials tested. It is common practice for the project architect or structural engineer to require additional slab thickness, footing sizes, and/or reinforcement.

Very Low Expansion Potential (Expansion Index of 20 or Less)

Our laboratory test results indicate that the earth materials onsite exhibit a **VERY LOW** expansion potential as classified in accordance with 2022 CBC Section 1803.5.3 and ASTM D 4829. Since the onsite earth materials exhibit expansion indices of 20 or less, the design of slab on ground foundations is exempt from the procedures outlined in Section 1808.6.1 or 1808.6.2.

Footings

- Exterior continuous footings may be founded at the minimum depths below the lowest adjacent final grade (i.e. 12-inch minimum depth for one-story, 18-inch minimum depth for two-story, and 24-inch minimum depth for three-story construction). Interior continuous footings for one-, two-, and three-story construction may be founded at a minimum depth of 12 inches below the lowest adjacent final grade. All continuous footings should have a minimum width of 12, 15, and 18 inches, for one-, two-, and three-story structures, respectively per Table 1809.7 of the 2022 CBC, and should be reinforced with a minimum of four (4) No. 4 bars, two (2) top and two (2) bottom.

Building Floor Slabs

- Building floor slabs should be a minimum of 5 inches thick and reinforced with a minimum of No. 4 bars spaced a maximum of 16 inches on center, each way. All floor slab reinforcement should be supported on concrete chairs or bricks to ensure the desired placement at mid-depth.
- Interior floor slabs, within moisture sensitive areas, should be underlain by a minimum 10-mil

thick moisture/vapor barrier to help reduce the upward migration of moisture from the underlying earth materials. The moisture/vapor barrier used should meet the performance standards of an ASTM E 1745 Class A material, and be properly installed in accordance with ACI publication 318. It is the responsibility of the contractor to ensure that the moisture/vapor barriers are free of openings, rips, or punctures prior to placing concrete. As an option for additional moisture reduction, higher strength concrete, such as a minimum 28-day compressive strength of 5,000 pounds per square inch (psi) may be used. Ultimately, the design of the moisture/vapor barrier system and recommendations for concrete placement and curing are the purview of the foundation engineer, taking into consideration the project requirements provided by the architect and owner.

- The subgrade earth materials below all floor slabs should be pre-watered to promote uniform curing of the concrete and minimize the development of shrinkage cracks, prior to placing concrete. The pre-watering should be verified by Earth Strata Geotechnical Services during construction.

Corrosivity

Corrosion is defined by the National Association of Corrosion Engineers (NACE) as “a deterioration of a substance or its properties because of a reaction with its environment.” From a geotechnical viewpoint, the “substances” are the reinforced concrete foundations or buried metallic elements (not surrounded by concrete) and the “environment” is the prevailing earth materials in contact with them. Many factors can contribute to corrosivity, including the presence of chlorides, sulfates, salts, organic materials, different oxygen levels, poor drainage, different soil types, and moisture content. It is not considered practical or realistic to test for all of the factors which may contribute to corrosivity.

The potential for concrete exposure to chlorides is based upon the recognized Caltrans reference standard “Bridge Design Specifications”, under Subsection 8.22.1 of that document, Caltrans has determined that “Corrosive water or soil contains more than 500 parts per million (ppm) of chlorides”. Based on limited preliminary laboratory testing, the onsite earth materials have chloride contents *less* than 500 ppm. As such, specific requirements resulting from elevated chloride contents are not required.

Specific guidelines for concrete mix design are provided in 2022 CBC Section 1904.1 and ACI 318, Section 4.3 Table 4.3.1 when the soluble sulfate content of earth materials exceeds 0.1 percent by weight. Based on limited preliminary laboratory testing, the onsite earth materials are classified in accordance with Table 4.3.1 as having a *negligible* sulfate exposure condition. Therefore, structural concrete in contact with onsite earth materials should utilize Type I or II.

Based on our laboratory testing of resistivity, the onsite earth materials in contact with buried steel should be considered *corrosive*. Additionally, pH values below 5.6 and above 9.1 are recognized as being corrosive to many common metallic components. The pH values for the earth materials tested were *lower* than 9.1 and *higher* than 5.6.

The preliminary test results for corrosivity are based on limited samples, and the initiation of grading may blend various earth materials together. This blending or imported material could alter and increase the detrimental properties of the onsite earth materials. Accordingly, additional testing for chlorides and

sulfates along with testing for pH and resistivity should be performed upon completion of grading. Laboratory test results are presented in Appendix C.

RETAINING WALLS

Active and At-Rest Earth Pressures

Foundations may be designed in accordance with the recommendations provided in the Tentative Foundation Design Recommendation section of this report. The following table provides the minimum recommended equivalent fluid pressures for design of retaining walls a maximum of 8 feet high. The active earth pressure should be used for design of unrestrained retaining walls, which are free to tilt slightly. The at-rest earth pressure should be used for design of retaining walls that are restrained at the top, such as basement walls, curved walls with no joints, or walls restrained at corners. For curved walls, active pressure may be used if tilting is acceptable and construction joints are provided at each angle point and at a minimum of 15 foot intervals along the curved segments.

MINIMUM STATIC EQUIVALENT FLUID PRESSURES (pcf)		
PRESSURE TYPE	BACKSLOPE CONDITION	
	LEVEL	2:1 (h:v)
Active Earth Pressure	40	63
At-Rest Earth Pressure	60	95

The retaining wall parameters provided do not account for hydrostatic pressure behind the retaining walls. Therefore, the subdrain system is a very important part of the design. All retaining walls should be designed to resist surcharge loads imposed by other nearby walls, structures, or vehicles should be added to the above earth pressures, if the additional loads are being applied within a 1.5:1 (h:v) plane projected up from the heel of the retaining wall footing. As a way of minimizing surcharge loads and the settlement potential of nearby buildings, the footings for the building can be deepened below the 1.5:1 (h:v) plane projected up from the heel of the retaining wall footing.

Upon request and under a separate scope of work, more detailed analyses can be performed to address equivalent fluid pressures with regard to stepped retaining walls, actual retaining wall heights, actual backfill inclinations, specific backfill materials, higher retaining walls requiring earthquake design motions, etc.

Subdrain System

We recommend a perforated pipe and gravel subdrain system be provided behind all proposed retaining walls to prevent the buildup of hydrostatic pressure behind the proposed retaining walls. The perforated pipe should consist of 4-inch minimum diameter Schedule 40 PVC or ABS SDR-35, placed with the perforations facing down. The pipe should be surrounded by 1 cubic foot per foot of ¾- or 1½ inch open graded gravel wrapped in filter fabric. The filter fabric should consist of Mirafi 140N or equivalent to prevent infiltration of fines and subsequent clogging of the subdrain system.

In lieu of a perforated pipe and gravel subdrain system, weep holes or open vertical masonry joints may be provided in the lowest row of block exposed to the air to prevent the buildup of hydrostatic pressure behind the proposed retaining walls. Weep holes should be a minimum of 3 inches in diameter and

provided at intervals at least every 6 feet along the wall. Open vertical masonry joints should be provided at a minimum of 32 inch intervals. A continuous gravel fill, a minimum of 1 cubic foot per foot, should be placed behind the weep holes or open masonry joints. The gravel should be wrapped in filter fabric consisting of Mirafi 140N or equivalent.

The retaining walls should be adequately coated on the backfilled side of the walls with a proven waterproofing compound by an experienced professional to inhibit infiltration of moisture through the walls.

Temporary Excavations

All excavations should be made in accordance with Cal-OSHA requirements. Earth Strata Geotechnical Services is not responsible for job site safety.

Retaining Wall Backfill

Retaining wall backfill materials should be approved by the geotechnical engineer or his representative prior to placement as compacted fill. Retaining wall backfill should be placed in lifts no greater than 6 to 8 inches, watered or air dried as necessary to achieve near optimum moisture contents. All retaining wall backfill should be compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D 1557. Retaining wall backfill should be capped with a paved surface drain.

CONCRETE FLATWORK

Thickness and Joint Spacing

Concrete sidewalks and patio type slabs should be at least 4 inches thick and provided with construction or expansion joints every 6 feet or less, to reduce the potential for excessive cracking. Concrete driveway slabs should be at least 5 inches thick and provided with construction or expansion joints every 10 feet or less.

Subgrade Preparation

In order to reduce the potential for unsightly cracking, subgrade earth materials underlying concrete flatwork should be compacted at near optimum moisture to a minimum of 90 percent of the maximum dry density determined by ASTM D 1557 and then moistened to optimum or slightly above optimum moisture content. This moisture should extend to a depth of 12 inches below subgrade and be maintained prior to placement of concrete. Pre-watering of the earth materials prior to placing concrete will promote uniform curing of the concrete and minimize the development of shrinkage cracks. The project geotechnical engineer or his representative should verify the density and moisture content of the earth materials and the depth of moisture penetration prior to placing concrete.

Cracking within concrete flatwork is often a result of factors such as the use of too high a water to cement ratio and/or inadequate steps taken to prevent moisture loss during the curing of the concrete. Concrete distress can be reduced by proper concrete mix design and proper placement and curing of the concrete. Minor cracking within concrete flatwork is normal and should be expected.

GRADING PLAN REVIEW AND CONSTRUCTION SERVICES

This report has been prepared for the exclusive use of **CATALYST COMMERCIAL GROUP** and their authorized representative. It likely does not contain sufficient information for other parties or other uses. Earth Strata Geotechnical Services should be engaged to review the final design plans and specifications prior to construction. This is to verify that the recommendations contained in this report have been properly incorporated into the project plans and specifications. Should Earth Strata Geotechnical Services not be accorded the opportunity to review the project plans and specifications, we are not responsible for misinterpretation of our recommendations.

We recommend that Earth Strata Geotechnical Services be retained to provide geologic and geotechnical engineering services during grading and foundation excavation phases of the work. In order to allow for design changes in the event that the subsurface conditions differ from those anticipated prior to construction.

Earth Strata Geotechnical Services should review any changes in the project and modify and approve in writing the conclusions and recommendations of this report. This report and the drawings contained within are intended for design input purposes only and are not intended to act as construction drawings or specifications. In the event that conditions encountered during grading or construction operations appear to be different than those indicated in this report, this office should be notified immediately, as revisions may be required.

REPORT LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists, practicing at the time and location this report was prepared. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

Earth materials vary in type, strength, and other geotechnical properties between points of observation and exploration. Groundwater and moisture conditions can also vary due to natural processes or the works of man on this or adjacent properties. As a result, we do not and cannot have complete knowledge of the subsurface conditions beneath the subject property. No practical study can completely eliminate uncertainty with regard to the anticipated geotechnical conditions in connection with a subject property. The conclusions and recommendations within this report are based upon the findings at the points of observation and are subject to confirmation by Earth Strata Geotechnical Services based on the conditions revealed during grading and construction.

This report was prepared with the understanding that it is the responsibility of the owner or their representative, to ensure that the conclusions and recommendations contained herein are brought to the attention of the other project consultants and are incorporated into the plans and specifications. The owners' contractor should properly implement the conclusions and recommendations during grading and construction, and notify the owner if they consider any of the recommendations presented herein to be unsafe or unsuitable.

APPENDIX A
REFERENCES

APPENDIX A

References

California Building Standards Commission, 2022, *2022 California Building Code, California Code of Regulations Title 24, Part 2, Volume 2 of 2*, Based on 2018 International Building Code.

California Corrosion Guidelines

DeLorme, 2004, (www.delorme.com) *Topo USA*®.

Hart, Earl W. and Bryant, William A., 1997, *Fault Rupture Hazard Zones in California*, CDMG Special Publication 42, revised 2003.

Jenkins, Olaf P., 1978, *Geologic Map of California, Santa Ana Sheet*; CDMG, Scale 1:250,000.

Kennedy, M.P., 2000, Nelson, B., and R. Hauser, *Geologic Map of the Pechanga 7.5 Minute Quadrangle, Riverside and San Diego Counties, California, Version 1.0*: U.S. Geological Survey, CDMG.

Kennedy, M.P., 1977, *Regency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California*, California Division of Mines and Geology Special Report 131.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Southern California, Version 2.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Murrieta 7.5 Minute Quadrangle, Southern California, Version 1.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M. (compiler), and Fred K. Miller (compiler), 2006, *Geologic Map of the San Bernardino and Santa Ana 30' x 60' Quadrangles, California*: U.S. Geological Survey, Version 1, California.

National Association of Corrosion Engineers, 1984, *Corrosion Basics An Introduction*, page 191.

Per A.B. Chance® Recommendations, 2003

Southern California Earthquake Center (SCEC), 1999, *Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California*, March.

APPENDIX B
EXPLORATORY LOGS

Geotechnical Boring Log B-1

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					ML	Sandy SILT; brown, slightly moist, medium dense, fine sand
	24	2.5'	116.4	12.6		
5						Porous at 5 feet
	34	5'	115.4	14.7		Becomes dense below 5 feet
						Dark brown, fine gravel at 7.5 feet
	35	7.5'	123.3	9.7		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
					SM	Silty SAND; dark brown, slightly moist, very dense, fine to medium sand and gravel, poor recovery
	50/6"	10'	-	-		
15						No recovery and Practical Refusal 16 feet
						End of Boring: 16 feet
						No Groundwater
20						
25						
30						

Geotechnical Boring Log B-2

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0		0-5'				Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, fine to medium sand
	32	2.5'	122.8	9.4		
						Medium to coarse sand, porous at 5 feet
5						
	31	5'	112.0	13.4		
						Practical Refusal at 6.5 feet
						End of Boring: 6.5 feet
						No Groundwater
10						
15						
20						
25						
30						

Geotechnical Boring Log B-3

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, medium to coarse sand, fine gravel, porous
	29	2.5'	123.7	7.1		
						With cobbles, becomes dense at 5 feet
5						
	36	5'	132.2	4.9		
	65	7.5'	114.5	5.4		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to medium sand
					SM	Silty SAND; reddish brown, slightly moist, very dense, fine gravel
10						
	80/11"	10'	111.3	5.0	SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to coarse sand
						Practical refusal at 11 feet
						End of Boring: 11.5 feet
						No Groundwater
15						
20						
25						
30						

42184 Remington Avenue, Temecula, CA 92590

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

Geotechnical Boring Log B-4

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, medium to coarse sand, fine gravel
	31	2.5'	120.0	7.0		
5						Dark brown, medium dense, fine sand, porous below 5 feet
	26	5'	120.7	9.6		
	30	7.5'	124.3	11.3	ML	Sandy SILT; reddish brown, slightly moist, hard, fine to medium sand
10						
	68/11"	10'	122.0	6.6		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; white to light brown, slightly moist, very dense, fine to medium sand
15						
	50/6"	15'	109.4	7.1	SM	Silty SAND; white to brown, slightly moist, very dense, fine to coarse sand with cobble
						Practical refusal at 16 feet
						End of Boring: 16 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-5

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

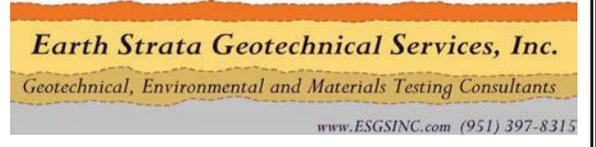
Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, very dense, fine to medium sand with fine gravel
	39	2.5'	122.0	5.9		
5						
	25	5'	125.9	4.4	SP	Poorly-graded SAND; brown, moist, medium dense, fine to medium sand, medium to coarse gravel
	50	7.5'	117.7	16.2	ML	Sandy SILT; brown, slightly moist, dense, fine grained sand
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	63	10'	120.3	6.1	SM	Silty SAND; white to brown, moist, very dense, medium to coarse sand, fine gravel
						Practical refusal at 13.5 feet
15						End of Boring: 13.5 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-6

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, fine to medium grained sand
	20	2.5'	121.2	5.6		
5						
	19	5'	116.4	18.6		
	11	7.5'	114.7	14.0		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	68	10'	120.1	7.0	SP	Poorly-graded SAND; white to brown, slightly moist, very dense, medium to coarse sand, fine gravel
15						
	50/5"	15'	106.9	6.7		
						End of Boring: 16 feet
						No Groundwater
20						
25						
30						

42184 Remington Avenue, Temecula, CA 92590



APPENDIX C

LABORATORY PROCEDURES AND TEST RESULTS

APPENDIX C

Laboratory Procedures and Test Results

Laboratory testing provided quantitative and qualitative data involving the relevant engineering properties of the representative earth materials selected for testing. The representative samples were tested in general accordance with American Society for Testing and Materials (ASTM) procedures and/or California Test Methods (CTM).

Soil Classification: Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions were reconciled to reflect laboratory test results with regard to ASTM D 2487.

Moisture and Density Tests: For select samples moisture content was determined using the guidelines of ASTM D 2216 and dry density determinations were made using the guidelines of ASTM D 2937. These tests were performed on relatively undisturbed samples and the test results are presented on the exploratory logs.

Maximum Density Tests: The maximum dry density and optimum moisture content of representative samples were determined using the guidelines of ASTM D 1557. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)
B-2 @ 0-5 feet	Clayey SAND	133.0	8.0

Expansion Index: The expansion potential of representative samples was evaluated using the guidelines of ASTM D 4829. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	EXPANSION INDEX	EXPANSION POTENTIAL
B-2 @ 0-5 feet	Clayey SAND	9	Very Low

Minimum Resistivity and pH Tests: Minimum resistivity and pH Tests of select samples were performed using the guidelines of CTM 643. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	pH	MINIMUM RESISTIVITY (ohm-cm)
B-2 @ 0-5 feet	Clayey SAND	7.5	1,400

Soluble Sulfate: The soluble sulfate content of select samples was determined using the guidelines of CTM 417. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	SULFATE CONTENT (% by weight)	SULFATE EXPOSURE
B-2 @ 0-5 feet	Clayey SAND	0.001	Negligible

Chloride Content: Chloride content of select samples was determined using the guidelines of CTM 422. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	CHLORIDE CONTENT (ppm)
B-2 @ 0-5 feet	Clayey SAND	50

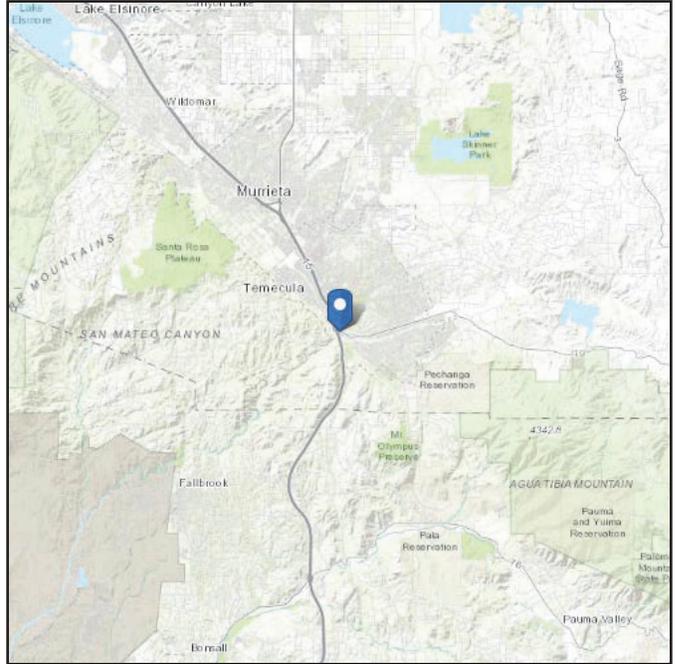
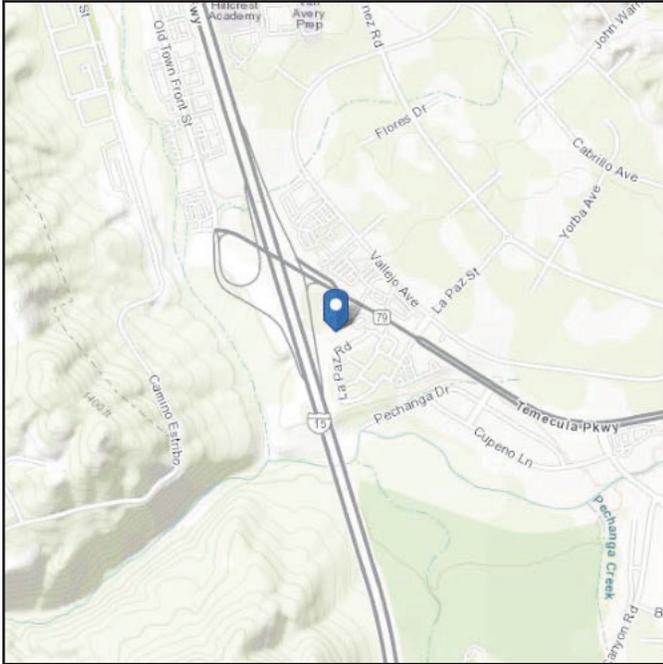
APPENDIX D
SEISMICITY

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 33.478368
Longitude: -117.13855
Elevation: 1005.1220992734862 ft (NAVD 88)



Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	1.574	S_{D1} :	N/A
S_1 :	0.584	T_L :	8
F_a :	1.2	PGA :	0.707
F_v :	N/A	PGA _M :	0.849
S_{MS} :	1.889	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	1.259	C_v :	1.415

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Fri May 17 2024

Date Source: [USGS Seismic Design Maps](#)

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

U.S. Geological Survey - Earthquake Hazards Program

2008 National Seismic Hazard Maps - Source Parameters

[New Search](#)

Distance in Kilometers	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
1.25	Elsinore;GI+T+J+CM	CA	n/a	86	NE	strike slip	0	16	195
1.25	Elsinore;T	CA	5	90	V	strike slip	0	14	52
1.25	Elsinore;GI+T+J	CA	n/a	86	NE	strike slip	0	17	153
1.25	Elsinore;GI+T	CA	5	90	V	strike slip	0	14	78
1.25	Elsinore;W+GI+T+J+CM	CA	n/a	84	NE	strike slip	0	16	241
1.25	Elsinore;W+GI+T+J	CA	n/a	84	NE	strike slip	0	16	199
1.25	Elsinore;W+GI+T	CA	n/a	84	NE	strike slip	0	14	124
1.25	Elsinore;T+J+CM	CA	n/a	85	NE	strike slip	0	16	169
1.25	Elsinore;T+J	CA	n/a	86	NE	strike slip	0	17	127
19.43	Elsinore;J	CA	3	84	NE	strike slip	0	19	75
19.43	Elsinore;J+CM	CA	3	84	NE	strike slip	0	17	118
20.77	Elsinore;GI	CA	5	90	V	strike slip	0	13	37
20.77	Elsinore;W+GI	CA	n/a	81	NE	strike slip	0	14	83
35.28	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
35.28	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
35.28	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118
35.28	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178

35.28	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
35.35	San Jacinto;SBV+SJV+A+CC	CA	n/a	90	V	strike slip	0	16	181
35.35	San Jacinto;SBV+SJV+A	CA	n/a	90	V	strike slip	0	16	134
35.35	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
35.35	San Jacinto;SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
35.35	San Jacinto;SJV+A+CC	CA	n/a	90	V	strike slip	0	16	136
35.35	San Jacinto;SJV+A+C	CA	n/a	90	V	strike slip	0	17	136
35.35	San Jacinto;SJV+A	CA	n/a	90	V	strike slip	0	17	89
35.35	San Jacinto;SBV+SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	215
35.35	San Jacinto;SBV+SJV+A+C	CA	n/a	90	V	strike slip	0	17	181
35.35	San Jacinto;SBV+SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
37.69	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
37.69	San Jacinto;SBV+SJV	CA	n/a	90	V	strike slip	0	16	88
43.61	Newport Inglewood Connected alt 1	CA	1.3	89		strike slip	0	11	208
43.61	Newport Inglewood Connected alt 2	CA	1.3	90	V	strike slip	0	11	208
43.61	Newport-Inglewood (Offshore)	CA	1.5	90	V	strike slip	0	10	66
47.58	Rose Canyon	CA	1.5	90	V	strike slip	0	8	70
51.53	San Joaquin Hills	CA	0.5	23	SW	thrust	2	13	27
55.21	Chino, alt 2	CA	1	65	SW	strike slip	0	14	29
55.28	San Jacinto;CC+B	CA	n/a	90	V	strike slip	0.2	14	77
55.28	San Jacinto;CC	CA	4	90	V	strike slip	0	16	43
55.28	San Jacinto;CC+B+SM	CA	n/a	90	V	strike slip	0.2	14	103

57.21	Elsinore;W	CA	2.5	75	NE	strike slip	0	14	46
58.04	San Jacinto;C	CA	14	90	V	strike slip	0	17	47
59.43	Chino, alt 1	CA	1	50	SW	strike slip	0	9	24
60.46	San Jacinto;SBV	CA	6	90	V	strike slip	0	16	45
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	548
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0.1	13	479
60.85	S. San Andreas;NSB+SSB+BG	CA	n/a	75		strike slip	0	14	136
60.85	S. San Andreas;NM+SM+NSB+SSB+BG+CO	CA	n/a	84		strike slip	0.1	13	340
60.85	S. San Andreas;NM+SM+NSB+SSB+BG	CA	n/a	83		strike slip	0	14	271
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0	14	442
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	449
60.85	S. San Andreas;BG+CO	CA	n/a	72		strike slip	0.3	12	125
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	85		strike slip	0	14	380
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	512
60.85	S. San Andreas;SSB+BG	CA	n/a	71		strike slip	0	13	101
60.85	S. San Andreas;NSB+SSB+BG+CO	CA	n/a	79		strike slip	0.2	12	206
60.85	S. San Andreas;BG	CA	n/a	58		strike slip	0	13	56
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	85		strike slip	0.1	13	390
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG	CA	n/a	84		strike slip	0	14	321
60.85	S. San Andreas;SSB+BG+CO	CA	n/a	77		strike slip	0.2	12	170
60.85	S. San Andreas;SM+NSB+SSB+BG+CO	CA	n/a	83		strike slip	0.1	13	303

60.85	S. San Andreas;SM+NSB+SSB+BG	CA	n/a	81		strike slip	0	13	234
60.93	S. San Andreas;SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	176
60.93	S. San Andreas;CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	322
60.93	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	384
60.93	S. San Andreas;NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	213
60.93	S. San Andreas;NSB+SSB	CA	n/a	90	V	strike slip	0	13	79
60.93	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0.1	13	421
60.93	S. San Andreas;SSB	CA	16	90	V	strike slip	0	13	43
60.93	S. San Andreas;BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	263
61.08	Earthquake Valley	CA	2	90	V	strike slip	0	19	20
71.40	Coronado Bank	CA	3	90	V	strike slip	0	9	186
71.40	Palos Verdes Connected	CA	3	90	V	strike slip	0	10	285
74.72	Pinto Mtn	CA	2.5	90	V	strike slip	0	16	74
74.92	S. San Andreas;CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	279
74.92	S. San Andreas;CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	341
74.92	S. San Andreas;NM+SM+NSB	CA	n/a	90	V	strike slip	0	13	170
74.92	S. San Andreas;NSB	CA	22	90	V	strike slip	0	13	35
74.92	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0.1	13	377
74.92	S. San Andreas;BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	220
74.92	S. San Andreas;SM+NSB	CA	n/a	90	V	strike slip	0	13	133
75.44	Newport-Inglewood, alt 1	CA	1	88		strike slip	0	15	65
75.78	Palos Verdes	CA	3	90	V	strike	0	14	99

						slip			
82.10	Puente Hills (Coyote Hills)	CA	0.7	26	N	thrust	2.8	15	17
82.48	Cucamonga	CA	5	45	N	thrust	0	8	28
85.80	Burnt Mtn	CA	0.6	67	W	strike slip	0	16	21
86.83	San Jose	CA	0.5	74	NW	strike slip	0	15	20
89.00	Cleghorn	CA	3	90	V	strike slip	0	16	25
89.57	S. San Andreas;CO	CA	20	90	V	strike slip	0.6	11	69
90.69	Sierra Madre Connected	CA	2	51		reverse	0	14	76
90.69	Sierra Madre	CA	2	53	N	reverse	0	14	57
91.12	Eureka Peak	CA	0.6	90	V	strike slip	0	15	19
91.90	San Jacinto;B+SM	CA	n/a	90	V	strike slip	0.4	12	61
91.90	San Jacinto;B	CA	4	90	V	strike slip	0.7	13	34
93.24	Elsinore;CM	CA	3	82	NE	strike slip	0	13	39
93.82	North Frontal (West)	CA	1	49	S	reverse	0	16	50
95.81	Puente Hills (Santa Fe Springs)	CA	0.7	29	N	thrust	2.8	15	11
98.53	Helendale-So Lockhart	CA	0.6	90	V	strike slip	0	13	114



Format	Sort
Magnitude	Newest First
6.3	The 1992 Big Bear Earthquak...
	1992-06-28 15:05:30 (UTC) 3.6 km
6.1	The 1992 Joshua Tree Earth...
	1992-04-23 04:50:23 (UTC) 11.6 km
6.0	6km SSW of Morongo Valley, ...
	1986-07-08 09:20:44 (UTC) 9.5 km
6.0	16km E of Desert Hot Spring...
	1948-12-04 23:43:16 (UTC) 6.0 km
6.0	16km WSW of Oasis, CA
	1937-03-25 16:49:02 (UTC) 6.0 km
6.4	Long Beach, California Earth...
	1933-03-11 01:54:09 (UTC) 6.0 km
6.2	3 km SE of San Bernardino, C...
	1923-07-23 07:30:23 (UTC) 5.0 km
6.7	1 km N of Hemet, California
	1918-04-21 22:32:30 (UTC) 10.0 km
6.7	Near San Jacinto, California
	1899-12-25 12:25:00 (UTC)
6.4	Cajon Pass area, northwest o...
	1899-07-22 20:32:00 (UTC)
6.1	East of San Diego, California
	1894-10-23 23:03:00 (UTC)
6.5	Near Borrego Springs, Calif...
	1892-05-28 11:15:00 (UTC)
6.8	Northeastern San Diego Cou...
	1890-02-09 12:06:00 (UTC)
6.2	Greater San Diego area, Calif...
	1862-05-27 20:00:00 (UTC)
6.0	Near San Bernardino, Califor...
	1858-12-16 10:00:00 (UTC)
6.3	Gulf of Santa Catalina, Calif...
	1888-11-22 00:00:00 (UTC)



APPENDIX E
GENERAL EARTHWORK AND GRADING
SPECIFICATIONS

EARTH-STRATA

General Earthwork and Grading Specifications

General

Intent: These General Earthwork and Grading Specifications are intended to be the minimum requirements for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These General Earthwork and Grading Specifications should be considered a part of the recommendations contained in the geotechnical report(s) and if they are in conflict with the geotechnical report(s), the specific recommendations in the geotechnical report shall supersede these more general specifications. Observations made during earthwork operations by the project Geotechnical Consultant may result in new or revised recommendations that may supersede these specifications and/or the recommendations in the geotechnical report(s).

The Geotechnical Consultant of Record: The Owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant), prior to commencement of grading or construction. 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 or construction.

Prior to commencement of grading or construction, the Owner shall coordinate with the Geotechnical Consultant, and Earthwork Contractor (Contractor) to schedule sufficient personnel for the appropriate level of observation, mapping, and compaction testing.

During earthwork and grading operations, the Geotechnical Consultant shall observe, map, and document the subsurface conditions to confirm assumptions made during the geotechnical design phase of the project. Should the observed conditions differ significantly from the interpretive assumptions made during the design phase, the Geotechnical Consultant shall recommend appropriate changes to accommodate the observed conditions, and notify the reviewing agency where required.

The Geotechnical Consultant shall observe the moisture conditioning and processing of the excavations and fill materials. The Geotechnical Consultant should perform periodic relative density testing of fill materials to verify that the attained level of compaction is being accomplished as specified.

The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of earth materials to receive compacted fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall be provided with the approved grading plans and geotechnical report(s) for his review and acceptance of responsibilities, prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the approved grading plans and geotechnical report(s). Prior to commencement of grading, 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. The Contractor shall inform the Owner and the Geotechnical Consultant of work schedule changes and revisions to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. No assumptions shall be made by the Contractor with regard to whether the Geotechnical Consultant is aware of all grading operations.

It is the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the earthwork operations 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). At the sole discretion of the Geotechnical Consultant, any unsatisfactory conditions, such as unsuitable earth materials, improper moisture conditioning, inadequate compaction, insufficient buttress keyway size, adverse weather conditions, etc., resulting in a quality of work less than required in the approved grading plans and geotechnical report(s), the Geotechnical Consultant shall reject the work and may recommend to the Owner that grading be stopped until conditions are corrected.

Preparation of Areas for Compacted Fill

Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed in a method acceptable to the Owner, Geotechnical Consultant, and governing agencies.

The Geotechnical Consultant shall evaluate the extent of these removals on a site by site basis. Earth materials to be placed as compacted fill shall not contain more than 1 percent organic materials (by volume). No compacted fill lift shall contain more than 10 percent organic matter.

Should potentially hazardous materials be encountered, the Contractor shall stop work in the affected area, and a hazardous materials specialist shall immediately be consulted to evaluate the potentially hazardous materials, prior to continuing to work in that area.

It is our understanding that the State of California defines most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) as hazardous waste. As such, indiscriminate dumping or spillage of these fluids may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall be prohibited. The contractor is responsible for all hazardous waste related to his operations. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Owner should contract the services of a qualified environmental assessor.

Processing: Exposed earth materials that have been observed to be satisfactory for support of compacted fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Exposed earth materials that are not observed to be satisfactory shall be removed or alternative recommendations may be provided by the Geotechnical Consultant. Scarification shall continue until the exposed earth materials are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction. The earth materials should be moistened or air dried to near optimum moisture content, prior to compaction.

Overexcavation: The Cut Lot Typical Detail and Cut/Fill Transition Lot Typical Detail, included herein provides a graphic illustration that depicts typical overexcavation recommendations made in the approved geotechnical report(s) and/or grading plan(s).

Keyways and Benching: Where fills are to be placed on slopes steeper than 5:1 (horizontal to vertical units), the ground shall be thoroughly benched as compacted fill is placed. Please see the three Keyway and Benching Typical Details with subtitles Cut Over Fill Slope, Fill Over Cut Slope, and Fill Slope for a graphic illustration. The lowest bench or smallest keyway shall be a minimum of 10 feet wide (or ½ the proposed slope height) and at least 2 feet into competent earth materials as advised by the Geotechnical Consultant. Typical benches shall be excavated a minimum height of 4 feet into competent earth materials or as recommended by the Geotechnical Consultant. Fill placed on slopes steeper than 5:1 should be thoroughly benched or otherwise excavated to provide a flat subgrade for the compacted fill.

Evaluation/Acceptance of Bottom Excavations: All areas to receive compacted fill (bottom excavations), including removal excavations, processed areas, keyways, and benching, shall be observed, mapped, general elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive compacted fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to placing compacted fill. A licensed surveyor shall provide the survey control for determining elevations of bottom excavations, processed areas, keyways, and

benching. The Geotechnical Consultant is not responsible for erroneously located, fills, subdrain systems, or excavations.

Fill Materials

General: Earth material to be used as compacted fill should to a large extent be free of organic matter and other deleterious substances as evaluated and accepted by the Geotechnical Consultant.

Oversize: Oversize material is rock that does not break down into smaller pieces and has a maximum diameter greater than 12 inches. Oversize rock shall not be included within compacted fill unless specific methods and guidelines acceptable to the Geotechnical Consultant are followed. For examples of methods and guidelines of oversize rock placement see the enclosed Oversize Rock Disposal Detail. The inclusion of oversize materials in the compacted fill shall only be acceptable if the oversize material is completely surrounded by compacted fill or thoroughly jetted granular materials. No oversize material shall be placed within 10 vertical feet of finish grade or within 2 feet of proposed utilities or underground improvements.

Import: Should imported earth materials be required, the proposed import materials shall meet the requirements of the Geotechnical Consultant. Well graded, very low expansion potential earth materials free of organic matter and other deleterious substances are usually sought after as import materials. However, it is generally in the Owners best interest that potential import earth materials are provided to the Geotechnical Consultant to determine their suitability for the intended purpose. At least 48 hours should be allotted for the appropriate laboratory testing to be performed, prior to starting the import operations.

Fill Placement and Compaction Procedures

Fill Layers: Fill materials shall be placed in areas prepared to receive fill in nearly horizontal layers not exceeding 8 inches in loose thickness. Thicker layers may be accepted by the Geotechnical Consultant, provided field density testing indicates that the grading procedures can adequately compact the thicker layers. Each layer of fill shall be spread evenly and thoroughly mixed to obtain uniformity within the earth materials and consistent moisture throughout the fill.

Moisture Conditioning of Fill: Earth materials to be placed as compacted fill shall be watered, dried, blended, and/or mixed, as needed to obtain relatively uniform moisture contents that are at or slightly above optimum. The maximum density and optimum moisture content tests should be performed in accordance with the American Society of Testing and Materials (ASTM test method D1557-00).

Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it should be uniformly compacted to a minimum of 90 percent of maximum dry density as determined by ASTM test method D1557-00. Compaction equipment shall be adequately sized and be either specifically designed for compaction of earth materials or be proven to consistently achieve the required level of compaction.

Compaction of Fill Slopes: In addition to normal compaction procedures specified above, additional effort to obtain compaction on slopes is needed. This may be accomplished by backrolling of slopes with sheepsfoot rollers as the fill is being placed, by overbuilding the fill slopes, or by other methods producing results that are satisfactory to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill and the slope face shall be a minimum of 90 percent of maximum density per ASTM test method D1557-00.

Compaction Testing of Fill: Field tests for moisture content and relative density of the compacted fill earth materials shall be periodically performed by the Geotechnical Consultant. The location and frequency of tests shall be at the Geotechnical Consultant's discretion based on field observations. Compaction test locations will not necessarily be random. The test locations may or may not be selected to verify minimum compaction requirements in areas that are typically prone to inadequate compaction, such as close to slope faces and near benching.

Frequency of Compaction Testing: Compaction tests shall be taken at minimum intervals of every 2 vertical feet and/or per 1,000 cubic yards of compacted materials placed. Additionally, as a guideline, at least one (1) test shall be taken on slope faces for each 5,000 square feet of slope face and/or for each 10 vertical feet of slope. The Contractor shall assure that fill placement is such that the testing schedule described herein can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork operations to a safe level so that these minimum standards can be obtained.

Compaction Test Locations: The approximate elevation and horizontal coordinates of each test location shall be documented by the Geotechnical Consultant. The Contractor shall coordinate with the Surveyor to assure that sufficient grade stakes are established. This will provide the Geotechnical Consultant with sufficient accuracy to determine the approximate test locations and elevations. The Geotechnical Consultant can not be responsible for staking erroneously located by the Surveyor or Contractor. A minimum of two grade stakes should be provided at a maximum horizontal distance of 100 feet and vertical difference of less than 5 feet.

Subdrain System Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the approved grading plan, and the typical details provided herein. The Geotechnical Consultant may recommend additional subdrain systems and/or changes to the subdrain systems described herein, with regard to the extent, location, grade, or material depending on conditions encountered during grading or other factors. All subdrain systems shall be surveyed by a licensed land surveyor (except for retaining wall subdrain systems) to verify line and grade after installation and prior to burial. Adequate time should be allowed by the Contractor to complete these surveys.

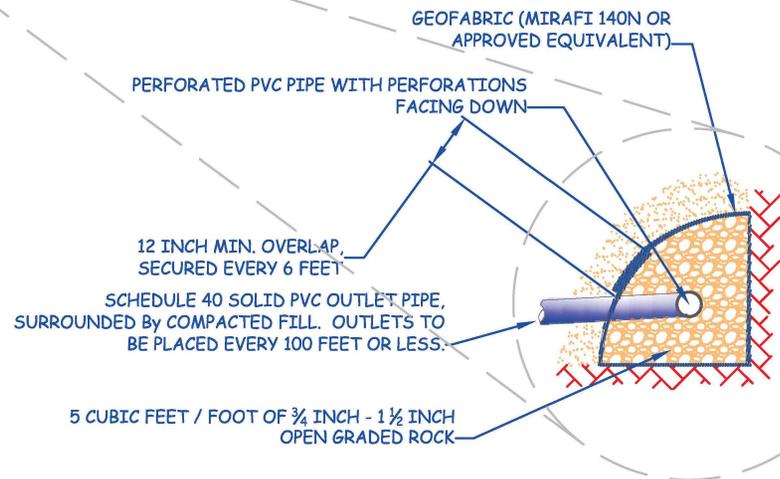
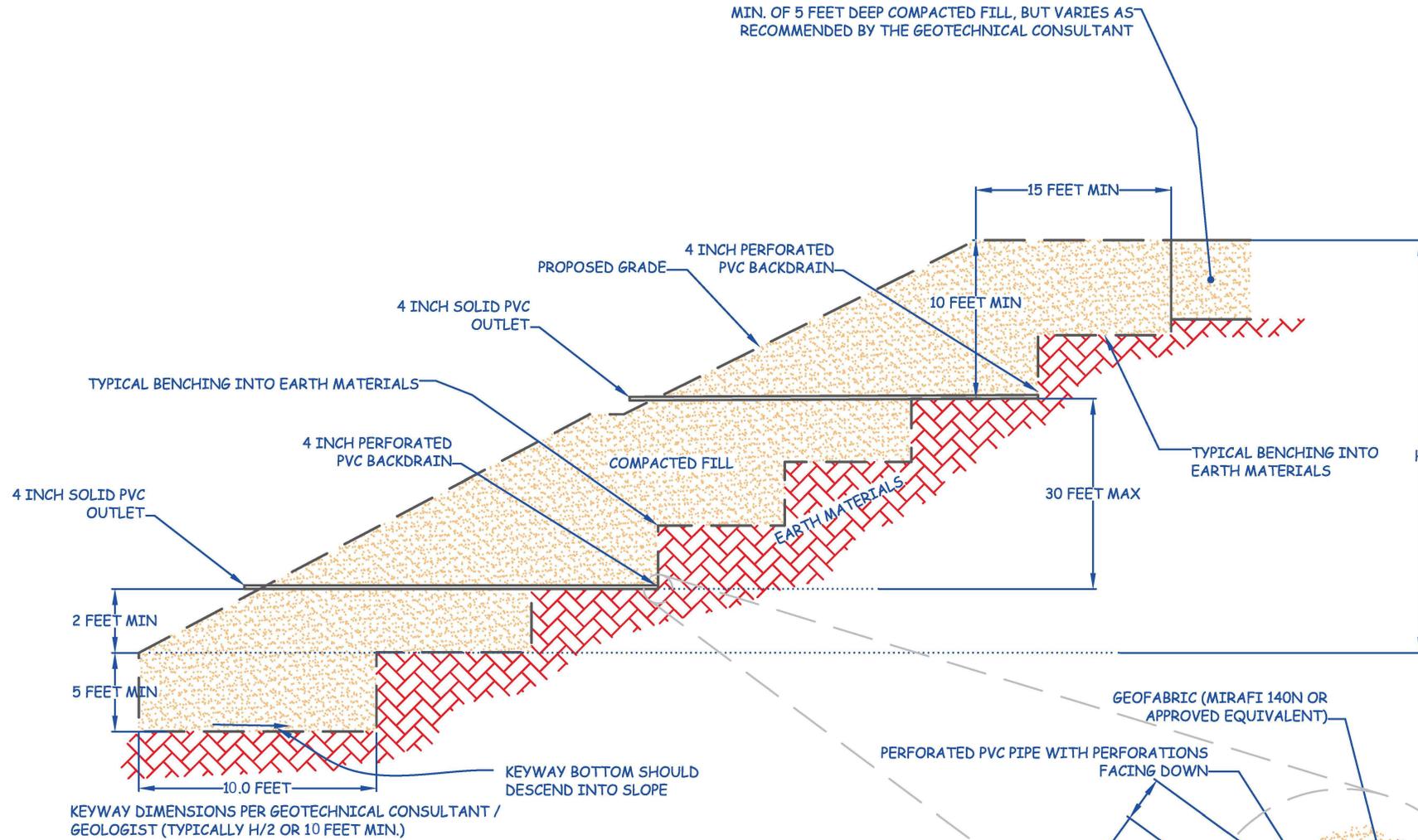
Excavation

All excavations and over-excavations for remedial purposes shall be evaluated by the Geotechnical Consultant during grading operations. Remedial removal depths indicated on the geotechnical plans are estimates only. The actual removal depths and extent shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading operations. Where fill over cut slopes are planned, the cut portion of the slope shall be excavated, evaluated, and accepted by the Geotechnical Consultant prior to placement of the fill portion of the proposed slope, unless specifically addressed by the Geotechnical Consultant. Typical details for cut over fill slopes and fill over cut slopes are provided herein.

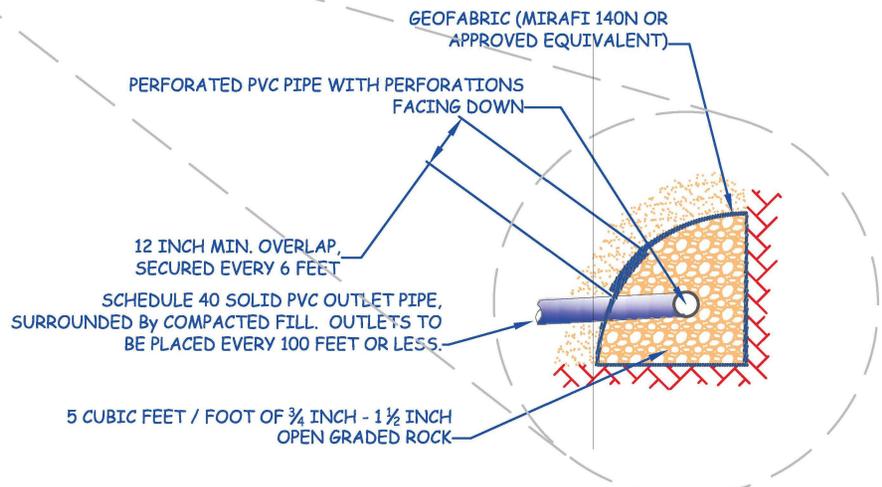
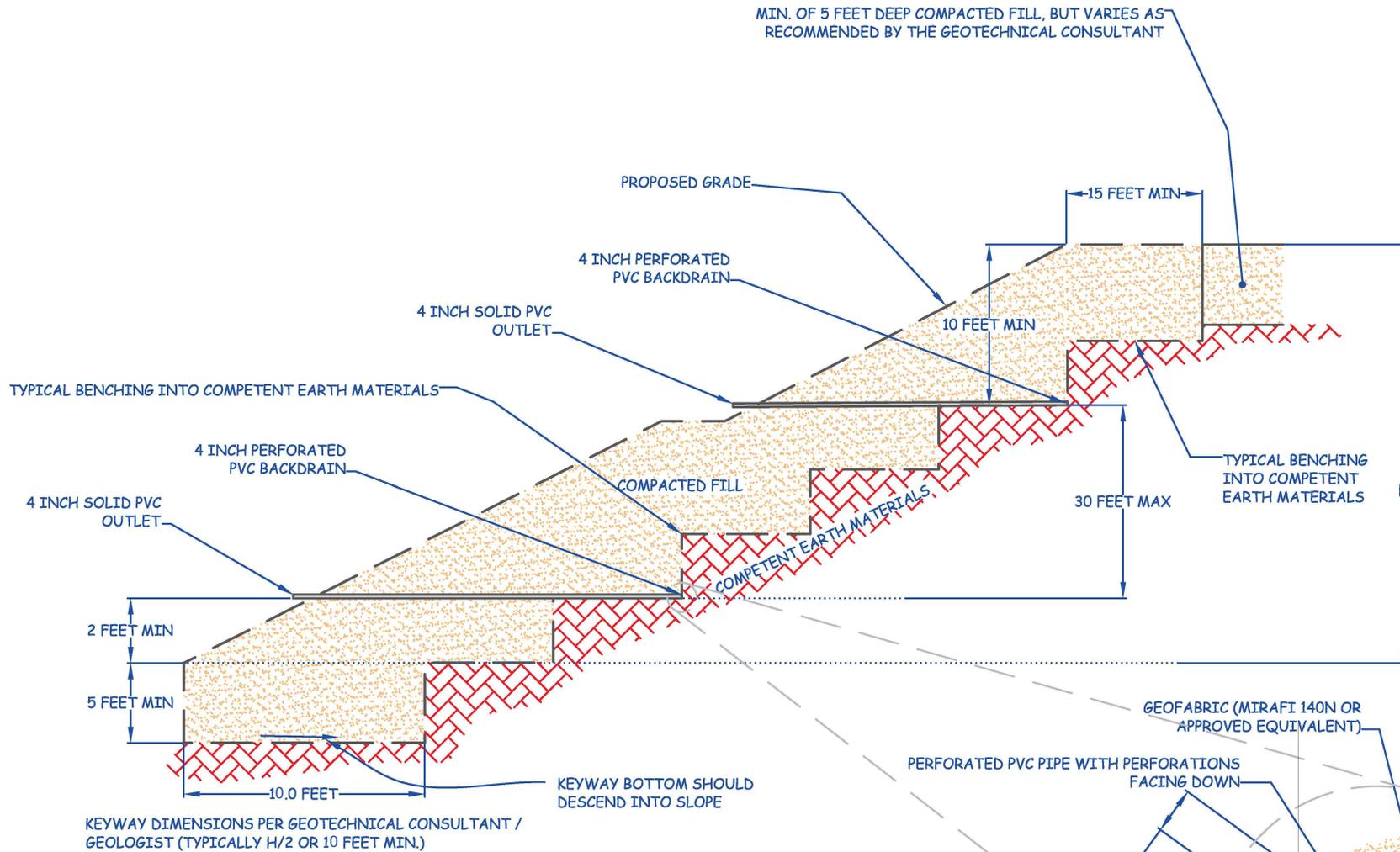
Trench Backfill

- 1) The Contractor shall follow all OSHA and Cal/OSHA requirements for trench excavation safety.
- 2) Bedding and backfill of utility trenches shall be done in accordance with the applicable provisions in the Standard Specifications of Public Works Construction. Bedding materials shall have a Sand Equivalency more than 30 (SE>30). The bedding shall be placed to 1 foot over the conduit and thoroughly jetting to provide densification. Backfill should be compacted to a minimum of 90 percent of maximum dry density, from 1 foot above the top of the conduit to the surface.
- 3) Jetting of the bedding materials around the conduits shall be observed by the Geotechnical Consultant.
- 4) The Geotechnical Consultant shall test trench backfill for the minimum compaction requirements recommended herein. At least one test should be conducted for every 300 linear feet of trench and for each 2 vertical feet of backfill.
- 5) For trench backfill the lift thicknesses 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 or method.

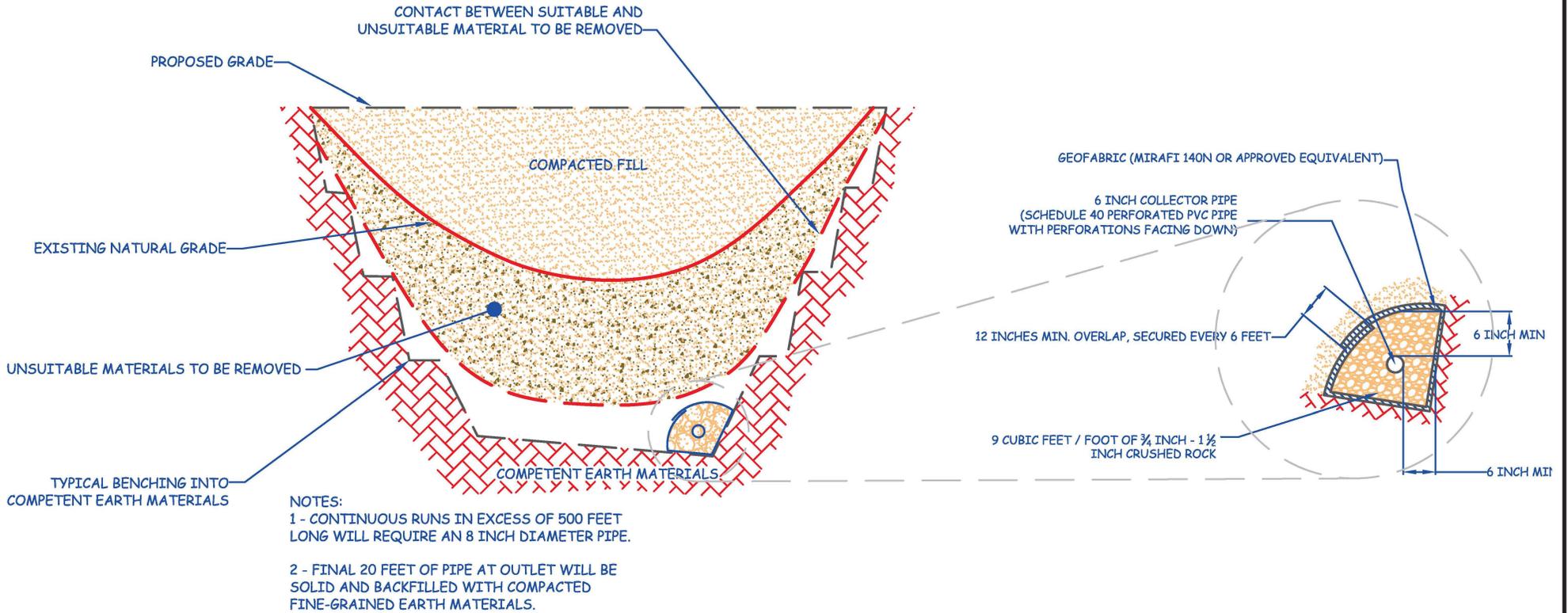
STABILIZATION FILL TYPICAL DETAIL



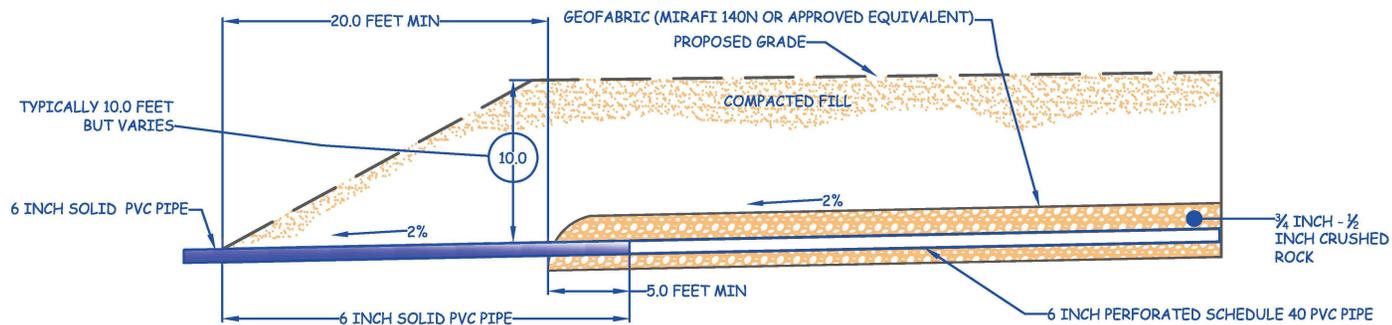
BUTTRESS TYPICAL DETAIL



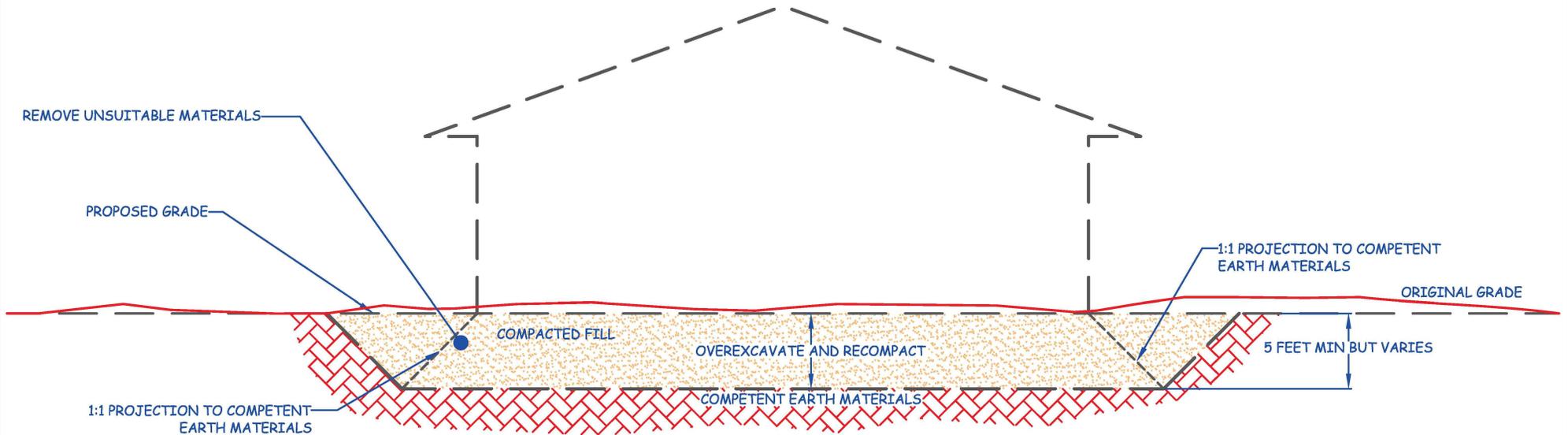
CANYON SUBDRAIN SYSTEM TYPICAL DETAIL



CANYON SUBDRAIN TYPICAL OUTLET



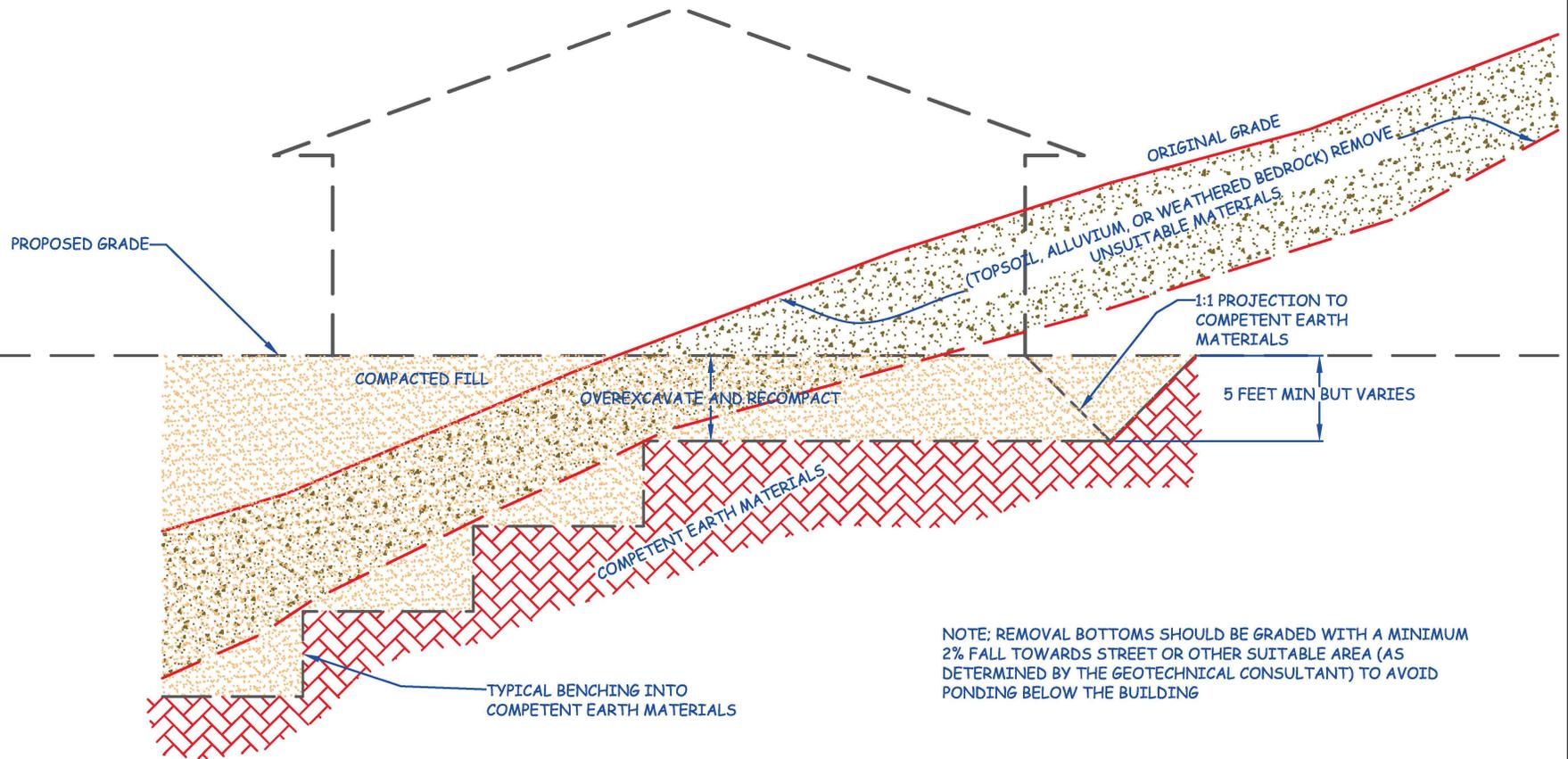
CUT LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

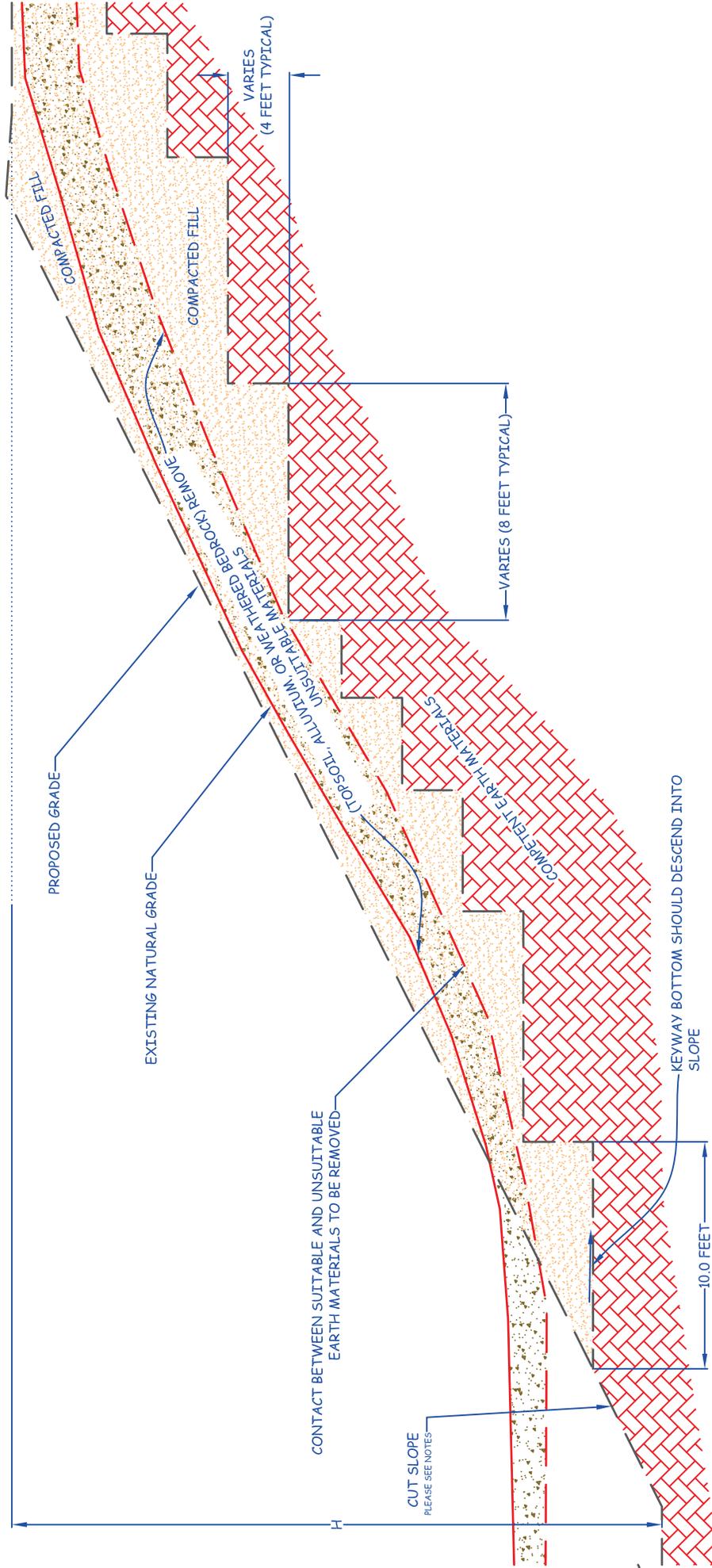
CUT / FILL TRANSITION LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

KEYWAY & BENCHING TYPICAL DETAILS FILL OVER CUT SLOPE



NOTES:
 NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE BENCHING INTO COMPETENT EARTH MATERIALS
 THE CUT SLOPE MUST BE CONSTRUCTED FIRST

KEYWAY DIMENSIONS PER GEOTECHNICAL CONSULTANT / GEOLOGIST (TYPICALLY H/2 OR 10 FEET MIN.)

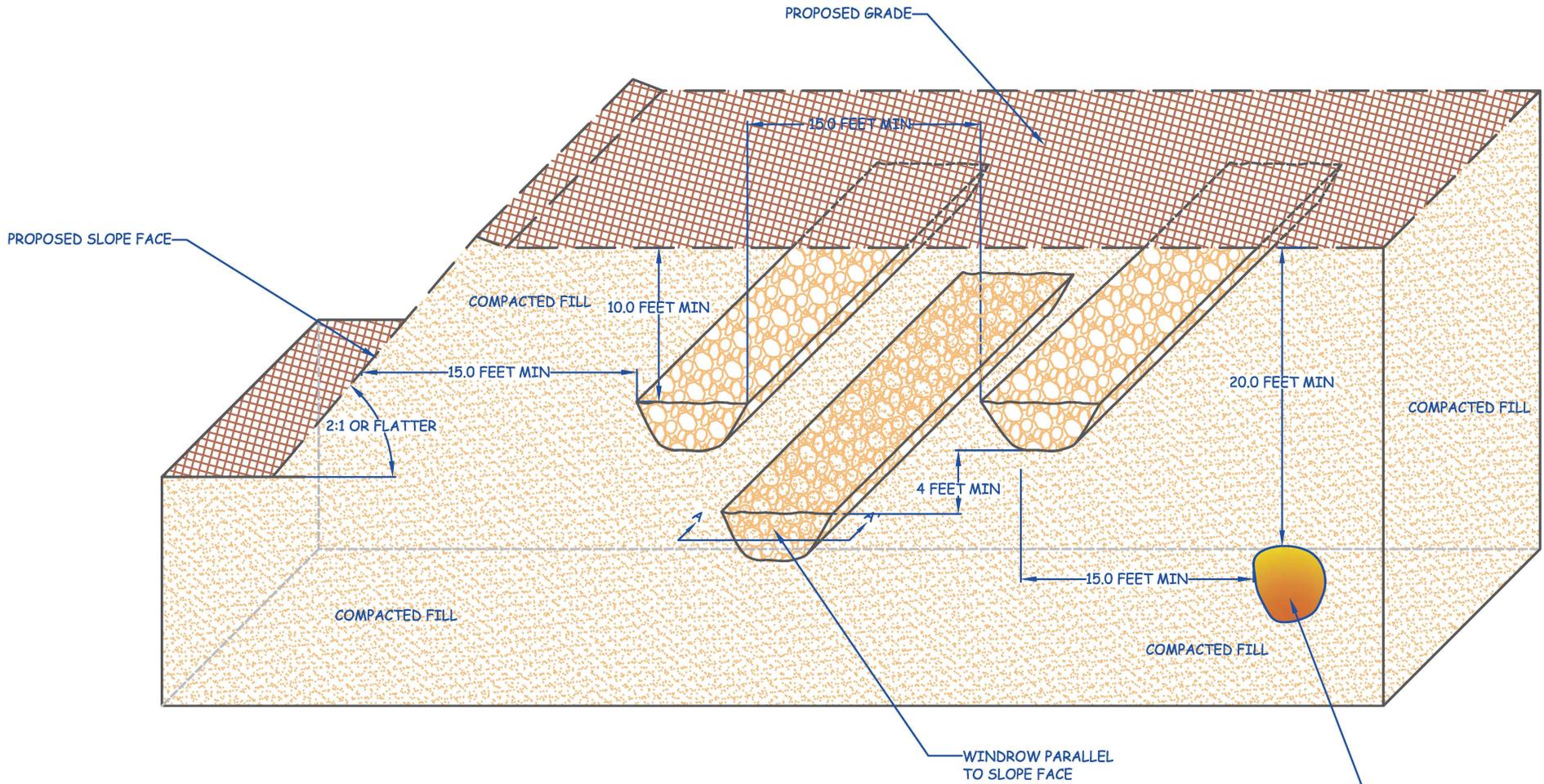
KEYWAY & BENCHING TYPICAL DETAILS FILL SLOPE



NOTES:

NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE BENCHING INTO COMPETENT EARTH MATERIALS

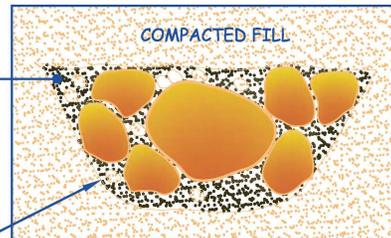
OVERSIZE ROCK TYPICAL DETAIL



CROSS SECTION A-A'

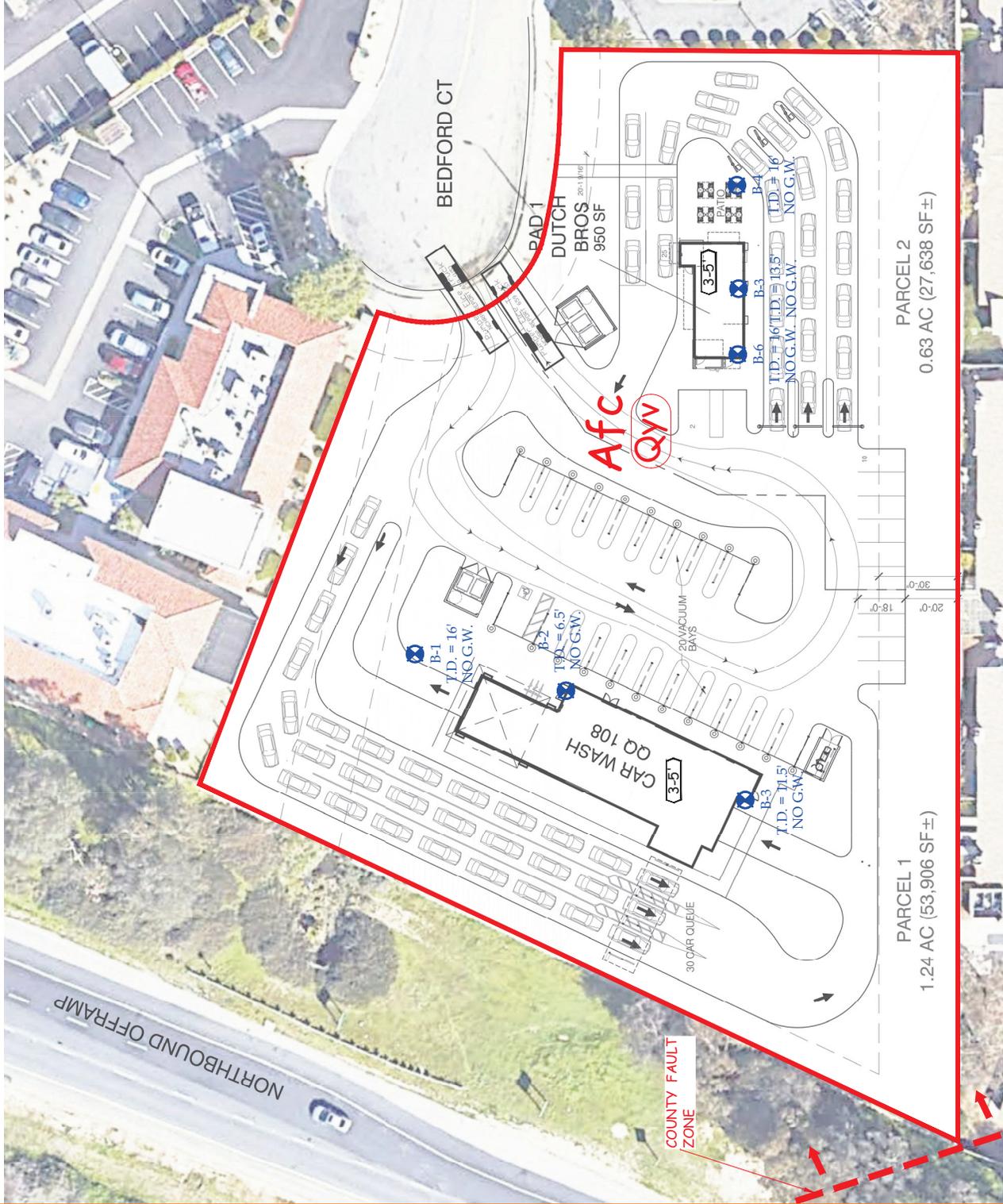
JETTING OF APPROVED GRANULAR MATERIAL

EXCAVATED TRENCH OR DOZER V-CUT



NOTES:

OVERSIZE ROCK IS LARGER THAN 8 INCHES IN MAX DIAMETER



LEGEND
Locations are Approximate

Geologic Units

- Afc - Artificial Fill, Compacted
- Qyv - Quaternary Young Alluvial Valley Deposits (Circled Where Buried)

Symbols

- Limits of Report
- Boring Location including Total Depth and Depth to Groundwater
- 3-5 Recommended Removal Depths



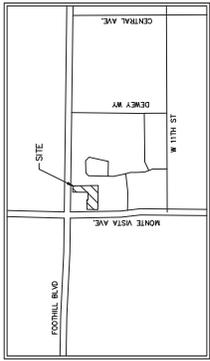
GEOTECHNICAL MAP

LOCATED ON BEDFORD COURT
CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA
APN 922-210-042

PROJECT	PROPOSED DRIVE-THRU COFFEE SHOP
CLIENT	MR. BRANDON HUMANN
PROJECT NO.	224450-10A
DATE	OCTOBER 2022
SCALE	1" = 50'
DIWG XREFS	
REVISION	
DRAWN BY	JDG
PLATE	1 OF 1

Earth Strata Geotechnical Services, Inc.
Geotechnical, Environmental and Materials Testing Consultants
www.ESGSINC.com (951) 397-8315

Appendix F - Existing and Proposed Drainage Maps

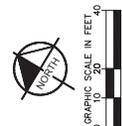
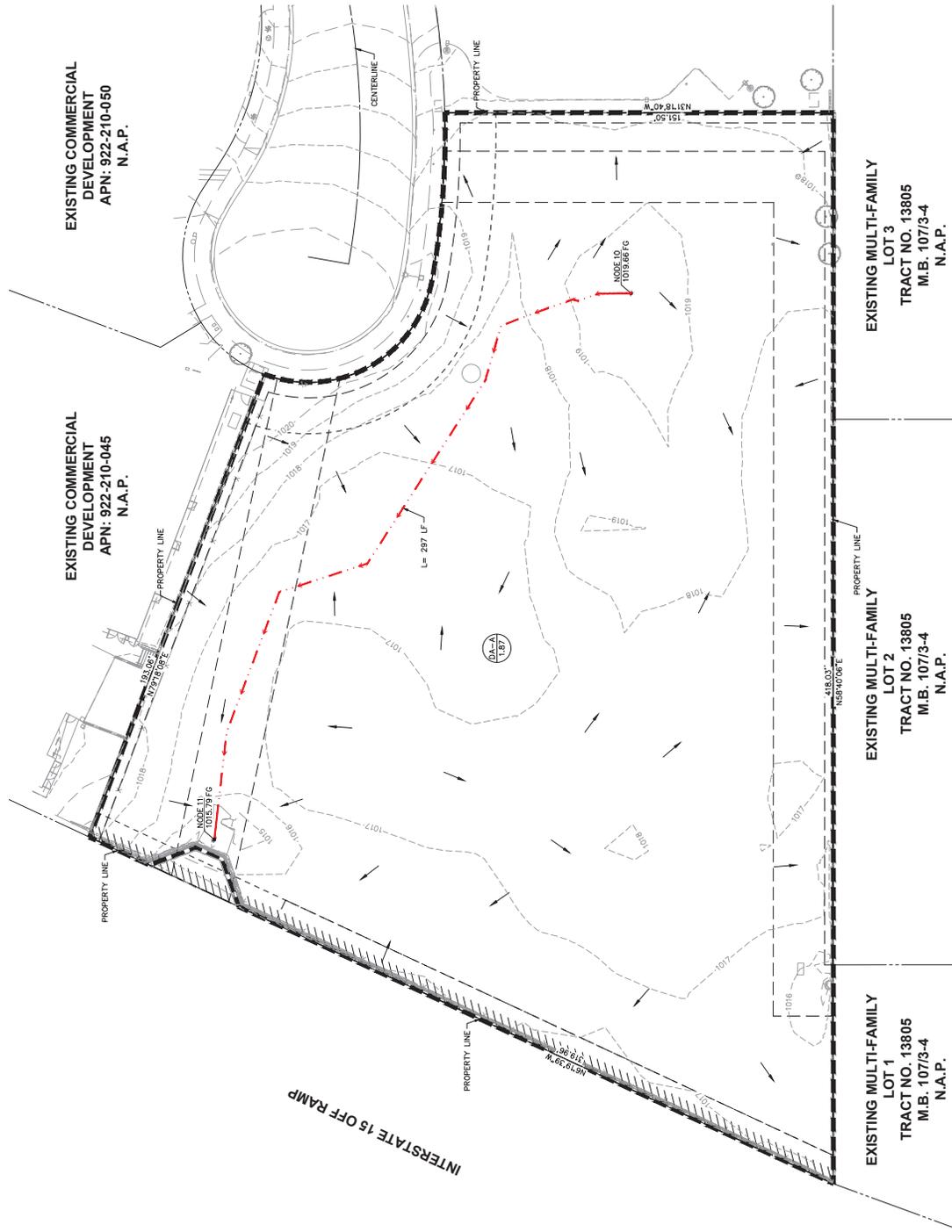


VICINITY MAP
N.T.S.

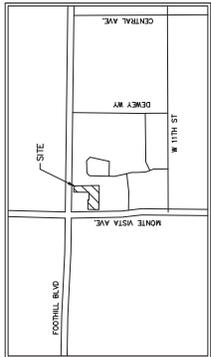
- LEGEND**
- (1:385)
 - EXISTING CONTOUR
 - PROPERTY LINE
 - RIGHT-OF-WAY
 - CENTER LINE
 - EASEMENT
 - DMA BOUNDARY
 - FLOW ARROW
 - FLOW PATH
 - DMA NAME
 - DMA AREA (IN ACRES)

SUMMARY TABLE

DA ID	AREA (AC)	Q10 (CFS)	Q100 (CFS)
DA-A	1.87	2.76	4.97



EXISTING DRAINAGE EXHIBIT 1 OF 1
BEDFORD COURT TEMECULA
TEMECULA, CA, 92592 8/13/24



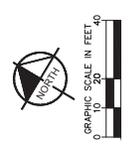
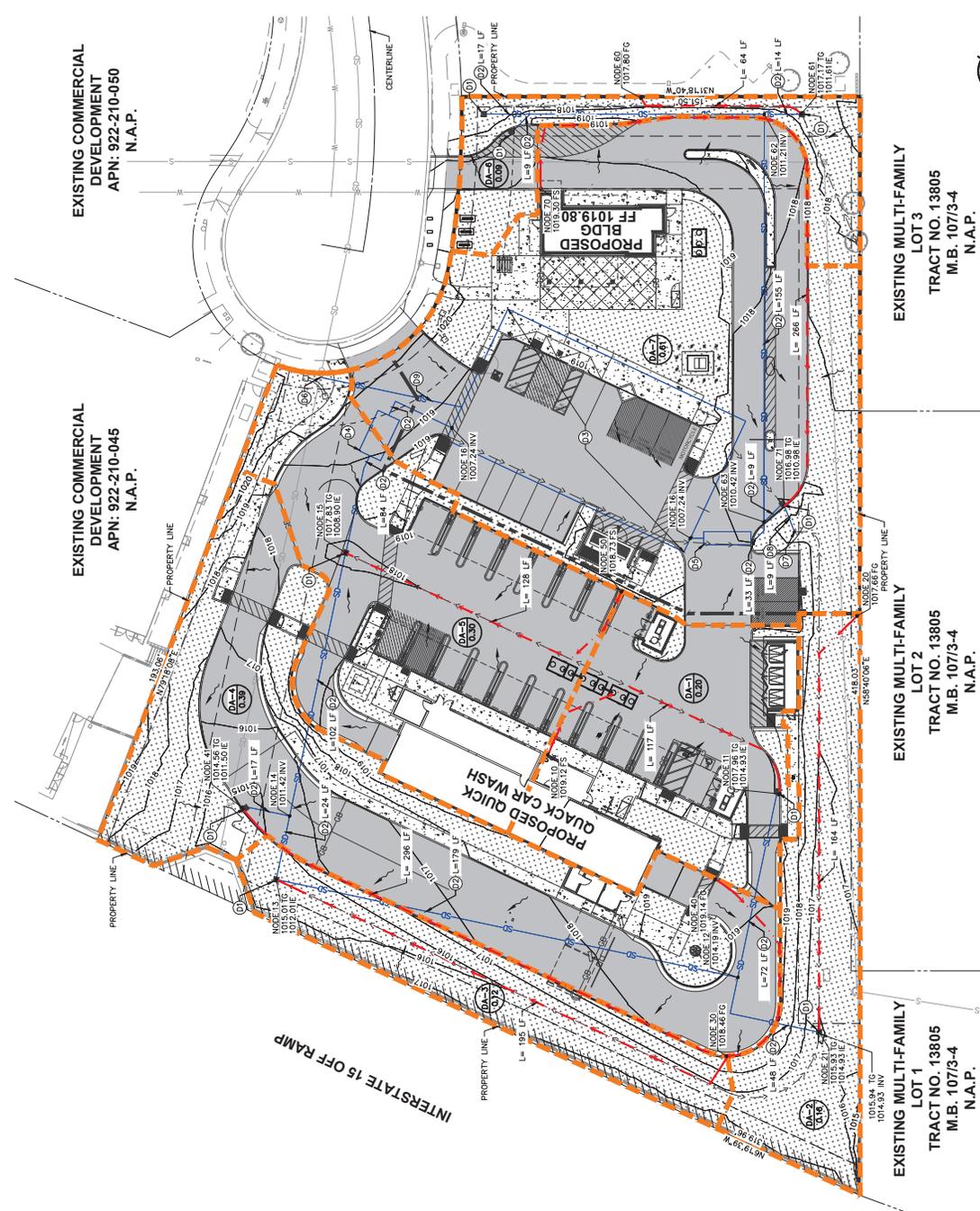
VICINITY MAP
N.T.S.

- LEGEND**
- (1:3805) EXISTING CONTOUR
 - (1:385) PROPOSED CONTOUR
 - PROPERTY LINE
 - RIGHT-OF-WAY
 - CENTER LINE
 - EASEMENT
 - DMA BOUNDARY
 - FLOW ARROW
 - FLOW PATH
 - DMA NAME
 - DMA AREA (IN ACRES)
 - PROPOSED STORM DRAIN

DRAINAGE NOTES:

- ① PROPOSED 24" BY 24" RENSEN CATCH BASIN WITH FLEXSTORM INSERTS AND NO DUMPING STENCIL
- ② PROPOSED 12" HOPE STORM DRAIN PIPE.
- ③ PROPOSED UNDERGROUND STORM DRAIN SYSTEM. (DETAILS TO BE PROVIDED DURING FINAL ENGINEERING)
- ④ PROPOSED MODULAR WETLAND SYSTEM 1 (MWS-L-9-17-V)
- ⑤ PROPOSED MODULAR WETLAND SYSTEM 2 (MWS-L-5-18-V)
- ⑥ PROPOSED POINT OF CONNECTION TO EXISTING 42" RCP STORM DRAIN PIPE.
- ⑦ PROPOSED 6" AREA DRAIN.
- ⑧ PROPOSED 6" HOPE STORM DRAIN PIPE.
- ⑨ PROPOSED OVERFLOW HOPE PIPE.

DMA	AREA (AC)	PERVIOUS AREA (AC)	PERVIOUS AREA (%)	IMPERVIOUS AREA (AC)	IMPERVIOUS AREA (%)	BMP ID	PROPOSED VOLUME (CF)	O10 (CFS)	O100 (CFS)
DA-1	0.20	0.02	11.7%	0.18	88.3%	6' X 14' MWS-1 (PROPRIETARY BIOPlantation UNDERGROUND DETENTION)			
DA-2	0.16	0.15	95.1%	0.01	4.9%				
DA-3	0.12	0.11	92.1%	0.01	7.9%				
DA-4	0.39	0.13	33.7%	0.26	66.3%				
DA-5	0.30	0.03	11.3%	0.26	88.7%				
DA-6	0.09	0.07	83.1%	0.02	16.9%	4' X 17' MWS-2 (PROPRIETARY BIOPlantation UNDERGROUND DETENTION)	X	3.73	6.20
DA-7	0.61	0.15	24.1%	0.46	74.9%				
TOTAL	1.87	0.67	36.0%	1.20	64.0%				



EXISTING COMMERCIAL DEVELOPMENT
APN: 922-210-045
N.A.P.

EXISTING COMMERCIAL DEVELOPMENT
APN: 922-210-050
N.A.P.

EXISTING MULTI-FAMILY LOT 1
TRACT NO. 13805
M.B. 107/3-4
N.A.P.

EXISTING MULTI-FAMILY LOT 2
TRACT NO. 13805
M.B. 107/3-4
N.A.P.

EXISTING MULTI-FAMILY LOT 3
TRACT NO. 13805
M.B. 107/3-4
N.A.P.

NOTE: PROPOSED DRAINAGE EXHIBIT TO BE SIZED AND UPDATED DURING FINAL ENGINEERING.



Appendix G - Rational Method Analysis

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* BEDFORD COURT TEMECULA *
* 10 YEAR EX *
* JY *

FILE NAME: BCT10E.DAT
TIME/DATE OF STUDY: 08:44 08/08/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 10.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.280
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.080
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 3.790
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.790
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4170282
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4186668

COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 10.00 1-HOUR INTENSITY(INCH/HOUR) = 1.091
SLOPE OF INTENSITY DURATION CURVE = 0.4170

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- CROWN TO		STREET-CROSSFALL:		CURB HEIGHT (FT)	GUTTER-GEOMETRIES:			MANNING FACTOR (n)
	WIDTH (FT)	CROSSFALL (FT)	IN- SIDE	OUT- /PARK- SIDE/ WAY		WIDTH (FT)	LIP (FT)	HIKE (FT)	
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.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER

TC = $K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 297.00
 UPSTREAM ELEVATION(FEET) = 1019.66
 DOWNSTREAM ELEVATION(FEET) = 1015.79
 ELEVATION DIFFERENCE(FEET) = 3.87
 TC = $0.533 * [(297.00^{**3}) / (3.87)]^{**0.2} = 12.374$
 10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.107
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7008
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 2.76
 TOTAL AREA(ACRES) = 1.87 TOTAL RUNOFF(CFS) = 2.76

=====

END OF STUDY SUMMARY:
 TOTAL AREA(ACRES) = 1.9 TC(MIN.) = 12.37
 PEAK FLOW RATE(CFS) = 2.76

=====

END OF RATIONAL METHOD ANALYSIS



RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* BEDFORD COURT TEMECULA *
* 100 YEAR EX *
* JY *

FILE NAME: BCT100E.DAT
TIME/DATE OF STUDY: 09:09 08/08/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.280
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.080
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 3.790
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.790
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4170282
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4186668

COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 100.00 1-HOUR INTENSITY(INCH/HOUR) = 1.790
SLOPE OF INTENSITY DURATION CURVE = 0.4187

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT- / PARK- SIDE / SIDE / WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH LIP (FT) (FT)	MANING HIKE (FT)	FACTOR (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.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER

TC = $K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**0.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 297.00
 UPSTREAM ELEVATION(FEET) = 1019.66
 DOWNSTREAM ELEVATION(FEET) = 1015.79
 ELEVATION DIFFERENCE(FEET) = 3.87
 TC = $0.533 * [(297.00^{**3}) / (3.87)]^{**0.2} = 12.374$
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.467
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7674
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 4.97
 TOTAL AREA(ACRES) = 1.87 TOTAL RUNOFF(CFS) = 4.97

=====

END OF STUDY SUMMARY:
 TOTAL AREA(ACRES) = 1.9 TC(MIN.) = 12.37
 PEAK FLOW RATE(CFS) = 4.97

=====

END OF RATIONAL METHOD ANALYSIS



RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* BEDFORD COURT TEMECULA *
* 10 YR PR *
* JY *

FILE NAME: BCT10P.DAT
TIME/DATE OF STUDY: 11:23 08/13/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 10.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.280
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.080
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 3.790
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.790
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4170282
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4186668

COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 10.00 1-HOUR INTENSITY(INCH/HOUR) = 1.091
SLOPE OF INTENSITY DURATION CURVE = 0.4170

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- CROWN TO		STREET-CROSSFALL:		CURB HEIGHT (FT)	GUTTER-GEOMETRIES:			MANNING FACTOR (n)
	WIDTH (FT)	CROSSFALL (FT)	IN- SIDE	OUT- /PARK- SIDE/ WAY		WIDTH (FT)	LIP (FT)	HIKE (FT)	
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.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS COMMERCIAL

TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 117.00
UPSTREAM ELEVATION(FEET) = 1019.12
DOWNSTREAM ELEVATION(FEET) = 1017.96
ELEVATION DIFFERENCE(FEET) = 1.16
TC = 0.303*[(117.00**3)/(1.16)]**.2 = 5.124
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.043
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8852
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.54
TOTAL AREA(ACRES) = 0.20 TOTAL RUNOFF(CFS) = 0.54

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) = 1014.93 DOWNSTREAM(FEET) = 1014.19
FLOW LENGTH(FEET) = 72.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 4.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 3.46
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.54
PIPE TRAVEL TIME(MIN.) = 0.35 Tc(MIN.) = 5.47
LONGEST FLOWPATH FROM NODE 10.00 TO NODE 12.00 = 189.00 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.) = 5.47
RAINFALL INTENSITY(INCH/HR) = 2.96
TOTAL STREAM AREA(ACRES) = 0.20

PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.54

FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH GOOD COVER
TC = $K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 164.00
UPSTREAM ELEVATION(FEET) = 1017.66
DOWNSTREAM ELEVATION(FEET) = 1015.93
ELEVATION DIFFERENCE(FEET) = 1.73
TC = $0.937 * [(164.00^{**3}) / (1.73)]^{**0.2} = 17.915$
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.806
UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6758
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.20
TOTAL AREA(ACRES) = 0.16 TOTAL RUNOFF(CFS) = 0.20

FLOW PROCESS FROM NODE 21.00 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) = 1014.93 DOWNSTREAM(FEET) = 1014.19
FLOW LENGTH(FEET) = 48.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 2.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 3.14
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.20
PIPE TRAVEL TIME(MIN.) = 0.25 Tc(MIN.) = 18.17
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 12.00 = 212.00 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.) = 18.17
RAINFALL INTENSITY(INCH/HR) = 1.80
TOTAL STREAM AREA(ACRES) = 0.16
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.20

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.54	5.47	2.961	0.20
2	0.20	18.17	1.795	0.16

*****WARNING*****
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	0.60	5.47	2.961
2	0.52	18.17	1.795

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 0.60 Tc(MIN.) = 5.47
 TOTAL AREA(ACRES) = 0.4
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 12.00 = 212.00 FEET.

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) = 1014.19 DOWNSTREAM(FEET) = 1012.01
 FLOW LENGTH(FEET) = 179.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 6.0 INCH PIPE IS 4.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 3.80
 ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 0.60
 PIPE TRAVEL TIME(MIN.) = 0.79 Tc(MIN.) = 6.26
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 13.00 = 391.00 FEET.

FLOW PROCESS FROM NODE 13.00 TO NODE 13.00 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.) = 6.26
 RAINFALL INTENSITY(INCH/HR) = 2.80
 TOTAL STREAM AREA(ACRES) = 0.36

PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.60

FLOW PROCESS FROM NODE 30.00 TO NODE 13.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH GOOD COVER
TC = $K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 195.00
UPSTREAM ELEVATION(FEET) = 1018.46
DOWNSTREAM ELEVATION(FEET) = 1015.01
ELEVATION DIFFERENCE(FEET) = 3.45
TC = $0.937 * [(195.00^{**3}) / (3.45)]^{**0.2} = 17.313$
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.832
UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6782
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.15
TOTAL AREA(ACRES) = 0.12 TOTAL RUNOFF(CFS) = 0.15

FLOW PROCESS FROM NODE 13.00 TO NODE 13.00 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.) = 17.31
RAINFALL INTENSITY(INCH/HR) = 1.83
TOTAL STREAM AREA(ACRES) = 0.12
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.15

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.60	6.26	2.800	0.36
2	0.15	17.31	1.832	0.12

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	0.65	6.26	2.800
2	0.54	17.31	1.832

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 0.65 Tc(MIN.) = 6.26
TOTAL AREA(ACRES) = 0.5
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 13.00 = 391.00 FEET.

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) = 1012.01 DOWNSTREAM(FEET) = 1011.42
FLOW LENGTH(FEET) = 24.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 3.7 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.14
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.65
PIPE TRAVEL TIME(MIN.) = 0.08 Tc(MIN.) = 6.33
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 14.00 = 415.00 FEET.

FLOW PROCESS FROM NODE 14.00 TO NODE 14.00 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.) = 6.33
RAINFALL INTENSITY(INCH/HR) = 2.79
TOTAL STREAM AREA(ACRES) = 0.48
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.65

FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS APARTMENT
 $TC = K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 296.00
UPSTREAM ELEVATION(FEET) = 1019.14
DOWNSTREAM ELEVATION(FEET) = 1014.56
ELEVATION DIFFERENCE(FEET) = 4.58
 $TC = 0.323 * [(296.00^{**3}) / (4.58)]^{**0.2} = 7.234$

10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.636
 APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8667
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 0.89
 TOTAL AREA(ACRES) = 0.39 TOTAL RUNOFF(CFS) = 0.89

FLOW PROCESS FROM NODE 41.00 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) = 1011.50 DOWNSTREAM(FEET) = 1011.42
 FLOW LENGTH(FEET) = 17.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 9.0 INCH PIPE IS 5.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 2.98
 ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 0.89
 PIPE TRAVEL TIME(MIN.) = 0.10 Tc(MIN.) = 7.33
 LONGEST FLOWPATH FROM NODE 40.00 TO NODE 14.00 = 313.00 FEET.

FLOW PROCESS FROM NODE 14.00 TO NODE 14.00 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.) = 7.33
 RAINFALL INTENSITY(INCH/HR) = 2.62
 TOTAL STREAM AREA(ACRES) = 0.39
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.89

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.65	6.33	2.786	0.48
2	0.89	7.33	2.621	0.39

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	1.42	6.33	2.786
2	1.50	7.33	2.621

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 1.50 Tc(MIN.) = 7.33
 TOTAL AREA(ACRES) = 0.9
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 14.00 = 415.00 FEET.

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) = 1011.42 DOWNSTREAM(FEET) = 1008.90
 FLOW LENGTH(FEET) = 102.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 6.35
 ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 1.50
 PIPE TRAVEL TIME(MIN.) = 0.27 Tc(MIN.) = 7.60
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 15.00 = 517.00 FEET.

FLOW PROCESS FROM NODE 15.00 TO NODE 15.00 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.) = 7.60
 RAINFALL INTENSITY(INCH/HR) = 2.58
 TOTAL STREAM AREA(ACRES) = 0.87
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.50

FLOW PROCESS FROM NODE 50.00 TO NODE 15.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
 DEVELOPMENT IS COMMERCIAL
 $TC = K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 128.00
 UPSTREAM ELEVATION(FEET) = 1018.73
 DOWNSTREAM ELEVATION(FEET) = 1017.83
 ELEVATION DIFFERENCE(FEET) = 0.90
 $TC = 0.303 * [(128.00^{**3}) / (0.90)]^{**0.2} = 5.689$

10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.913
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8847
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 0.77
 TOTAL AREA(ACRES) = 0.30 TOTAL RUNOFF(CFS) = 0.77

 FLOW PROCESS FROM NODE 15.00 TO NODE 15.00 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.) = 5.69
 RAINFALL INTENSITY(INCH/HR) = 2.91
 TOTAL STREAM AREA(ACRES) = 0.30
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.77

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	1.50	7.60	2.582	0.87
2	0.77	5.69	2.913	0.30

*****WARNING*****
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	1.90	5.69	2.913
2	2.19	7.60	2.582

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) = 2.19 Tc(MIN.) = 7.60
 TOTAL AREA(ACRES) = 1.2
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 15.00 = 517.00 FEET.

 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) = 1008.90 DOWNSTREAM(FEET) = 1007.24
FLOW LENGTH(FEET) = 84.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 9.0 INCH PIPE IS 6.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.29
ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 2.19
PIPE TRAVEL TIME(MIN.) = 0.22 Tc(MIN.) = 7.82
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 16.00 = 601.00 FEET.

FLOW PROCESS FROM NODE 16.00 TO NODE 16.00 IS CODE = 10

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<

FLOW PROCESS FROM NODE 60.00 TO NODE 61.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 64.00
UPSTREAM ELEVATION(FEET) = 1017.80
DOWNSTREAM ELEVATION(FEET) = 1017.17
ELEVATION DIFFERENCE(FEET) = 0.63
TC = 0.469*[(64.00**3)/(0.63)]**.2 = 6.242
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.803
SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7732
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.20
TOTAL AREA(ACRES) = 0.09 TOTAL RUNOFF(CFS) = 0.20

FLOW PROCESS FROM NODE 61.00 TO NODE 62.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 1011.61 DOWNSTREAM(FEET) = 1011.21
FLOW LENGTH(FEET) = 14.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 1.8 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.02
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.20
PIPE TRAVEL TIME(MIN.) = 0.06 Tc(MIN.) = 6.30
LONGEST FLOWPATH FROM NODE 60.00 TO NODE 62.00 = 78.00 FEET.

FLOW PROCESS FROM NODE 62.00 TO NODE 63.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 1011.21 DOWNSTREAM(FEET) = 1010.42
FLOW LENGTH(FEET) = 155.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 2.9 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 2.12
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.20
PIPE TRAVEL TIME(MIN.) = 1.22 Tc(MIN.) = 7.52
LONGEST FLOWPATH FROM NODE 60.00 TO NODE 63.00 = 233.00 FEET.

FLOW PROCESS FROM NODE 63.00 TO NODE 63.00 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.) = 7.52
RAINFALL INTENSITY(INCH/HR) = 2.59
TOTAL STREAM AREA(ACRES) = 0.09
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.20

FLOW PROCESS FROM NODE 70.00 TO NODE 71.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS APARTMENT
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 266.00
UPSTREAM ELEVATION(FEET) = 1019.30
DOWNSTREAM ELEVATION(FEET) = 1016.98
ELEVATION DIFFERENCE(FEET) = 2.32
TC = 0.323*[(266.00**3)/(2.32)]**.2 = 7.774
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.558
APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8658
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 1.35
TOTAL AREA(ACRES) = 0.61 TOTAL RUNOFF(CFS) = 1.35

FLOW PROCESS FROM NODE 71.00 TO NODE 63.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 1010.98 DOWNSTREAM(FEET) = 1010.42
FLOW LENGTH(FEET) = 9.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 4.5 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 8.54
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 1.35
PIPE TRAVEL TIME(MIN.) = 0.02 Tc(MIN.) = 7.79
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 63.00 = 275.00 FEET.

FLOW PROCESS FROM NODE 63.00 TO NODE 63.00 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.) = 7.79
RAINFALL INTENSITY(INCH/HR) = 2.56
TOTAL STREAM AREA(ACRES) = 0.61
PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.35

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.20	7.52	2.594	0.09
2	1.35	7.79	2.555	0.61

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	1.50	7.52	2.594
2	1.54	7.79	2.555

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 1.54 Tc(MIN.) = 7.79
TOTAL AREA(ACRES) = 0.7
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 63.00 = 275.00 FEET.

FLOW PROCESS FROM NODE 63.00 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) = 1010.42 DOWNSTREAM(FEET) = 1007.24
FLOW LENGTH(FEET) = 33.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 4.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.52
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 1.54
PIPE TRAVEL TIME(MIN.) = 0.05 Tc(MIN.) = 7.84
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 16.00 = 308.00 FEET.

FLOW PROCESS FROM NODE 16.00 TO NODE 16.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

** MAIN STREAM CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	1.54	7.84	2.548	0.70

LONGEST FLOWPATH FROM NODE 70.00 TO NODE 16.00 = 308.00 FEET.

** MEMORY BANK # 1 CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	2.19	7.82	2.551	1.17

LONGEST FLOWPATH FROM NODE 20.00 TO NODE 16.00 = 601.00 FEET.

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	3.73	7.82	2.551
2	3.73	7.84	2.548

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 3.73 Tc(MIN.) = 7.82
TOTAL AREA(ACRES) = 1.9

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 1.9 TC(MIN.) = 7.82
PEAK FLOW RATE(CFS) = 3.73

=====
=====

END OF RATIONAL METHOD ANALYSIS



RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* BEDFORD COURT TEMECULA *
* 100 YR PR *
* JY *

FILE NAME: BCT100P.DAT
TIME/DATE OF STUDY: 11:24 08/13/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.280
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.080
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 3.790
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.790
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4170282
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4186668

COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 100.00 1-HOUR INTENSITY(INCH/HOUR) = 1.790
SLOPE OF INTENSITY DURATION CURVE = 0.4187

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- CROWN TO		STREET-CROSSFALL:		CURB HEIGHT (FT)	GUTTER-GEOMETRIES:			MANNING FACTOR (n)
	WIDTH (FT)	CROSSFALL (FT)	IN- / SIDE	OUT- / PARK- WAY		WIDTH (FT)	LIP (FT)	HIKE (FT)	
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.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS COMMERCIAL

TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 117.00
UPSTREAM ELEVATION(FEET) = 1019.12
DOWNSTREAM ELEVATION(FEET) = 1017.96
ELEVATION DIFFERENCE(FEET) = 1.16
TC = 0.303*[(117.00**3)/(1.16)]**.2 = 5.124
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 5.014
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8904
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.89
TOTAL AREA(ACRES) = 0.20 TOTAL RUNOFF(CFS) = 0.89

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) = 1014.93 DOWNSTREAM(FEET) = 1014.19
FLOW LENGTH(FEET) = 72.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.5 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.02
ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.89
PIPE TRAVEL TIME(MIN.) = 0.30 Tc(MIN.) = 5.42
LONGEST FLOWPATH FROM NODE 10.00 TO NODE 12.00 = 189.00 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.) = 5.42
RAINFALL INTENSITY(INCH/HR) = 4.90
TOTAL STREAM AREA(ACRES) = 0.20

PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.89

FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH GOOD COVER
TC = $K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 164.00
UPSTREAM ELEVATION(FEET) = 1017.66
DOWNSTREAM ELEVATION(FEET) = 1015.93
ELEVATION DIFFERENCE(FEET) = 1.73
TC = $0.937 * [(164.00^{**3}) / (1.73)]^{**0.2} = 17.915$
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.969
UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7489
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.36
TOTAL AREA(ACRES) = 0.16 TOTAL RUNOFF(CFS) = 0.36

FLOW PROCESS FROM NODE 21.00 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) = 1014.93 DOWNSTREAM(FEET) = 1014.19
FLOW LENGTH(FEET) = 48.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 3.0 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 3.69
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.36
PIPE TRAVEL TIME(MIN.) = 0.22 Tc(MIN.) = 18.13
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 12.00 = 212.00 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.) = 18.13
RAINFALL INTENSITY(INCH/HR) = 2.95
TOTAL STREAM AREA(ACRES) = 0.16
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.36

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.89	5.42	4.897	0.20
2	0.36	18.13	2.954	0.16

*****WARNING*****
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	1.00	5.42	4.897
2	0.89	18.13	2.954

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 1.00 Tc(MIN.) = 5.42
 TOTAL AREA(ACRES) = 0.4
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 12.00 = 212.00 FEET.

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) = 1014.19 DOWNSTREAM(FEET) = 1012.01
 FLOW LENGTH(FEET) = 179.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 4.40
 ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 1.00
 PIPE TRAVEL TIME(MIN.) = 0.68 Tc(MIN.) = 6.10
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 13.00 = 391.00 FEET.

FLOW PROCESS FROM NODE 13.00 TO NODE 13.00 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.) = 6.10
 RAINFALL INTENSITY(INCH/HR) = 4.66
 TOTAL STREAM AREA(ACRES) = 0.36

PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.00

FLOW PROCESS FROM NODE 30.00 TO NODE 13.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS: UNDEVELOPED WITH GOOD COVER
TC = $K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 195.00
UPSTREAM ELEVATION(FEET) = 1018.46
DOWNSTREAM ELEVATION(FEET) = 1015.01
ELEVATION DIFFERENCE(FEET) = 3.45
TC = $0.937 * [(195.00^{**3}) / (3.45)]^{**0.2} = 17.313$
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.012
UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7507
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.27
TOTAL AREA(ACRES) = 0.12 TOTAL RUNOFF(CFS) = 0.27

FLOW PROCESS FROM NODE 13.00 TO NODE 13.00 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.) = 17.31
RAINFALL INTENSITY(INCH/HR) = 3.01
TOTAL STREAM AREA(ACRES) = 0.12
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.27

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	1.00	6.10	4.662	0.36
2	0.27	17.31	3.012	0.12

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	1.09	6.10	4.662
2	0.92	17.31	3.012

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 1.09 Tc(MIN.) = 6.10
 TOTAL AREA(ACRES) = 0.5
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 13.00 = 391.00 FEET.

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) = 1012.01 DOWNSTREAM(FEET) = 1011.42
 FLOW LENGTH(FEET) = 24.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.85
 ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 1.09
 PIPE TRAVEL TIME(MIN.) = 0.07 Tc(MIN.) = 6.17
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 14.00 = 415.00 FEET.

FLOW PROCESS FROM NODE 14.00 TO NODE 14.00 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.) = 6.17
 RAINFALL INTENSITY(INCH/HR) = 4.64
 TOTAL STREAM AREA(ACRES) = 0.48
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.09

FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
 DEVELOPMENT IS APARTMENT
 $TC = K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 296.00
 UPSTREAM ELEVATION(FEET) = 1019.14
 DOWNSTREAM ELEVATION(FEET) = 1014.56
 ELEVATION DIFFERENCE(FEET) = 4.58
 $TC = 0.323 * [(296.00^{**3}) / (4.58)]^{**0.2} = 7.234$

100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 4.340
 APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8782
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 1.49
 TOTAL AREA(ACRES) = 0.39 TOTAL RUNOFF(CFS) = 1.49

FLOW PROCESS FROM NODE 41.00 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) = 1011.50 DOWNSTREAM(FEET) = 1011.42
 FLOW LENGTH(FEET) = 17.00 MANNING'S N = 0.012
 DEPTH OF FLOW IN 12.0 INCH PIPE IS 6.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) = 3.41
 ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 1.49
 PIPE TRAVEL TIME(MIN.) = 0.08 Tc(MIN.) = 7.32
 LONGEST FLOWPATH FROM NODE 40.00 TO NODE 14.00 = 313.00 FEET.

FLOW PROCESS FROM NODE 14.00 TO NODE 14.00 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.) = 7.32
 RAINFALL INTENSITY(INCH/HR) = 4.32
 TOTAL STREAM AREA(ACRES) = 0.39
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.49

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	1.09	6.17	4.640	0.48
2	1.49	7.32	4.319	0.39

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	2.35	6.17	4.640
2	2.51	7.32	4.319

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 2.51 Tc(MIN.) = 7.32
TOTAL AREA(ACRES) = 0.9
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 14.00 = 415.00 FEET.

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) = 1011.42 DOWNSTREAM(FEET) = 1008.90
FLOW LENGTH(FEET) = 102.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 9.0 INCH PIPE IS 6.8 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.04
ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 2.51
PIPE TRAVEL TIME(MIN.) = 0.24 Tc(MIN.) = 7.56
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 15.00 = 517.00 FEET.

FLOW PROCESS FROM NODE 15.00 TO NODE 15.00 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.) = 7.56
RAINFALL INTENSITY(INCH/HR) = 4.26
TOTAL STREAM AREA(ACRES) = 0.87
PEAK FLOW RATE(CFS) AT CONFLUENCE = 2.51

FLOW PROCESS FROM NODE 50.00 TO NODE 15.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS COMMERCIAL
 $TC = K * [(LENGTH^{**3}) / (ELEVATION CHANGE)]^{**0.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 128.00
UPSTREAM ELEVATION(FEET) = 1018.73
DOWNSTREAM ELEVATION(FEET) = 1017.83
ELEVATION DIFFERENCE(FEET) = 0.90
 $TC = 0.303 * [(128.00^{**3}) / (0.90)]^{**0.2} = 5.689$

100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 4.799
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8900
 SOIL CLASSIFICATION IS "C"
 SUBAREA RUNOFF(CFS) = 1.28
 TOTAL AREA(ACRES) = 0.30 TOTAL RUNOFF(CFS) = 1.28

 FLOW PROCESS FROM NODE 15.00 TO NODE 15.00 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.) = 5.69
 RAINFALL INTENSITY(INCH/HR) = 4.80
 TOTAL STREAM AREA(ACRES) = 0.30
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 1.28

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	2.51	7.56	4.261	0.87
2	1.28	5.69	4.799	0.30

*****WARNING*****
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	3.17	5.69	4.799
2	3.64	7.56	4.261

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) = 3.64 Tc(MIN.) = 7.56
 TOTAL AREA(ACRES) = 1.2
 LONGEST FLOWPATH FROM NODE 20.00 TO NODE 15.00 = 517.00 FEET.

 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) = 1008.90 DOWNSTREAM(FEET) = 1007.24
FLOW LENGTH(FEET) = 84.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 12.0 INCH PIPE IS 7.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.26
ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 3.64
PIPE TRAVEL TIME(MIN.) = 0.19 Tc(MIN.) = 7.75
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 16.00 = 601.00 FEET.

FLOW PROCESS FROM NODE 16.00 TO NODE 16.00 IS CODE = 10

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<

FLOW PROCESS FROM NODE 60.00 TO NODE 61.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====
ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 64.00
UPSTREAM ELEVATION(FEET) = 1017.80
DOWNSTREAM ELEVATION(FEET) = 1017.17
ELEVATION DIFFERENCE(FEET) = 0.63
TC = 0.469*[(64.00**3)/(0.63)]**.2 = 6.242
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 4.617
SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .8173
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 0.34
TOTAL AREA(ACRES) = 0.09 TOTAL RUNOFF(CFS) = 0.34

FLOW PROCESS FROM NODE 61.00 TO NODE 62.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====
ELEVATION DATA: UPSTREAM(FEET) = 1011.61 DOWNSTREAM(FEET) = 1011.21
FLOW LENGTH(FEET) = 14.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 2.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.62
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.34
PIPE TRAVEL TIME(MIN.) = 0.05 Tc(MIN.) = 6.29
LONGEST FLOWPATH FROM NODE 60.00 TO NODE 62.00 = 78.00 FEET.

FLOW PROCESS FROM NODE 62.00 TO NODE 63.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 1011.21 DOWNSTREAM(FEET) = 1010.42
FLOW LENGTH(FEET) = 155.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 6.0 INCH PIPE IS 4.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 2.38
ESTIMATED PIPE DIAMETER(INCH) = 6.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 0.34
PIPE TRAVEL TIME(MIN.) = 1.09 Tc(MIN.) = 7.38
LONGEST FLOWPATH FROM NODE 60.00 TO NODE 63.00 = 233.00 FEET.

FLOW PROCESS FROM NODE 63.00 TO NODE 63.00 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.) = 7.38
RAINFALL INTENSITY(INCH/HR) = 4.30
TOTAL STREAM AREA(ACRES) = 0.09
PEAK FLOW RATE(CFS) AT CONFLUENCE = 0.34

FLOW PROCESS FROM NODE 70.00 TO NODE 71.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS APARTMENT
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 266.00
UPSTREAM ELEVATION(FEET) = 1019.30
DOWNSTREAM ELEVATION(FEET) = 1016.98
ELEVATION DIFFERENCE(FEET) = 2.32
TC = 0.323*[(266.00**3)/(2.32)]**.2 = 7.774
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 4.211
APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8776
SOIL CLASSIFICATION IS "C"
SUBAREA RUNOFF(CFS) = 2.25
TOTAL AREA(ACRES) = 0.61 TOTAL RUNOFF(CFS) = 2.25

FLOW PROCESS FROM NODE 71.00 TO NODE 63.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 1010.98 DOWNSTREAM(FEET) = 1010.42
FLOW LENGTH(FEET) = 9.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.94
ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 2.25
PIPE TRAVEL TIME(MIN.) = 0.02 Tc(MIN.) = 7.79
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 63.00 = 275.00 FEET.

FLOW PROCESS FROM NODE 63.00 TO NODE 63.00 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.) = 7.79
RAINFALL INTENSITY(INCH/HR) = 4.21
TOTAL STREAM AREA(ACRES) = 0.61
PEAK FLOW RATE(CFS) AT CONFLUENCE = 2.25

** CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	0.34	7.38	4.304	0.09
2	2.25	7.79	4.208	0.61

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	2.48	7.38	4.304
2	2.59	7.79	4.208

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 2.59 Tc(MIN.) = 7.79
TOTAL AREA(ACRES) = 0.7
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 63.00 = 275.00 FEET.

FLOW PROCESS FROM NODE 63.00 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) = 1010.42 DOWNSTREAM(FEET) = 1007.24
FLOW LENGTH(FEET) = 33.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 9.0 INCH PIPE IS 4.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 12.13
ESTIMATED PIPE DIAMETER(INCH) = 9.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 2.59
PIPE TRAVEL TIME(MIN.) = 0.05 Tc(MIN.) = 7.83
LONGEST FLOWPATH FROM NODE 70.00 TO NODE 16.00 = 308.00 FEET.

FLOW PROCESS FROM NODE 16.00 TO NODE 16.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

** MAIN STREAM CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	2.59	7.83	4.198	0.70

LONGEST FLOWPATH FROM NODE 70.00 TO NODE 16.00 = 308.00 FEET.

** MEMORY BANK # 1 CONFLUENCE DATA **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	3.64	7.75	4.216	1.17

LONGEST FLOWPATH FROM NODE 20.00 TO NODE 16.00 = 601.00 FEET.

*****WARNING*****

IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	6.20	7.75	4.216
2	6.21	7.83	4.198

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 6.20 Tc(MIN.) = 7.75
TOTAL AREA(ACRES) = 1.9

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 1.9 TC(MIN.) = 7.75
PEAK FLOW RATE(CFS) = 6.20

=====
=====

END OF RATIONAL METHOD ANALYSIS



Appendix H - Unit Hydrograph Analysis

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 08/14/24 File: BCT1100.out

+++++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6443

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BEDFORD COURT TEMECULA
100 YEAR PROPOSED UNIT HYDROGRAPH
JY 08.14.2024
KIMLEY-HORN

Drainage Area = 1.87(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.87(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.103 Hr.
Lag time = 6.20 Min.
25% of lag time = 1.55 Min.
40% of lag time = 2.48 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	0.67	1.26

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	1.79	3.35

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.673(In)
Area Averaged 100-Year Rainfall = 1.790(In)

Point rain (area averaged) = 1.790(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.790(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.870	69.00	0.640
Total Area Entered = 1.87(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	84.4	0.194	0.640	0.082	1.000	0.082
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.740

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)	
1	0.083	80.648	9.144	0.172
2	0.167	161.296	48.784	0.919
3	0.250	241.943	24.231	0.457
4	0.333	322.591	9.654	0.182
5	0.417	403.239	4.806	0.091
6	0.500	483.887	1.790	0.034
7	0.583	564.534	0.733	0.014
8	0.667	645.182	0.547	0.010
9	0.750	725.830	0.312	0.006
Sum = 100.000			Sum=	1.885

1+ 0	0.2297	5.29			Q		V	
1+ 5	0.2498	2.92		Q			V	
1+10	0.2591	1.35		Q			V	
1+15	0.2629	0.56		Q			V	
1+20	0.2646	0.25	Q				V	
1+25	0.2655	0.13	Q				V	
1+30	0.2660	0.06	Q				V	
1+35	0.2661	0.02	Q				V	
1+40	0.2661	0.00	Q				V	

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 08/14/24 File: BCT3100.out

+++++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6443

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BEDFORD COURT TEMECULA
100 YEAR PROPOSED UNIT HYDROGRAPH
JY 08.14.2024
KIMLEY-HORN

Drainage Area = 1.87(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.87(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.103 Hr.
Lag time = 6.20 Min.
25% of lag time = 1.55 Min.
40% of lag time = 2.48 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	1.18	2.21

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	2.98	5.57

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.180(In)
Area Averaged 100-Year Rainfall = 2.980(In)

Point rain (area averaged) = 2.980(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.980(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.870	69.00	0.640
Total Area Entered = 1.87(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	84.4	0.194	0.640	0.082	1.000	0.082
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.740

Unit Hydrograph
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.648	9.144
2	0.167	161.296	48.784
3	0.250	241.943	24.231
4	0.333	322.591	9.654
5	0.417	403.239	4.806
6	0.500	483.887	1.790
7	0.583	564.534	0.733
8	0.667	645.182	0.547
9	0.750	725.830	0.312
Sum =		100.000	Sum= 1.885

The following loss rate calculations reflect use of the minimum calculated loss

Peak flow rate of this hydrograph = 4.754(CFS)

+++++

3 - 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	0.0005	0.07	Q				
0+10	0.0033	0.42	VQ				
0+15	0.0073	0.58	V Q				
0+20	0.0115	0.61	VQ				
0+25	0.0166	0.74	VQ				
0+30	0.0223	0.83	VQ				
0+35	0.0287	0.93	VQ				
0+40	0.0350	0.91	Q				
0+45	0.0419	0.99	Q				
0+50	0.0488	1.01	Q				
0+55	0.0553	0.93	Q V				
1+ 0	0.0617	0.94	Q V				
1+ 5	0.0688	1.03	Q V				
1+10	0.0770	1.19	Q V				
1+15	0.0858	1.27	Q V				
1+20	0.0946	1.29	Q V				
1+25	0.1034	1.28	Q V				
1+30	0.1134	1.45	Q V				
1+35	0.1241	1.55	Q V				
1+40	0.1347	1.53	Q V				
1+45	0.1459	1.64	Q V				
1+50	0.1587	1.86	Q V				
1+55	0.1718	1.89	Q V				
2+ 0	0.1845	1.85	Q V				
2+ 5	0.1974	1.87	Q V				
2+10	0.2109	1.97	Q V				
2+15	0.2275	2.40	Q V				
2+20	0.2465	2.76	Q V				
2+25	0.2649	2.68	Q V				
2+30	0.2899	3.63	Q V				
2+35	0.3198	4.34	Q V				
2+40	0.3525	4.75	Q V				
2+45	0.3803	4.03	Q V				
2+50	0.3973	2.47	Q V				
2+55	0.4088	1.67	Q V				
3+ 0	0.4175	1.26	Q V				
3+ 5	0.4222	0.69	Q V				
3+10	0.4243	0.31	Q V				
3+15	0.4253	0.14	Q V				

3+20	0.4257	0.06	Q				V
3+25	0.4258	0.02	Q				V
3+30	0.4259	0.01	Q				V
3+35	0.4260	0.00	Q				V
3+40	0.4260	0.00	Q				V

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 08/14/24 File: BCT6100.out

+++++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6443

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BEDFORD COURT TEMECULA
100 YEAR PROPOSED UNIT HYDROGRAPH
JY 08.14.2024
KIMLEY-HORN

Drainage Area = 1.87(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.87(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.103 Hr.
Lag time = 6.20 Min.
25% of lag time = 1.55 Min.
40% of lag time = 2.48 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	1.71	3.20

100 YEAR Area rainfall data:

Area(Ac.)[1] Rainfall(In)[2] Weighting[1*2]
 1.87 4.27 7.98

STORM EVENT (YEAR) = 100.00
 Area Averaged 2-Year Rainfall = 1.710(In)
 Area Averaged 100-Year Rainfall = 4.270(In)

Point rain (area averaged) = 4.270(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 4.270(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.870 69.00 0.640
 Total Area Entered = 1.87(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	84.4	0.194	0.640	0.082	1.000	0.082
						Sum (F) = 0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
 Minimum soil loss rate ((In/Hr)) = 0.041
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.740

 U n i t H y d r o g r a p h
 F O O T H I L L S - C u r v e

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)	
1	0.083	80.648	9.144	0.172
2	0.167	161.296	48.784	0.919
3	0.250	241.943	24.231	0.457
4	0.333	322.591	9.654	0.182
5	0.417	403.239	4.806	0.091
6	0.500	483.887	1.790	0.034
7	0.583	564.534	0.733	0.014
8	0.667	645.182	0.547	0.010
9	0.750	725.830	0.312	0.006
Sum = 100.000			Sum=	1.885

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.256	0.082	(0.190)	0.174
2	0.17	0.60	0.307	0.082	(0.228)	0.225
3	0.25	0.60	0.307	0.082	(0.228)	0.225
4	0.33	0.60	0.307	0.082	(0.228)	0.225
5	0.42	0.60	0.307	0.082	(0.228)	0.225
6	0.50	0.70	0.359	0.082	(0.265)	0.276
7	0.58	0.70	0.359	0.082	(0.265)	0.276
8	0.67	0.70	0.359	0.082	(0.265)	0.276
9	0.75	0.70	0.359	0.082	(0.265)	0.276
10	0.83	0.70	0.359	0.082	(0.265)	0.276
11	0.92	0.70	0.359	0.082	(0.265)	0.276
12	1.00	0.80	0.410	0.082	(0.303)	0.328
13	1.08	0.80	0.410	0.082	(0.303)	0.328
14	1.17	0.80	0.410	0.082	(0.303)	0.328
15	1.25	0.80	0.410	0.082	(0.303)	0.328
16	1.33	0.80	0.410	0.082	(0.303)	0.328
17	1.42	0.80	0.410	0.082	(0.303)	0.328
18	1.50	0.80	0.410	0.082	(0.303)	0.328
19	1.58	0.80	0.410	0.082	(0.303)	0.328
20	1.67	0.80	0.410	0.082	(0.303)	0.328
21	1.75	0.80	0.410	0.082	(0.303)	0.328
22	1.83	0.80	0.410	0.082	(0.303)	0.328
23	1.92	0.80	0.410	0.082	(0.303)	0.328
24	2.00	0.90	0.461	0.082	(0.341)	0.379
25	2.08	0.80	0.410	0.082	(0.303)	0.328
26	2.17	0.90	0.461	0.082	(0.341)	0.379
27	2.25	0.90	0.461	0.082	(0.341)	0.379
28	2.33	0.90	0.461	0.082	(0.341)	0.379
29	2.42	0.90	0.461	0.082	(0.341)	0.379
30	2.50	0.90	0.461	0.082	(0.341)	0.379
31	2.58	0.90	0.461	0.082	(0.341)	0.379
32	2.67	0.90	0.461	0.082	(0.341)	0.379
33	2.75	1.00	0.512	0.082	(0.379)	0.430
34	2.83	1.00	0.512	0.082	(0.379)	0.430
35	2.92	1.00	0.512	0.082	(0.379)	0.430
36	3.00	1.00	0.512	0.082	(0.379)	0.430
37	3.08	1.00	0.512	0.082	(0.379)	0.430
38	3.17	1.10	0.564	0.082	(0.417)	0.481
39	3.25	1.10	0.564	0.082	(0.417)	0.481
40	3.33	1.10	0.564	0.082	(0.417)	0.481
41	3.42	1.20	0.615	0.082	(0.455)	0.533
42	3.50	1.30	0.666	0.082	(0.493)	0.584
43	3.58	1.40	0.717	0.082	(0.531)	0.635
44	3.67	1.40	0.717	0.082	(0.531)	0.635
45	3.75	1.50	0.769	0.082	(0.569)	0.686
46	3.83	1.50	0.769	0.082	(0.569)	0.686

0+20	0.0064	0.38	VQ				
0+25	0.0092	0.41	VQ				
0+30	0.0122	0.43	VQ				
0+35	0.0154	0.48	Q				
0+40	0.0189	0.50	VQ				
0+45	0.0224	0.51	VQ				
0+50	0.0260	0.52	VQ				
0+55	0.0296	0.52	Q				
1+ 0	0.0332	0.53	Q				
1+ 5	0.0372	0.58	Q				
1+10	0.0413	0.60	Q				
1+15	0.0455	0.61	QV				
1+20	0.0498	0.61	QV				
1+25	0.0540	0.62	QV				
1+30	0.0583	0.62	QV				
1+35	0.0625	0.62	Q V				
1+40	0.0668	0.62	Q V				
1+45	0.0710	0.62	Q V				
1+50	0.0753	0.62	Q V				
1+55	0.0795	0.62	Q V				
2+ 0	0.0839	0.63	Q V				
2+ 5	0.0884	0.67	Q V				
2+10	0.0929	0.65	Q V				
2+15	0.0976	0.68	Q V				
2+20	0.1025	0.70	Q V				
2+25	0.1073	0.71	Q V				
2+30	0.1122	0.71	Q V				
2+35	0.1172	0.71	Q V				
2+40	0.1221	0.71	Q V				
2+45	0.1271	0.72	Q V				
2+50	0.1324	0.77	Q V				
2+55	0.1378	0.79	Q V				
3+ 0	0.1434	0.80	Q V				
3+ 5	0.1489	0.81	Q V				
3+10	0.1546	0.82	Q V				
3+15	0.1605	0.87	Q V				
3+20	0.1667	0.89	Q V				
3+25	0.1729	0.91	Q V				
3+30	0.1796	0.97	Q V				
3+35	0.1868	1.05	Q V				
3+40	0.1946	1.13	Q V				
3+45	0.2027	1.18	Q V				
3+50	0.2113	1.24	Q V				
3+55	0.2201	1.28	Q V				
4+ 0	0.2293	1.34	Q V				
4+ 5	0.2388	1.38	Q V				
4+10	0.2488	1.45	Q V				
4+15	0.2593	1.53	Q V				
4+20	0.2705	1.62	Q V				
4+25	0.2823	1.72	Q V				

4+30	0.2947	1.80		Q		V		
4+35	0.3075	1.85		Q		V		
4+40	0.3207	1.92		Q		V		
4+45	0.3346	2.01		Q		V		
4+50	0.3490	2.10		Q		V		
4+55	0.3638	2.14		Q		V		
5+ 0	0.3790	2.22		Q		V		
5+ 5	0.3951	2.34		Q		V		
5+10	0.4134	2.65		Q		V		
5+15	0.4344	3.05			Q		V	
5+20	0.4577	3.39			Q		V	
5+25	0.4833	3.72			Q		V	
5+30	0.5120	4.16			Q		V	
5+35	0.5425	4.43			Q		V	
5+40	0.5623	2.88			Q		V	
5+45	0.5736	1.64		Q			V	
5+50	0.5802	0.96	Q				V	
5+55	0.5843	0.58	Q				V	
6+ 0	0.5865	0.33	Q				V	
6+ 5	0.5878	0.18	Q				V	
6+10	0.5883	0.08	Q				V	
6+15	0.5885	0.03	Q				V	
6+20	0.5886	0.01	Q				V	
6+25	0.5886	0.01	Q				V	
6+30	0.5886	0.00	Q				V	
6+35	0.5886	0.00	Q				V	
6+40	0.5886	0.00	Q				V	

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 08/14/24 File: BCT24100.out

+++++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6443

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BEDFORD COURT TEMECULA
100 YEAR PROPOSED UNIT HYDROGRAPH
JY 08.14.2024
KIMLEY-HORN

Drainage Area = 1.87(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.87(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.103 Hr.
Lag time = 6.20 Min.
25% of lag time = 1.55 Min.
40% of lag time = 2.48 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	2.99	5.59

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.87	7.53	14.08

STORM EVENT (YEAR) = 100.00
 Area Averaged 2-Year Rainfall = 2.990(In)
 Area Averaged 100-Year Rainfall = 7.530(In)

Point rain (area averaged) = 7.530(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 7.530(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.870	69.00	0.640
Total Area Entered = 1.87(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	84.4	0.194	0.640	0.082	1.000	0.082
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
 Minimum soil loss rate ((In/Hr)) = 0.041
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.740

Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.648	9.144
2	0.167	161.296	48.784
3	0.250	241.943	24.231
4	0.333	322.591	9.654
5	0.417	403.239	4.806
6	0.500	483.887	1.790
7	0.583	564.534	0.733
8	0.667	645.182	0.547
9	0.750	725.830	0.312
Sum =		100.000	Sum= 1.885

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.060	(0.146)	0.045	0.016
2	0.17	0.07	0.060	(0.145)	0.045	0.016
3	0.25	0.07	0.060	(0.145)	0.045	0.016
4	0.33	0.10	0.090	(0.144)	0.067	0.023
5	0.42	0.10	0.090	(0.143)	0.067	0.023
6	0.50	0.10	0.090	(0.143)	0.067	0.023
7	0.58	0.10	0.090	(0.142)	0.067	0.023
8	0.67	0.10	0.090	(0.142)	0.067	0.023
9	0.75	0.10	0.090	(0.141)	0.067	0.023
10	0.83	0.13	0.120	(0.141)	0.089	0.031
11	0.92	0.13	0.120	(0.140)	0.089	0.031
12	1.00	0.13	0.120	(0.140)	0.089	0.031
13	1.08	0.10	0.090	(0.139)	0.067	0.023
14	1.17	0.10	0.090	(0.138)	0.067	0.023
15	1.25	0.10	0.090	(0.138)	0.067	0.023
16	1.33	0.10	0.090	(0.137)	0.067	0.023
17	1.42	0.10	0.090	(0.137)	0.067	0.023
18	1.50	0.10	0.090	(0.136)	0.067	0.023
19	1.58	0.10	0.090	(0.136)	0.067	0.023
20	1.67	0.10	0.090	(0.135)	0.067	0.023
21	1.75	0.10	0.090	(0.135)	0.067	0.023
22	1.83	0.13	0.120	(0.134)	0.089	0.031
23	1.92	0.13	0.120	(0.134)	0.089	0.031
24	2.00	0.13	0.120	(0.133)	0.089	0.031
25	2.08	0.13	0.120	(0.132)	0.089	0.031
26	2.17	0.13	0.120	(0.132)	0.089	0.031
27	2.25	0.13	0.120	(0.131)	0.089	0.031
28	2.33	0.13	0.120	(0.131)	0.089	0.031
29	2.42	0.13	0.120	(0.130)	0.089	0.031
30	2.50	0.13	0.120	(0.130)	0.089	0.031
31	2.58	0.17	0.151	(0.129)	0.111	0.039
32	2.67	0.17	0.151	(0.129)	0.111	0.039
33	2.75	0.17	0.151	(0.128)	0.111	0.039
34	2.83	0.17	0.151	(0.128)	0.111	0.039
35	2.92	0.17	0.151	(0.127)	0.111	0.039
36	3.00	0.17	0.151	(0.127)	0.111	0.039
37	3.08	0.17	0.151	(0.126)	0.111	0.039
38	3.17	0.17	0.151	(0.126)	0.111	0.039
39	3.25	0.17	0.151	(0.125)	0.111	0.039
40	3.33	0.17	0.151	(0.125)	0.111	0.039
41	3.42	0.17	0.151	(0.124)	0.111	0.039
42	3.50	0.17	0.151	(0.124)	0.111	0.039
43	3.58	0.17	0.151	(0.123)	0.111	0.039
44	3.67	0.17	0.151	(0.122)	0.111	0.039
45	3.75	0.17	0.151	(0.122)	0.111	0.039
46	3.83	0.20	0.181	0.121	(0.134)	0.059

47	3.92	0.20	0.181	0.121	(0.134)	0.060
48	4.00	0.20	0.181	0.120	(0.134)	0.060
49	4.08	0.20	0.181	0.120	(0.134)	0.061
50	4.17	0.20	0.181	0.119	(0.134)	0.061
51	4.25	0.20	0.181	0.119	(0.134)	0.062
52	4.33	0.23	0.211	0.118	(0.156)	0.092
53	4.42	0.23	0.211	0.118	(0.156)	0.093
54	4.50	0.23	0.211	0.117	(0.156)	0.093
55	4.58	0.23	0.211	0.117	(0.156)	0.094
56	4.67	0.23	0.211	0.116	(0.156)	0.094
57	4.75	0.23	0.211	0.116	(0.156)	0.095
58	4.83	0.27	0.241	0.115	(0.178)	0.126
59	4.92	0.27	0.241	0.115	(0.178)	0.126
60	5.00	0.27	0.241	0.114	(0.178)	0.127
61	5.08	0.20	0.181	0.114	(0.134)	0.067
62	5.17	0.20	0.181	0.113	(0.134)	0.067
63	5.25	0.20	0.181	0.113	(0.134)	0.068
64	5.33	0.23	0.211	0.112	(0.156)	0.098
65	5.42	0.23	0.211	0.112	(0.156)	0.099
66	5.50	0.23	0.211	0.111	(0.156)	0.099
67	5.58	0.27	0.241	0.111	(0.178)	0.130
68	5.67	0.27	0.241	0.110	(0.178)	0.131
69	5.75	0.27	0.241	0.110	(0.178)	0.131
70	5.83	0.27	0.241	0.109	(0.178)	0.132
71	5.92	0.27	0.241	0.109	(0.178)	0.132
72	6.00	0.27	0.241	0.108	(0.178)	0.132
73	6.08	0.30	0.271	0.108	(0.201)	0.163
74	6.17	0.30	0.271	0.108	(0.201)	0.164
75	6.25	0.30	0.271	0.107	(0.201)	0.164
76	6.33	0.30	0.271	0.107	(0.201)	0.165
77	6.42	0.30	0.271	0.106	(0.201)	0.165
78	6.50	0.30	0.271	0.106	(0.201)	0.165
79	6.58	0.33	0.301	0.105	(0.223)	0.196
80	6.67	0.33	0.301	0.105	(0.223)	0.197
81	6.75	0.33	0.301	0.104	(0.223)	0.197
82	6.83	0.33	0.301	0.104	(0.223)	0.197
83	6.92	0.33	0.301	0.103	(0.223)	0.198
84	7.00	0.33	0.301	0.103	(0.223)	0.198
85	7.08	0.33	0.301	0.102	(0.223)	0.199
86	7.17	0.33	0.301	0.102	(0.223)	0.199
87	7.25	0.33	0.301	0.101	(0.223)	0.200
88	7.33	0.37	0.331	0.101	(0.245)	0.230
89	7.42	0.37	0.331	0.100	(0.245)	0.231
90	7.50	0.37	0.331	0.100	(0.245)	0.231
91	7.58	0.40	0.361	0.100	(0.267)	0.262
92	7.67	0.40	0.361	0.099	(0.267)	0.262
93	7.75	0.40	0.361	0.099	(0.267)	0.263
94	7.83	0.43	0.392	0.098	(0.290)	0.293
95	7.92	0.43	0.392	0.098	(0.290)	0.294
96	8.00	0.43	0.392	0.097	(0.290)	0.294

97	8.08	0.50	0.452	0.097	(0.334)	0.355
98	8.17	0.50	0.452	0.096	(0.334)	0.355
99	8.25	0.50	0.452	0.096	(0.334)	0.356
100	8.33	0.50	0.452	0.095	(0.334)	0.356
101	8.42	0.50	0.452	0.095	(0.334)	0.357
102	8.50	0.50	0.452	0.095	(0.334)	0.357
103	8.58	0.53	0.482	0.094	(0.357)	0.388
104	8.67	0.53	0.482	0.094	(0.357)	0.388
105	8.75	0.53	0.482	0.093	(0.357)	0.389
106	8.83	0.57	0.512	0.093	(0.379)	0.419
107	8.92	0.57	0.512	0.092	(0.379)	0.420
108	9.00	0.57	0.512	0.092	(0.379)	0.420
109	9.08	0.63	0.572	0.091	(0.423)	0.481
110	9.17	0.63	0.572	0.091	(0.423)	0.481
111	9.25	0.63	0.572	0.091	(0.423)	0.482
112	9.33	0.67	0.602	0.090	(0.446)	0.512
113	9.42	0.67	0.602	0.090	(0.446)	0.513
114	9.50	0.67	0.602	0.089	(0.446)	0.513
115	9.58	0.70	0.633	0.089	(0.468)	0.544
116	9.67	0.70	0.633	0.088	(0.468)	0.544
117	9.75	0.70	0.633	0.088	(0.468)	0.544
118	9.83	0.73	0.663	0.088	(0.490)	0.575
119	9.92	0.73	0.663	0.087	(0.490)	0.575
120	10.00	0.73	0.663	0.087	(0.490)	0.576
121	10.08	0.50	0.452	0.086	(0.334)	0.365
122	10.17	0.50	0.452	0.086	(0.334)	0.366
123	10.25	0.50	0.452	0.086	(0.334)	0.366
124	10.33	0.50	0.452	0.085	(0.334)	0.367
125	10.42	0.50	0.452	0.085	(0.334)	0.367
126	10.50	0.50	0.452	0.084	(0.334)	0.368
127	10.58	0.67	0.602	0.084	(0.446)	0.519
128	10.67	0.67	0.602	0.083	(0.446)	0.519
129	10.75	0.67	0.602	0.083	(0.446)	0.519
130	10.83	0.67	0.602	0.083	(0.446)	0.520
131	10.92	0.67	0.602	0.082	(0.446)	0.520
132	11.00	0.67	0.602	0.082	(0.446)	0.521
133	11.08	0.63	0.572	0.081	(0.423)	0.491
134	11.17	0.63	0.572	0.081	(0.423)	0.491
135	11.25	0.63	0.572	0.081	(0.423)	0.492
136	11.33	0.63	0.572	0.080	(0.423)	0.492
137	11.42	0.63	0.572	0.080	(0.423)	0.492
138	11.50	0.63	0.572	0.079	(0.423)	0.493
139	11.58	0.57	0.512	0.079	(0.379)	0.433
140	11.67	0.57	0.512	0.079	(0.379)	0.433
141	11.75	0.57	0.512	0.078	(0.379)	0.434
142	11.83	0.60	0.542	0.078	(0.401)	0.464
143	11.92	0.60	0.542	0.077	(0.401)	0.465
144	12.00	0.60	0.542	0.077	(0.401)	0.465
145	12.08	0.83	0.753	0.077	(0.557)	0.676
146	12.17	0.83	0.753	0.076	(0.557)	0.677

147	12.25	0.83	0.753	0.076	(0.557)	0.677
148	12.33	0.87	0.783	0.076	(0.580)	0.708
149	12.42	0.87	0.783	0.075	(0.580)	0.708
150	12.50	0.87	0.783	0.075	(0.580)	0.708
151	12.58	0.93	0.843	0.074	(0.624)	0.769
152	12.67	0.93	0.843	0.074	(0.624)	0.769
153	12.75	0.93	0.843	0.074	(0.624)	0.770
154	12.83	0.97	0.873	0.073	(0.646)	0.800
155	12.92	0.97	0.873	0.073	(0.646)	0.801
156	13.00	0.97	0.873	0.073	(0.646)	0.801
157	13.08	1.13	1.024	0.072	(0.758)	0.952
158	13.17	1.13	1.024	0.072	(0.758)	0.952
159	13.25	1.13	1.024	0.071	(0.758)	0.953
160	13.33	1.13	1.024	0.071	(0.758)	0.953
161	13.42	1.13	1.024	0.071	(0.758)	0.953
162	13.50	1.13	1.024	0.070	(0.758)	0.954
163	13.58	0.77	0.693	0.070	(0.513)	0.623
164	13.67	0.77	0.693	0.070	(0.513)	0.623
165	13.75	0.77	0.693	0.069	(0.513)	0.623
166	13.83	0.77	0.693	0.069	(0.513)	0.624
167	13.92	0.77	0.693	0.069	(0.513)	0.624
168	14.00	0.77	0.693	0.068	(0.513)	0.624
169	14.08	0.90	0.813	0.068	(0.602)	0.745
170	14.17	0.90	0.813	0.068	(0.602)	0.746
171	14.25	0.90	0.813	0.067	(0.602)	0.746
172	14.33	0.87	0.783	0.067	(0.580)	0.716
173	14.42	0.87	0.783	0.067	(0.580)	0.717
174	14.50	0.87	0.783	0.066	(0.580)	0.717
175	14.58	0.87	0.783	0.066	(0.580)	0.717
176	14.67	0.87	0.783	0.066	(0.580)	0.718
177	14.75	0.87	0.783	0.065	(0.580)	0.718
178	14.83	0.83	0.753	0.065	(0.557)	0.688
179	14.92	0.83	0.753	0.065	(0.557)	0.688
180	15.00	0.83	0.753	0.064	(0.557)	0.689
181	15.08	0.80	0.723	0.064	(0.535)	0.659
182	15.17	0.80	0.723	0.064	(0.535)	0.659
183	15.25	0.80	0.723	0.063	(0.535)	0.660
184	15.33	0.77	0.693	0.063	(0.513)	0.630
185	15.42	0.77	0.693	0.063	(0.513)	0.630
186	15.50	0.77	0.693	0.062	(0.513)	0.631
187	15.58	0.63	0.572	0.062	(0.423)	0.510
188	15.67	0.63	0.572	0.062	(0.423)	0.511
189	15.75	0.63	0.572	0.061	(0.423)	0.511
190	15.83	0.63	0.572	0.061	(0.423)	0.511
191	15.92	0.63	0.572	0.061	(0.423)	0.512
192	16.00	0.63	0.572	0.060	(0.423)	0.512
193	16.08	0.13	0.120	0.060	(0.089)	0.060
194	16.17	0.13	0.120	0.060	(0.089)	0.061
195	16.25	0.13	0.120	0.059	(0.089)	0.061
196	16.33	0.13	0.120	0.059	(0.089)	0.061

197	16.42	0.13	0.120	0.059	(0.089)	0.062
198	16.50	0.13	0.120	0.059	(0.089)	0.062
199	16.58	0.10	0.090	0.058	(0.067)	0.032
200	16.67	0.10	0.090	0.058	(0.067)	0.032
201	16.75	0.10	0.090	0.058	(0.067)	0.033
202	16.83	0.10	0.090	0.057	(0.067)	0.033
203	16.92	0.10	0.090	0.057	(0.067)	0.033
204	17.00	0.10	0.090	0.057	(0.067)	0.034
205	17.08	0.17	0.151	0.056	(0.111)	0.094
206	17.17	0.17	0.151	0.056	(0.111)	0.094
207	17.25	0.17	0.151	0.056	(0.111)	0.095
208	17.33	0.17	0.151	0.056	(0.111)	0.095
209	17.42	0.17	0.151	0.055	(0.111)	0.095
210	17.50	0.17	0.151	0.055	(0.111)	0.096
211	17.58	0.17	0.151	0.055	(0.111)	0.096
212	17.67	0.17	0.151	0.055	(0.111)	0.096
213	17.75	0.17	0.151	0.054	(0.111)	0.096
214	17.83	0.13	0.120	0.054	(0.089)	0.066
215	17.92	0.13	0.120	0.054	(0.089)	0.067
216	18.00	0.13	0.120	0.053	(0.089)	0.067
217	18.08	0.13	0.120	0.053	(0.089)	0.067
218	18.17	0.13	0.120	0.053	(0.089)	0.068
219	18.25	0.13	0.120	0.053	(0.089)	0.068
220	18.33	0.13	0.120	0.052	(0.089)	0.068
221	18.42	0.13	0.120	0.052	(0.089)	0.068
222	18.50	0.13	0.120	0.052	(0.089)	0.069
223	18.58	0.10	0.090	0.052	(0.067)	0.039
224	18.67	0.10	0.090	0.051	(0.067)	0.039
225	18.75	0.10	0.090	0.051	(0.067)	0.039
226	18.83	0.07	0.060	(0.051)	0.045	0.016
227	18.92	0.07	0.060	(0.051)	0.045	0.016
228	19.00	0.07	0.060	(0.050)	0.045	0.016
229	19.08	0.10	0.090	0.050	(0.067)	0.040
230	19.17	0.10	0.090	0.050	(0.067)	0.040
231	19.25	0.10	0.090	0.050	(0.067)	0.041
232	19.33	0.13	0.120	0.049	(0.089)	0.071
233	19.42	0.13	0.120	0.049	(0.089)	0.071
234	19.50	0.13	0.120	0.049	(0.089)	0.071
235	19.58	0.10	0.090	0.049	(0.067)	0.042
236	19.67	0.10	0.090	0.049	(0.067)	0.042
237	19.75	0.10	0.090	0.048	(0.067)	0.042
238	19.83	0.07	0.060	(0.048)	0.045	0.016
239	19.92	0.07	0.060	(0.048)	0.045	0.016
240	20.00	0.07	0.060	(0.048)	0.045	0.016
241	20.08	0.10	0.090	0.048	(0.067)	0.043
242	20.17	0.10	0.090	0.047	(0.067)	0.043
243	20.25	0.10	0.090	0.047	(0.067)	0.043
244	20.33	0.10	0.090	0.047	(0.067)	0.043
245	20.42	0.10	0.090	0.047	(0.067)	0.044
246	20.50	0.10	0.090	0.046	(0.067)	0.044

Total soil loss = 12169.7 Cubic Feet

 Peak flow rate of this hydrograph = 1.793(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	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0005	0.03	Q				
0+25	0.0008	0.04	Q				
0+30	0.0010	0.04	Q				
0+35	0.0013	0.04	Q				
0+40	0.0016	0.04	Q				
0+45	0.0019	0.04	Q				
0+50	0.0023	0.05	Q				
0+55	0.0026	0.05	Q				
1+ 0	0.0030	0.06	Q				
1+ 5	0.0034	0.06	Q				
1+10	0.0037	0.05	Q				
1+15	0.0041	0.05	Q				
1+20	0.0044	0.05	Q				
1+25	0.0047	0.04	Q				
1+30	0.0050	0.04	Q				
1+35	0.0053	0.04	Q				
1+40	0.0056	0.04	Q				
1+45	0.0059	0.04	Q				
1+50	0.0062	0.05	Q				
1+55	0.0066	0.05	Q				
2+ 0	0.0070	0.06	Q				
2+ 5	0.0074	0.06	Q				
2+10	0.0078	0.06	Q				
2+15	0.0082	0.06	Q				
2+20	0.0086	0.06	Q				
2+25	0.0090	0.06	Q				
2+30	0.0094	0.06	Q				
2+35	0.0098	0.06	Q				
2+40	0.0103	0.07	Q				
2+45	0.0108	0.07	Q				
2+50	0.0113	0.07	Q				
2+55	0.0118	0.07	Q				
3+ 0	0.0123	0.07	Q				
3+ 5	0.0128	0.07	Q				

3+10	0.0133	0.07	Q
3+15	0.0138	0.07	Q
3+20	0.0143	0.07	Q
3+25	0.0148	0.07	Q
3+30	0.0153	0.07	Q
3+35	0.0158	0.07	Q
3+40	0.0163	0.07	Q
3+45	0.0169	0.07	Q
3+50	0.0174	0.08	Q
3+55	0.0180	0.10	Q
4+ 0	0.0188	0.11	Q
4+ 5	0.0195	0.11	Q
4+10	0.0203	0.11	Q
4+15	0.0211	0.11	Q
4+20	0.0219	0.12	Q
4+25	0.0230	0.15	QV
4+30	0.0241	0.16	QV
4+35	0.0253	0.17	QV
4+40	0.0265	0.17	QV
4+45	0.0277	0.18	QV
4+50	0.0290	0.18	QV
4+55	0.0304	0.21	QV
5+ 0	0.0320	0.23	QV
5+ 5	0.0335	0.22	QV
5+10	0.0347	0.17	QV
5+15	0.0357	0.15	QV
5+20	0.0367	0.14	QV
5+25	0.0378	0.16	QV
5+30	0.0390	0.18	QV
5+35	0.0403	0.19	QV
5+40	0.0418	0.22	QV
5+45	0.0435	0.23	QV
5+50	0.0451	0.24	Q V
5+55	0.0468	0.25	Q V
6+ 0	0.0485	0.25	Q V
6+ 5	0.0503	0.25	QV
6+10	0.0522	0.28	QV
6+15	0.0543	0.30	QV
6+20	0.0563	0.30	QV
6+25	0.0585	0.31	QV
6+30	0.0606	0.31	QV
6+35	0.0628	0.32	QV
6+40	0.0652	0.35	QV
6+45	0.0676	0.36	Q V
6+50	0.0702	0.37	Q V
6+55	0.0727	0.37	Q V
7+ 0	0.0753	0.37	Q V
7+ 5	0.0778	0.37	Q V
7+10	0.0804	0.37	Q V
7+15	0.0830	0.38	Q V

7+20	0.0856	0.38	Q V				
7+25	0.0884	0.41	Q V				
7+30	0.0914	0.42	Q V				
7+35	0.0944	0.44	Q V				
7+40	0.0976	0.47	Q V				
7+45	0.1009	0.48	Q V				
7+50	0.1043	0.50	Q V				
7+55	0.1080	0.53	Q V				
8+ 0	0.1117	0.54	Q V				
8+ 5	0.1155	0.56	Q V				
8+10	0.1198	0.62	Q V				
8+15	0.1243	0.65	Q V				
8+20	0.1288	0.66	Q V				
8+25	0.1334	0.67	Q V				
8+30	0.1380	0.67	Q V				
8+35	0.1427	0.68	Q V				
8+40	0.1476	0.71	Q V				
8+45	0.1525	0.72	Q V				
8+50	0.1576	0.73	Q V				
8+55	0.1628	0.76	Q V				
9+ 0	0.1682	0.78	Q V				
9+ 5	0.1737	0.80	Q V				
9+10	0.1796	0.86	Q V				
9+15	0.1857	0.89	Q V				
9+20	0.1919	0.90	Q V				
9+25	0.1984	0.94	Q V				
9+30	0.2049	0.95	Q V				
9+35	0.2116	0.97	Q V				
9+40	0.2185	1.00	Q V				
9+45	0.2255	1.01	Q V				
9+50	0.2325	1.03	Q V				
9+55	0.2398	1.06	Q V				
10+ 0	0.2472	1.07	Q V				
10+ 5	0.2544	1.04	Q V				
10+10	0.2603	0.85	Q V				
10+15	0.2655	0.76	Q V				
10+20	0.2705	0.72	Q V				
10+25	0.2753	0.70	Q V				
10+30	0.2801	0.70	Q V				
10+35	0.2851	0.72	Q V				
10+40	0.2910	0.86	Q V				
10+45	0.2974	0.93	Q V				
10+50	0.3040	0.96	Q V				
10+55	0.3107	0.97	Q V				
11+ 0	0.3174	0.98	Q V				
11+ 5	0.3241	0.97	Q V				
11+10	0.3306	0.95	Q V				
11+15	0.3371	0.94	Q V				
11+20	0.3435	0.93	Q V				
11+25	0.3499	0.93	Q V				

11+30	0.3563	0.93	Q	V			
11+35	0.3626	0.92	Q	V			
11+40	0.3686	0.86	Q	V			
11+45	0.3743	0.84	Q	V			
11+50	0.3800	0.83	Q	V			
11+55	0.3859	0.85	Q	V			
12+ 0	0.3919	0.87	Q	V			
12+ 5	0.3982	0.91	Q	V			
12+10	0.4058	1.11	Q	V			
12+15	0.4141	1.20	Q	V			
12+20	0.4227	1.25	Q	V			
12+25	0.4316	1.30	Q	V			
12+30	0.4407	1.32	Q	V			
12+35	0.4499	1.34	Q	V			
12+40	0.4595	1.40	Q	V			
12+45	0.4694	1.43	Q	V			
12+50	0.4793	1.45	Q	V			
12+55	0.4895	1.48	Q	V			
13+ 0	0.4998	1.50	Q	V			
13+ 5	0.5104	1.53	Q	V			
13+10	0.5219	1.67	Q	V			
13+15	0.5339	1.74	Q	V			
13+20	0.5461	1.77	Q	V			
13+25	0.5584	1.79	Q	V			
13+30	0.5707	1.79	Q	V			
13+35	0.5827	1.74	Q	V			
13+40	0.5926	1.44	Q	V			
13+45	0.6015	1.29	Q	V			
13+50	0.6099	1.23	Q	V			
13+55	0.6181	1.20	Q	V			
14+ 0	0.6263	1.19	Q	V			
14+ 5	0.6346	1.20	Q	V			
14+10	0.6436	1.31	Q	V			
14+15	0.6530	1.37	Q	V			
14+20	0.6626	1.38	Q	V			
14+25	0.6720	1.37	Q	V			
14+30	0.6813	1.36	Q	V			
14+35	0.6906	1.35	Q	V			
14+40	0.7000	1.35	Q	V			
14+45	0.7093	1.35	Q	V			
14+50	0.7186	1.35	Q	V			
14+55	0.7277	1.32	Q	V			
15+ 0	0.7367	1.31	Q	V			
15+ 5	0.7456	1.30	Q	V			
15+10	0.7543	1.27	Q	V			
15+15	0.7630	1.25	Q	V			
15+20	0.7715	1.24	Q	V			
15+25	0.7799	1.21	Q	V			
15+30	0.7882	1.20	Q	V			
15+35	0.7962	1.17	Q	V			

15+40	0.8035	1.06	Q	V
15+45	0.8104	1.00	Q	V
15+50	0.8172	0.98	Q	V
15+55	0.8239	0.97	Q	V
16+ 0	0.8306	0.97	Q	V
16+ 5	0.8367	0.89	Q	V
16+10	0.8399	0.47	Q	V
16+15	0.8418	0.27	Q	V
16+20	0.8431	0.18	Q	V
16+25	0.8440	0.14	Q	V
16+30	0.8449	0.13	Q	V
16+35	0.8458	0.12	Q	V
16+40	0.8463	0.09	Q	V
16+45	0.8468	0.07	Q	V
16+50	0.8473	0.07	Q	V
16+55	0.8477	0.06	Q	V
17+ 0	0.8482	0.06	Q	V
17+ 5	0.8487	0.07	Q	V
17+10	0.8496	0.13	Q	V
17+15	0.8507	0.16	Q	V
17+20	0.8518	0.17	Q	V
17+25	0.8530	0.17	Q	V
17+30	0.8542	0.18	Q	V
17+35	0.8555	0.18	Q	V
17+40	0.8567	0.18	Q	V
17+45	0.8580	0.18	Q	V
17+50	0.8592	0.18	Q	V
17+55	0.8602	0.15	Q	V
18+ 0	0.8611	0.14	Q	V
18+ 5	0.8620	0.13	Q	V
18+10	0.8629	0.13	Q	V
18+15	0.8638	0.13	Q	V
18+20	0.8647	0.13	Q	V
18+25	0.8656	0.13	Q	V
18+30	0.8664	0.13	Q	V
18+35	0.8673	0.12	Q	V
18+40	0.8680	0.10	Q	V
18+45	0.8685	0.08	Q	V
18+50	0.8690	0.07	Q	V
18+55	0.8694	0.05	Q	V
19+ 0	0.8697	0.04	Q	V
19+ 5	0.8699	0.04	Q	V
19+10	0.8703	0.06	Q	V
19+15	0.8708	0.07	Q	V
19+20	0.8713	0.08	Q	V
19+25	0.8721	0.11	Q	V
19+30	0.8729	0.12	Q	V
19+35	0.8738	0.12	Q	V
19+40	0.8745	0.10	Q	V
19+45	0.8751	0.09	Q	V

19+50	0.8756	0.08	Q				V
19+55	0.8760	0.05	Q				V
20+ 0	0.8762	0.04	Q				V
20+ 5	0.8765	0.04	Q				V
20+10	0.8769	0.06	Q				V
20+15	0.8774	0.07	Q				V
20+20	0.8780	0.08	Q				V
20+25	0.8785	0.08	Q				V
20+30	0.8791	0.08	Q				V
20+35	0.8796	0.08	Q				V
20+40	0.8802	0.08	Q				V
20+45	0.8808	0.08	Q				V
20+50	0.8813	0.08	Q				V
20+55	0.8817	0.05	Q				V
21+ 0	0.8819	0.04	Q				V
21+ 5	0.8822	0.04	Q				V
21+10	0.8827	0.06	Q				V
21+15	0.8832	0.08	Q				V
21+20	0.8837	0.08	Q				V
21+25	0.8841	0.05	Q				V
21+30	0.8843	0.04	Q				V
21+35	0.8846	0.04	Q				V
21+40	0.8850	0.06	Q				V
21+45	0.8856	0.08	Q				V
21+50	0.8861	0.08	Q				V
21+55	0.8865	0.05	Q				V
22+ 0	0.8868	0.04	Q				V
22+ 5	0.8870	0.04	Q				V
22+10	0.8875	0.07	Q				V
22+15	0.8881	0.08	Q				V
22+20	0.8886	0.08	Q				V
22+25	0.8890	0.05	Q				V
22+30	0.8893	0.04	Q				V
22+35	0.8895	0.04	Q				V
22+40	0.8898	0.04	Q				V
22+45	0.8900	0.03	Q				V
22+50	0.8902	0.03	Q				V
22+55	0.8905	0.03	Q				V
23+ 0	0.8907	0.03	Q				V
23+ 5	0.8910	0.03	Q				V
23+10	0.8912	0.03	Q				V
23+15	0.8914	0.03	Q				V
23+20	0.8917	0.03	Q				V
23+25	0.8919	0.04	Q				V
23+30	0.8922	0.04	Q				V
23+35	0.8924	0.04	Q				V
23+40	0.8926	0.04	Q				V
23+45	0.8929	0.04	Q				V
23+50	0.8931	0.04	Q				V
23+55	0.8934	0.04	Q				V

24+ 0	0.8936	0.04	Q				V
24+ 5	0.8939	0.03	Q				V
24+10	0.8940	0.02	Q				V
24+15	0.8940	0.01	Q				V
24+20	0.8940	0.00	Q				V
24+25	0.8940	0.00	Q				V
24+30	0.8940	0.00	Q				V
24+35	0.8940	0.00	Q				V
24+40	0.8940	0.00	Q				V

Appendix I - Basin Routing Analysis

Project Summary

Title	Bedford Court Temecula
Engineer	
Company	Kimley-Horn and Associates, Inc.
Date	7/15/2024

Notes	1. Inflow hydrographs calculated using the AES Software.
-------	--

Table of Contents

	User Notifications	2
	Master Network Summary	3
Onsite		
	Read Hydrograph	4
UNDERGROUND SYSTEM (OUT)		
	Time vs. Elevation	9
UNDERGROUND SYSTEM		
	Time vs. Volume	21
Overflow		
	Outlet Input Data	33
UNDERGROUND SYSTEM		
	Elevation-Volume-Flow Table (Pond)	41
UNDERGROUND SYSTEM (IN)		
	Level Pool Pond Routing Summary	81
	Level Pool Pond Routing Summary	81
	Level Pool Pond Routing Summary	81
	Level Pool Pond Routing Summary	81
	Pond Inflow Summary	85

Table of Contents

Pond Inflow Summary	85
Pond Inflow Summary	85
Pond Inflow Summary	85

Subsection: User Notifications

User Notifications?	No user notifications generated.
---------------------	----------------------------------

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft ³)	Time to Peak (min)	Peak Flow (ft ³ /s)
Onsite	100 yr 1 hr	0	11,592.000	55.0	8.23000
Onsite	100 yr 3 hr	0	18,555.000	160.0	4.75000
Onsite	100 yr 6 hr	0	25,650.000	335.0	4.43000
Onsite	100 yr 24 hr	0	38,940.000	800.0	1.79000

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft ³)	Time to Peak (min)	Peak Flow (ft ³ /s)
O-11	100 yr 1 hr	0	11,871.000	60.0	4.85775
O-11	100 yr 3 hr	0	18,569.000	165.0	3.90275
O-11	100 yr 6 hr	0	25,643.000	336.0	3.74284
O-11	100 yr 24 hr	0	38,879.000	807.0	1.77606

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft ³)	Time to Peak (min)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft ³)
UNDERGROUND SYSTEM (IN)	100 yr 1 hr	0	11,886.000	54.0	7.59800	(N/A)	(N/A)
UNDERGROUND SYSTEM (OUT)	100 yr 1 hr	0	11,871.000	60.0	4.85775	1,005.371	2,800.000
UNDERGROUND SYSTEM (IN)	100 yr 3 hr	0	18,570.000	159.0	4.66800	(N/A)	(N/A)
UNDERGROUND SYSTEM (OUT)	100 yr 3 hr	0	18,569.000	165.0	3.90275	1,004.786	1,852.000
UNDERGROUND SYSTEM (IN)	100 yr 6 hr	0	25,644.000	333.0	4.32200	(N/A)	(N/A)
UNDERGROUND SYSTEM (OUT)	100 yr 6 hr	0	25,643.000	336.0	3.74284	1,004.700	1,713.000
UNDERGROUND SYSTEM (IN)	100 yr 24 hr	0	38,927.000	801.0	1.79000	(N/A)	(N/A)
UNDERGROUND SYSTEM (OUT)	100 yr 24 hr	0	38,879.000	807.0	1.77606	1,004.019	730.000

Subsection: Read Hydrograph
 Label: Onsite

Scenario: 100 yr 1 hr

Peak Discharge	8.23000 ft ³ /s
Time to Peak	55.0 min
Hydrograph Volume	11,592.000 ft ³

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 5.0 min

Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)				
0.0	0.00000	0.11000	0.72000	1.19000	1.45000
25.0	1.65000	1.85000	2.15000	2.47000	3.17000
50.0	5.07000	8.23000	5.29000	2.92000	1.35000
75.0	0.56000	0.25000	0.13000	0.06000	0.02000
100.0	0.00000	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Read Hydrograph
 Label: Onsite

Scenario: 100 yr 24 hr

Peak Discharge	1.79000 ft ³ /s
Time to Peak	805.0 min
Hydrograph Volume	38,940.000 ft ³

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 5.0 min

Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)				
0.0	0.00000	0.02000	0.02000	0.03000	0.04000
25.0	0.04000	0.04000	0.04000	0.04000	0.05000
50.0	0.05000	0.06000	0.06000	0.05000	0.05000
75.0	0.05000	0.04000	0.04000	0.04000	0.04000
100.0	0.04000	0.05000	0.05000	0.06000	0.06000
125.0	0.06000	0.06000	0.06000	0.06000	0.06000
150.0	0.06000	0.07000	0.07000	0.07000	0.07000
175.0	0.07000	0.07000	0.07000	0.07000	0.07000
200.0	0.07000	0.07000	0.07000	0.07000	0.07000
225.0	0.08000	0.10000	0.11000	0.11000	0.11000
250.0	0.11000	0.12000	0.15000	0.16000	0.17000
275.0	0.17000	0.18000	0.18000	0.21000	0.23000
300.0	0.22000	0.17000	0.15000	0.14000	0.16000
325.0	0.18000	0.19000	0.22000	0.23000	0.24000
350.0	0.25000	0.25000	0.25000	0.28000	0.30000
375.0	0.30000	0.31000	0.31000	0.32000	0.35000
400.0	0.36000	0.37000	0.37000	0.37000	0.37000
425.0	0.37000	0.38000	0.38000	0.41000	0.42000
450.0	0.44000	0.47000	0.48000	0.50000	0.53000
475.0	0.54000	0.56000	0.62000	0.65000	0.66000
500.0	0.67000	0.67000	0.68000	0.71000	0.72000
525.0	0.73000	0.76000	0.78000	0.80000	0.86000
550.0	0.89000	0.90000	0.94000	0.95000	0.97000
575.0	1.00000	1.01000	1.03000	1.06000	1.07000
600.0	1.04000	0.85000	0.76000	0.72000	0.70000
625.0	0.70000	0.72000	0.86000	0.93000	0.96000
650.0	0.97000	0.98000	0.97000	0.95000	0.94000
675.0	0.93000	0.93000	0.93000	0.92000	0.86000
700.0	0.84000	0.83000	0.85000	0.87000	0.91000
725.0	1.11000	1.20000	1.25000	1.30000	1.32000
750.0	1.34000	1.40000	1.43000	1.45000	1.48000
775.0	1.50000	1.53000	1.67000	1.74000	1.77000
800.0	1.79000	1.79000	1.74000	1.44000	1.29000
825.0	1.23000	1.20000	1.19000	1.20000	1.31000
850.0	1.37000	1.38000	1.37000	1.36000	1.35000
875.0	1.35000	1.35000	1.35000	1.32000	1.31000
900.0	1.30000	1.27000	1.25000	1.24000	1.21000
925.0	1.20000	1.17000	1.06000	1.00000	0.98000
950.0	0.97000	0.97000	0.89000	0.47000	0.27000

Subsection: Read Hydrograph
 Label: Onsite

Scenario: 100 yr 24 hr

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.0 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)				
975.0	0.18000	0.14000	0.13000	0.12000	0.09000
1,000.0	0.07000	0.07000	0.06000	0.06000	0.07000
1,025.0	0.13000	0.16000	0.17000	0.17000	0.18000
1,050.0	0.18000	0.18000	0.18000	0.18000	0.15000
1,075.0	0.14000	0.13000	0.13000	0.13000	0.13000
1,100.0	0.13000	0.13000	0.12000	0.10000	0.08000
1,125.0	0.07000	0.05000	0.04000	0.04000	0.06000
1,150.0	0.07000	0.08000	0.11000	0.12000	0.12000
1,175.0	0.10000	0.09000	0.08000	0.05000	0.04000
1,200.0	0.04000	0.06000	0.07000	0.08000	0.08000
1,225.0	0.08000	0.08000	0.08000	0.08000	0.08000
1,250.0	0.05000	0.04000	0.04000	0.06000	0.08000
1,275.0	0.08000	0.05000	0.04000	0.04000	0.06000
1,300.0	0.08000	0.08000	0.05000	0.04000	0.04000
1,325.0	0.07000	0.08000	0.08000	0.05000	0.04000
1,350.0	0.04000	0.04000	0.03000	0.03000	0.03000
1,375.0	0.03000	0.03000	0.03000	0.03000	0.03000
1,400.0	0.04000	0.04000	0.04000	0.04000	0.04000
1,425.0	0.04000	0.04000	0.04000	0.03000	0.02000
1,450.0	0.01000	0.00000	0.00000	0.00000	0.00000
1,475.0	0.00000	0.00000	(N/A)	(N/A)	(N/A)

Subsection: Read Hydrograph
 Label: Onsite

Scenario: 100 yr 3 hr

Peak Discharge	4.75000 ft ³ /s
Time to Peak	160.0 min
Hydrograph Volume	18,555.000 ft ³

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 5.0 min

Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)				
0.0	0.00000	0.07000	0.42000	0.58000	0.61000
25.0	0.74000	0.83000	0.93000	0.91000	0.99000
50.0	1.01000	0.93000	0.94000	1.03000	1.19000
75.0	1.27000	1.29000	1.28000	1.45000	1.55000
100.0	1.53000	1.64000	1.86000	1.89000	1.85000
125.0	1.87000	1.97000	2.40000	2.76000	2.68000
150.0	3.63000	4.34000	4.75000	4.03000	2.47000
175.0	1.67000	1.26000	0.69000	0.31000	0.14000
200.0	0.06000	0.02000	0.01000	0.00000	0.00000

Subsection: Read Hydrograph
 Label: Onsite

Scenario: 100 yr 6 hr

Peak Discharge	4.43000 ft ³ /s
Time to Peak	335.0 min
Hydrograph Volume	25,650.000 ft ³

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 5.0 min

Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)				
0.0	0.00000	0.03000	0.20000	0.33000	0.38000
25.0	0.41000	0.43000	0.48000	0.50000	0.51000
50.0	0.52000	0.52000	0.53000	0.58000	0.60000
75.0	0.61000	0.61000	0.62000	0.62000	0.62000
100.0	0.62000	0.62000	0.62000	0.62000	0.63000
125.0	0.67000	0.65000	0.68000	0.70000	0.71000
150.0	0.71000	0.71000	0.71000	0.72000	0.77000
175.0	0.79000	0.80000	0.81000	0.82000	0.87000
200.0	0.89000	0.91000	0.97000	1.05000	1.13000
225.0	1.18000	1.24000	1.28000	1.34000	1.38000
250.0	1.45000	1.53000	1.62000	1.72000	1.80000
275.0	1.85000	1.92000	2.01000	2.10000	2.14000
300.0	2.22000	2.34000	2.65000	3.05000	3.39000
325.0	3.72000	4.16000	4.43000	2.88000	1.64000
350.0	0.96000	0.58000	0.33000	0.18000	0.08000
375.0	0.03000	0.01000	0.01000	0.00000	0.00000
400.0	0.00000	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
0.0	1,003.220	1,003.233	1,003.289	1,003.408	1,003.534
15.0	1,003.650	1,003.747	1,003.818	1,003.877	1,003.925
30.0	1,003.967	1,004.008	1,004.052	1,004.095	1,004.149
45.0	1,004.216	1,004.331	1,004.551	1,004.880	1,005.219
60.0	1,005.371	1,005.344	1,005.186	1,004.932	1,004.645
75.0	1,004.342	1,004.082	1,003.887	1,003.753	1,003.651
90.0	1,003.575	1,003.513	1,003.464	1,003.427	1,003.398
105.0	1,003.376	1,003.350	1,003.332	1,003.318	1,003.308
120.0	1,003.300	1,003.294	1,003.288	1,003.284	1,003.280
135.0	1,003.277	1,003.274	1,003.272	1,003.270	1,003.268
150.0	1,003.267	1,003.266	1,003.265	1,003.263	1,003.263
165.0	1,003.262	1,003.261	1,003.261	1,003.260	1,003.260
180.0	1,003.259	1,003.259	1,003.258	1,003.258	1,003.258
195.0	1,003.257	1,003.257	1,003.257	1,003.257	1,003.256
210.0	1,003.256	1,003.256	1,003.256	1,003.256	1,003.256
225.0	1,003.255	1,003.255	1,003.255	1,003.255	1,003.255
240.0	1,003.255	1,003.255	1,003.255	1,003.255	1,003.255
255.0	1,003.255	1,003.254	1,003.254	1,003.254	1,003.254
270.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
285.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
300.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
315.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
330.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
345.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
360.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
375.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
390.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
405.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
420.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
435.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
450.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
465.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
480.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
495.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
510.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
525.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
540.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
555.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
570.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
585.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
600.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
615.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
630.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
645.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
660.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
675.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
690.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
705.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
720.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
735.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
750.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
765.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
780.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
795.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
810.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
825.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
840.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
855.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
870.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
885.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
900.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
915.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
930.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
945.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
960.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
975.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
990.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,005.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,020.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,035.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,050.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,065.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,080.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,095.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,110.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,125.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,140.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,155.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,170.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,185.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,200.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,215.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,230.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,245.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,260.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,275.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254

Subsection: Time vs. Elevation
 Label: UNDERGROUND SYSTEM (OUT)

Scenario: 100 yr 1 hr

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
1,290.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,305.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,320.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,335.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,350.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,365.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,380.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,395.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,410.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,425.0	1,003.254	1,003.254	1,003.254	1,003.254	1,003.254
1,440.0	1,003.254	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
0.0	1,003.220	1,003.222	1,003.229	1,003.236	1,003.244
15.0	1,003.254	1,003.265	1,003.276	1,003.287	1,003.296
30.0	1,003.303	1,003.309	1,003.313	1,003.317	1,003.321
45.0	1,003.325	1,003.330	1,003.333	1,003.337	1,003.342
60.0	1,003.345	1,003.346	1,003.346	1,003.345	1,003.344
75.0	1,003.343	1,003.342	1,003.339	1,003.336	1,003.335
90.0	1,003.333	1,003.332	1,003.331	1,003.331	1,003.331
105.0	1,003.333	1,003.336	1,003.338	1,003.341	1,003.344
120.0	1,003.347	1,003.349	1,003.350	1,003.351	1,003.351
135.0	1,003.352	1,003.352	1,003.353	1,003.353	1,003.353
150.0	1,003.353	1,003.354	1,003.357	1,003.359	1,003.361
165.0	1,003.362	1,003.363	1,003.364	1,003.364	1,003.364
180.0	1,003.364	1,003.364	1,003.364	1,003.364	1,003.365
195.0	1,003.365	1,003.365	1,003.365	1,003.365	1,003.365
210.0	1,003.365	1,003.365	1,003.365	1,003.365	1,003.365
225.0	1,003.367	1,003.372	1,003.378	1,003.383	1,003.387
240.0	1,003.391	1,003.393	1,003.395	1,003.397	1,003.399
255.0	1,003.401	1,003.405	1,003.412	1,003.418	1,003.424
270.0	1,003.430	1,003.435	1,003.439	1,003.442	1,003.445
285.0	1,003.448	1,003.451	1,003.457	1,003.464	1,003.471
300.0	1,003.474	1,003.473	1,003.467	1,003.459	1,003.452
315.0	1,003.445	1,003.441	1,003.440	1,003.442	1,003.446
330.0	1,003.449	1,003.455	1,003.461	1,003.468	1,003.474
345.0	1,003.480	1,003.484	1,003.488	1,003.491	1,003.493
360.0	1,003.495	1,003.497	1,003.502	1,003.508	1,003.514
375.0	1,003.518	1,003.521	1,003.524	1,003.526	1,003.528
390.0	1,003.530	1,003.534	1,003.540	1,003.545	1,003.549
405.0	1,003.552	1,003.555	1,003.556	1,003.557	1,003.558
420.0	1,003.559	1,003.559	1,003.559	1,003.560	1,003.561
435.0	1,003.562	1,003.565	1,003.568	1,003.573	1,003.577
450.0	1,003.581	1,003.586	1,003.592	1,003.598	1,003.603
465.0	1,003.607	1,003.613	1,003.619	1,003.624	1,003.629
480.0	1,003.633	1,003.640	1,003.649	1,003.658	1,003.666
495.0	1,003.672	1,003.677	1,003.680	1,003.683	1,003.685
510.0	1,003.686	1,003.689	1,003.693	1,003.697	1,003.700
525.0	1,003.703	1,003.706	1,003.710	1,003.715	1,003.720
540.0	1,003.724	1,003.729	1,003.737	1,003.744	1,003.751
555.0	1,003.756	1,003.761	1,003.767	1,003.772	1,003.776
570.0	1,003.781	1,003.785	1,003.790	1,003.794	1,003.798
585.0	1,003.801	1,003.805	1,003.810	1,003.814	1,003.815
600.0	1,003.815	1,003.807	1,003.789	1,003.769	1,003.751
615.0	1,003.735	1,003.724	1,003.714	1,003.707	1,003.703
630.0	1,003.703	1,003.709	1,003.724	1,003.739	1,003.752

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
645.0	1,003.764	1,003.772	1,003.779	1,003.783	1,003.787
660.0	1,003.788	1,003.788	1,003.787	1,003.785	1,003.783
675.0	1,003.781	1,003.779	1,003.778	1,003.778	1,003.777
690.0	1,003.776	1,003.772	1,003.766	1,003.760	1,003.755
705.0	1,003.751	1,003.749	1,003.749	1,003.750	1,003.753
720.0	1,003.758	1,003.769	1,003.790	1,003.813	1,003.832
735.0	1,003.847	1,003.860	1,003.871	1,003.880	1,003.886
750.0	1,003.891	1,003.897	1,003.904	1,003.912	1,003.918
765.0	1,003.923	1,003.927	1,003.932	1,003.936	1,003.940
780.0	1,003.945	1,003.953	1,003.967	1,003.982	1,003.994
795.0	1,004.003	1,004.010	1,004.015	1,004.018	1,004.019
810.0	1,004.016	1,004.003	1,003.977	1,003.948	1,003.923
825.0	1,003.903	1,003.888	1,003.878	1,003.870	1,003.865
840.0	1,003.863	1,003.866	1,003.875	1,003.885	1,003.894
855.0	1,003.901	1,003.905	1,003.907	1,003.907	1,003.907
870.0	1,003.906	1,003.905	1,003.904	1,003.904	1,003.904
885.0	1,003.904	1,003.903	1,003.900	1,003.898	1,003.895
900.0	1,003.893	1,003.890	1,003.887	1,003.883	1,003.880
915.0	1,003.877	1,003.874	1,003.870	1,003.867	1,003.863
930.0	1,003.859	1,003.852	1,003.840	1,003.827	1,003.816
945.0	1,003.808	1,003.802	1,003.797	1,003.794	1,003.791
960.0	1,003.783	1,003.760	1,003.717	1,003.660	1,003.610
975.0	1,003.568	1,003.530	1,003.499	1,003.476	1,003.459
990.0	1,003.446	1,003.435	1,003.423	1,003.411	1,003.401
1,005.0	1,003.393	1,003.386	1,003.380	1,003.371	1,003.366
1,020.0	1,003.365	1,003.371	1,003.383	1,003.395	1,003.407
1,035.0	1,003.417	1,003.425	1,003.432	1,003.437	1,003.442
1,050.0	1,003.445	1,003.448	1,003.450	1,003.451	1,003.452
1,065.0	1,003.452	1,003.451	1,003.447	1,003.442	1,003.437
1,080.0	1,003.432	1,003.429	1,003.426	1,003.424	1,003.422
1,095.0	1,003.421	1,003.420	1,003.419	1,003.419	1,003.418
1,110.0	1,003.417	1,003.414	1,003.409	1,003.403	1,003.397
1,125.0	1,003.390	1,003.383	1,003.373	1,003.362	1,003.353
1,140.0	1,003.346	1,003.344	1,003.345	1,003.349	1,003.354
1,155.0	1,003.360	1,003.368	1,003.378	1,003.385	1,003.391
1,170.0	1,003.396	1,003.398	1,003.398	1,003.396	1,003.393
1,185.0	1,003.389	1,003.384	1,003.375	1,003.363	1,003.354
1,200.0	1,003.347	1,003.344	1,003.346	1,003.350	1,003.354
1,215.0	1,003.360	1,003.365	1,003.368	1,003.370	1,003.371
1,230.0	1,003.372	1,003.373	1,003.373	1,003.374	1,003.374
1,245.0	1,003.374	1,003.371	1,003.364	1,003.356	1,003.349
1,260.0	1,003.343	1,003.341	1,003.344	1,003.350	1,003.357
1,275.0	1,003.363	1,003.364	1,003.359	1,003.352	1,003.346

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
1,290.0	1,003.341	1,003.340	1,003.343	1,003.350	1,003.357
1,305.0	1,003.363	1,003.364	1,003.359	1,003.352	1,003.346
1,320.0	1,003.341	1,003.341	1,003.346	1,003.354	1,003.360
1,335.0	1,003.365	1,003.365	1,003.360	1,003.353	1,003.347
1,350.0	1,003.342	1,003.338	1,003.336	1,003.332	1,003.328
1,365.0	1,003.325	1,003.323	1,003.321	1,003.319	1,003.318
1,380.0	1,003.317	1,003.316	1,003.316	1,003.315	1,003.315
1,395.0	1,003.315	1,003.316	1,003.318	1,003.321	1,003.323
1,410.0	1,003.324	1,003.325	1,003.326	1,003.327	1,003.327
1,425.0	1,003.328	1,003.328	1,003.328	1,003.329	1,003.328
1,440.0	1,003.326	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
0.0	1,003.220	1,003.228	1,003.263	1,003.348	1,003.435
15.0	1,003.510	1,003.567	1,003.603	1,003.635	1,003.666
30.0	1,003.694	1,003.719	1,003.737	1,003.750	1,003.760
45.0	1,003.770	1,003.780	1,003.787	1,003.788	1,003.785
60.0	1,003.783	1,003.785	1,003.794	1,003.809	1,003.828
75.0	1,003.846	1,003.861	1,003.871	1,003.877	1,003.884
90.0	1,003.897	1,003.915	1,003.931	1,003.941	1,003.949
105.0	1,003.960	1,003.977	1,004.000	1,004.020	1,004.031
120.0	1,004.036	1,004.037	1,004.041	1,004.047	1,004.065
135.0	1,004.099	1,004.143	1,004.187	1,004.214	1,004.241
150.0	1,004.305	1,004.406	1,004.525	1,004.648	1,004.744
165.0	1,004.786	1,004.752	1,004.633	1,004.468	1,004.298
180.0	1,004.147	1,004.018	1,003.903	1,003.801	1,003.715
195.0	1,003.631	1,003.568	1,003.512	1,003.466	1,003.430
210.0	1,003.403	1,003.381	1,003.354	1,003.333	1,003.318
225.0	1,003.307	1,003.297	1,003.290	1,003.284	1,003.279
240.0	1,003.274	1,003.271	1,003.267	1,003.264	1,003.262
255.0	1,003.260	1,003.258	1,003.256	1,003.254	1,003.253
270.0	1,003.251	1,003.250	1,003.249	1,003.248	1,003.246
285.0	1,003.245	1,003.245	1,003.244	1,003.243	1,003.242
300.0	1,003.242	1,003.241	1,003.240	1,003.240	1,003.239
315.0	1,003.239	1,003.238	1,003.238	1,003.238	1,003.237
330.0	1,003.237	1,003.236	1,003.236	1,003.236	1,003.235
345.0	1,003.235	1,003.235	1,003.234	1,003.234	1,003.234
360.0	1,003.233	1,003.233	1,003.233	1,003.233	1,003.232
375.0	1,003.232	1,003.232	1,003.232	1,003.232	1,003.231
390.0	1,003.231	1,003.231	1,003.231	1,003.231	1,003.231
405.0	1,003.230	1,003.230	1,003.230	1,003.230	1,003.230
420.0	1,003.230	1,003.230	1,003.230	1,003.229	1,003.229
435.0	1,003.229	1,003.229	1,003.229	1,003.229	1,003.229
450.0	1,003.229	1,003.229	1,003.228	1,003.228	1,003.228
465.0	1,003.228	1,003.228	1,003.228	1,003.228	1,003.228
480.0	1,003.228	1,003.227	1,003.227	1,003.227	1,003.227
495.0	1,003.227	1,003.227	1,003.227	1,003.227	1,003.227
510.0	1,003.227	1,003.227	1,003.227	1,003.226	1,003.226
525.0	1,003.226	1,003.226	1,003.226	1,003.226	1,003.226
540.0	1,003.226	1,003.226	1,003.226	1,003.226	1,003.226
555.0	1,003.225	1,003.225	1,003.225	1,003.225	1,003.225
570.0	1,003.225	1,003.225	1,003.225	1,003.225	1,003.225
585.0	1,003.225	1,003.225	1,003.225	1,003.225	1,003.225
600.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
615.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
630.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
645.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
660.0	1,003.224	1,003.223	1,003.223	1,003.223	1,003.223
675.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
690.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
705.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
720.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
735.0	1,003.223	1,003.222	1,003.222	1,003.222	1,003.222
750.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
765.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
780.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
795.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
810.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
825.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
840.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.221
855.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
870.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
885.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
900.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
915.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
930.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
945.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
960.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
975.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
990.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,005.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,020.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,035.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,050.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,065.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,080.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,095.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,110.0	1,003.221	1,003.221	1,003.220	1,003.220	1,003.220
1,125.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,140.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,155.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,170.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,185.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,200.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,215.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,230.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,245.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,260.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,275.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220

Subsection: Time vs. Elevation
 Label: UNDERGROUND SYSTEM (OUT)

Scenario: 100 yr 3 hr

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
1,290.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,305.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,320.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,335.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,350.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,365.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,380.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,395.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,410.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,425.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,440.0	1,003.220	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
0.0	1,003.220	1,003.224	1,003.240	1,003.282	1,003.351
15.0	1,003.410	1,003.456	1,003.493	1,003.523	1,003.545
30.0	1,003.559	1,003.571	1,003.583	1,003.594	1,003.603
45.0	1,003.609	1,003.615	1,003.619	1,003.622	1,003.624
60.0	1,003.627	1,003.631	1,003.637	1,003.644	1,003.650
75.0	1,003.655	1,003.658	1,003.661	1,003.663	1,003.664
90.0	1,003.666	1,003.666	1,003.667	1,003.667	1,003.667
105.0	1,003.667	1,003.667	1,003.667	1,003.667	1,003.668
120.0	1,003.669	1,003.672	1,003.676	1,003.679	1,003.680
135.0	1,003.683	1,003.687	1,003.691	1,003.694	1,003.697
150.0	1,003.698	1,003.699	1,003.699	1,003.700	1,003.700
165.0	1,003.701	1,003.704	1,003.710	1,003.717	1,003.722
180.0	1,003.725	1,003.728	1,003.731	1,003.733	1,003.736
195.0	1,003.741	1,003.747	1,003.753	1,003.758	1,003.763
210.0	1,003.771	1,003.781	1,003.793	1,003.806	1,003.819
225.0	1,003.831	1,003.843	1,003.853	1,003.863	1,003.872
240.0	1,003.882	1,003.891	1,003.899	1,003.909	1,003.919
255.0	1,003.930	1,003.943	1,003.957	1,003.972	1,003.987
270.0	1,004.001	1,004.013	1,004.024	1,004.034	1,004.045
285.0	1,004.057	1,004.069	1,004.081	1,004.092	1,004.102
300.0	1,004.112	1,004.124	1,004.141	1,004.166	1,004.202
315.0	1,004.242	1,004.286	1,004.339	1,004.401	1,004.471
330.0	1,004.552	1,004.636	1,004.700	1,004.691	1,004.591
345.0	1,004.429	1,004.245	1,004.072	1,003.935	1,003.829
360.0	1,003.744	1,003.667	1,003.604	1,003.552	1,003.499
375.0	1,003.458	1,003.426	1,003.400	1,003.379	1,003.353
390.0	1,003.334	1,003.319	1,003.307	1,003.298	1,003.290
405.0	1,003.284	1,003.279	1,003.274	1,003.271	1,003.267
420.0	1,003.265	1,003.262	1,003.260	1,003.258	1,003.256
435.0	1,003.254	1,003.253	1,003.251	1,003.250	1,003.249
450.0	1,003.248	1,003.247	1,003.246	1,003.245	1,003.244
465.0	1,003.243	1,003.242	1,003.242	1,003.241	1,003.240
480.0	1,003.240	1,003.239	1,003.239	1,003.238	1,003.238
495.0	1,003.238	1,003.237	1,003.237	1,003.236	1,003.236
510.0	1,003.236	1,003.235	1,003.235	1,003.235	1,003.234
525.0	1,003.234	1,003.234	1,003.234	1,003.233	1,003.233
540.0	1,003.233	1,003.233	1,003.232	1,003.232	1,003.232
555.0	1,003.232	1,003.232	1,003.231	1,003.231	1,003.231
570.0	1,003.231	1,003.231	1,003.230	1,003.230	1,003.230
585.0	1,003.230	1,003.230	1,003.230	1,003.230	1,003.230
600.0	1,003.229	1,003.229	1,003.229	1,003.229	1,003.229
615.0	1,003.229	1,003.229	1,003.229	1,003.229	1,003.228
630.0	1,003.228	1,003.228	1,003.228	1,003.228	1,003.228

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
645.0	1,003.228	1,003.228	1,003.228	1,003.227	1,003.227
660.0	1,003.227	1,003.227	1,003.227	1,003.227	1,003.227
675.0	1,003.227	1,003.227	1,003.227	1,003.227	1,003.227
690.0	1,003.226	1,003.226	1,003.226	1,003.226	1,003.226
705.0	1,003.226	1,003.226	1,003.226	1,003.226	1,003.226
720.0	1,003.226	1,003.226	1,003.225	1,003.225	1,003.225
735.0	1,003.225	1,003.225	1,003.225	1,003.225	1,003.225
750.0	1,003.225	1,003.225	1,003.225	1,003.225	1,003.225
765.0	1,003.225	1,003.225	1,003.224	1,003.224	1,003.224
780.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
795.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
810.0	1,003.224	1,003.224	1,003.224	1,003.224	1,003.224
825.0	1,003.224	1,003.224	1,003.224	1,003.223	1,003.223
840.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
855.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
870.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
885.0	1,003.223	1,003.223	1,003.223	1,003.223	1,003.223
900.0	1,003.223	1,003.223	1,003.223	1,003.222	1,003.222
915.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
930.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
945.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
960.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
975.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
990.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
1,005.0	1,003.222	1,003.222	1,003.222	1,003.222	1,003.222
1,020.0	1,003.222	1,003.221	1,003.221	1,003.221	1,003.221
1,035.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,050.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,065.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,080.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,095.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,110.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,125.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,140.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,155.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,170.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,185.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,200.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,215.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,230.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,245.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,260.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221
1,275.0	1,003.221	1,003.221	1,003.221	1,003.221	1,003.221

Subsection: Time vs. Elevation
 Label: UNDERGROUND SYSTEM (OUT)

Scenario: 100 yr 6 hr

Time vs. Elevation (ft)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)				
1,290.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,305.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,320.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,335.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,350.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,365.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,380.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,395.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,410.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,425.0	1,003.220	1,003.220	1,003.220	1,003.220	1,003.220
1,440.0	1,003.220	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
0.0	0.000	6.000	31.000	94.000	190.000
15.0	299.000	400.000	483.000	554.000	613.000
30.0	665.000	716.000	771.000	829.000	900.000
45.0	990.000	1,161.000	1,486.000	2,007.000	2,543.000
60.0	2,800.000	2,753.000	2,491.000	2,089.000	1,630.000
75.0	1,178.000	811.000	567.000	407.000	300.000
90.0	227.000	174.000	137.000	108.000	87.000
105.0	71.000	59.000	51.000	45.000	40.000
120.0	36.000	33.000	31.000	29.000	27.000
135.0	26.000	25.000	24.000	23.000	22.000
150.0	21.000	21.000	20.000	20.000	19.000
165.0	19.000	19.000	18.000	18.000	18.000
180.0	18.000	18.000	17.000	17.000	17.000
195.0	17.000	17.000	17.000	17.000	17.000
210.0	16.000	16.000	16.000	16.000	16.000
225.0	16.000	16.000	16.000	16.000	16.000
240.0	16.000	16.000	16.000	16.000	16.000
255.0	16.000	16.000	16.000	16.000	16.000
270.0	16.000	16.000	16.000	16.000	15.000
285.0	15.000	15.000	15.000	15.000	15.000
300.0	15.000	15.000	15.000	15.000	15.000
315.0	15.000	15.000	15.000	15.000	15.000
330.0	15.000	15.000	15.000	15.000	15.000
345.0	15.000	15.000	15.000	15.000	15.000
360.0	15.000	15.000	15.000	15.000	15.000
375.0	15.000	15.000	15.000	15.000	15.000
390.0	15.000	15.000	15.000	15.000	15.000
405.0	15.000	15.000	15.000	15.000	15.000
420.0	15.000	15.000	15.000	15.000	15.000
435.0	15.000	15.000	15.000	15.000	15.000
450.0	15.000	15.000	15.000	15.000	15.000
465.0	15.000	15.000	15.000	15.000	15.000
480.0	15.000	15.000	15.000	15.000	15.000
495.0	15.000	15.000	15.000	15.000	15.000
510.0	15.000	15.000	15.000	15.000	15.000
525.0	15.000	15.000	15.000	15.000	15.000
540.0	15.000	15.000	15.000	15.000	15.000
555.0	15.000	15.000	15.000	15.000	15.000
570.0	15.000	15.000	15.000	15.000	15.000
585.0	15.000	15.000	15.000	15.000	15.000
600.0	15.000	15.000	15.000	15.000	15.000
615.0	15.000	15.000	15.000	15.000	15.000
630.0	15.000	15.000	15.000	15.000	15.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
645.0	15.000	15.000	15.000	15.000	15.000
660.0	15.000	15.000	15.000	15.000	15.000
675.0	15.000	15.000	15.000	15.000	15.000
690.0	15.000	15.000	15.000	15.000	15.000
705.0	15.000	15.000	15.000	15.000	15.000
720.0	15.000	15.000	15.000	15.000	15.000
735.0	15.000	15.000	15.000	15.000	15.000
750.0	15.000	15.000	15.000	15.000	15.000
765.0	15.000	15.000	15.000	15.000	15.000
780.0	15.000	15.000	15.000	15.000	15.000
795.0	15.000	15.000	15.000	15.000	15.000
810.0	15.000	15.000	15.000	15.000	15.000
825.0	15.000	15.000	15.000	15.000	15.000
840.0	15.000	15.000	15.000	15.000	15.000
855.0	15.000	15.000	15.000	15.000	15.000
870.0	15.000	15.000	15.000	15.000	15.000
885.0	15.000	15.000	15.000	15.000	15.000
900.0	15.000	15.000	15.000	15.000	15.000
915.0	15.000	15.000	15.000	15.000	15.000
930.0	15.000	15.000	15.000	15.000	15.000
945.0	15.000	15.000	15.000	15.000	15.000
960.0	15.000	15.000	15.000	15.000	15.000
975.0	15.000	15.000	15.000	15.000	15.000
990.0	15.000	15.000	15.000	15.000	15.000
1,005.0	15.000	15.000	15.000	15.000	15.000
1,020.0	15.000	15.000	15.000	15.000	15.000
1,035.0	15.000	15.000	15.000	15.000	15.000
1,050.0	15.000	15.000	15.000	15.000	15.000
1,065.0	15.000	15.000	15.000	15.000	15.000
1,080.0	15.000	15.000	15.000	15.000	15.000
1,095.0	15.000	15.000	15.000	15.000	15.000
1,110.0	15.000	15.000	15.000	15.000	15.000
1,125.0	15.000	15.000	15.000	15.000	15.000
1,140.0	15.000	15.000	15.000	15.000	15.000
1,155.0	15.000	15.000	15.000	15.000	15.000
1,170.0	15.000	15.000	15.000	15.000	15.000
1,185.0	15.000	15.000	15.000	15.000	15.000
1,200.0	15.000	15.000	15.000	15.000	15.000
1,215.0	15.000	15.000	15.000	15.000	15.000
1,230.0	15.000	15.000	15.000	15.000	15.000
1,245.0	15.000	15.000	15.000	15.000	15.000
1,260.0	15.000	15.000	15.000	15.000	15.000
1,275.0	15.000	15.000	15.000	15.000	15.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
1,290.0	15.000	15.000	15.000	15.000	15.000
1,305.0	15.000	15.000	15.000	15.000	15.000
1,320.0	15.000	15.000	15.000	15.000	15.000
1,335.0	15.000	15.000	15.000	15.000	15.000
1,350.0	15.000	15.000	15.000	15.000	15.000
1,365.0	15.000	15.000	15.000	15.000	15.000
1,380.0	15.000	15.000	15.000	15.000	15.000
1,395.0	15.000	15.000	15.000	15.000	15.000
1,410.0	15.000	15.000	15.000	15.000	15.000
1,425.0	15.000	15.000	15.000	15.000	15.000
1,440.0	15.000	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
0.0	0.000	1.000	4.000	7.000	11.000
15.0	15.000	20.000	26.000	30.000	34.000
30.0	38.000	40.000	42.000	44.000	46.000
45.0	48.000	50.000	51.000	53.000	55.000
60.0	57.000	57.000	57.000	57.000	56.000
75.0	56.000	55.000	54.000	53.000	52.000
90.0	51.000	51.000	51.000	50.000	50.000
105.0	51.000	52.000	53.000	55.000	56.000
120.0	57.000	58.000	59.000	59.000	60.000
135.0	60.000	60.000	60.000	60.000	60.000
150.0	60.000	61.000	62.000	63.000	64.000
165.0	65.000	65.000	65.000	65.000	65.000
180.0	65.000	66.000	66.000	66.000	66.000
195.0	66.000	66.000	66.000	66.000	66.000
210.0	66.000	66.000	66.000	66.000	66.000
225.0	67.000	69.000	72.000	75.000	78.000
240.0	81.000	83.000	84.000	86.000	87.000
255.0	89.000	92.000	97.000	102.000	107.000
270.0	111.000	115.000	118.000	120.000	123.000
285.0	125.000	127.000	132.000	137.000	142.000
300.0	145.000	144.000	139.000	133.000	127.000
315.0	122.000	119.000	119.000	120.000	123.000
330.0	126.000	130.000	135.000	140.000	145.000
345.0	149.000	152.000	155.000	158.000	159.000
360.0	160.000	162.000	166.000	171.000	175.000
375.0	178.000	180.000	182.000	184.000	186.000
390.0	188.000	191.000	195.000	199.000	202.000
405.0	205.000	207.000	209.000	210.000	210.000
420.0	211.000	211.000	212.000	213.000	214.000
435.0	215.000	217.000	220.000	224.000	228.000
450.0	233.000	238.000	244.000	249.000	254.000
465.0	258.000	263.000	269.000	275.000	279.000
480.0	283.000	289.000	298.000	307.000	315.000
495.0	321.000	325.000	329.000	331.000	333.000
510.0	335.000	338.000	341.000	345.000	348.000
525.0	350.000	354.000	358.000	363.000	367.000
540.0	372.000	378.000	387.000	396.000	404.000
555.0	410.000	416.000	423.000	429.000	434.000
570.0	439.000	445.000	450.000	455.000	460.000
585.0	464.000	469.000	474.000	478.000	481.000
600.0	480.000	470.000	449.000	425.000	404.000
615.0	386.000	372.000	361.000	355.000	351.000
630.0	350.000	357.000	372.000	390.000	406.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft³)				
645.0	419.000	429.000	437.000	443.000	446.000
660.0	448.000	448.000	446.000	444.000	442.000
675.0	440.000	438.000	437.000	436.000	435.000
690.0	434.000	430.000	422.000	415.000	409.000
705.0	404.000	401.000	401.000	403.000	407.000
720.0	412.000	426.000	451.000	477.000	500.000
735.0	518.000	534.000	547.000	557.000	565.000
750.0	571.000	578.000	588.000	597.000	604.000
765.0	610.000	616.000	622.000	627.000	632.000
780.0	638.000	648.000	666.000	683.000	698.000
795.0	710.000	718.000	725.000	729.000	730.000
810.0	727.000	710.000	678.000	642.000	611.000
825.0	586.000	568.000	555.000	545.000	540.000
840.0	537.000	540.000	551.000	564.000	575.000
855.0	584.000	589.000	591.000	591.000	591.000
870.0	590.000	588.000	588.000	587.000	587.000
885.0	587.000	586.000	583.000	579.000	576.000
900.0	574.000	570.000	566.000	561.000	557.000
915.0	554.000	550.000	546.000	542.000	538.000
930.0	533.000	524.000	510.000	495.000	482.000
945.0	472.000	464.000	459.000	456.000	451.000
960.0	443.000	415.000	364.000	309.000	261.000
975.0	220.000	187.000	163.000	146.000	133.000
990.0	123.000	114.000	105.000	96.000	89.000
1,005.0	83.000	77.000	72.000	69.000	66.000
1,020.0	66.000	68.000	75.000	84.000	93.000
1,035.0	101.000	107.000	112.000	116.000	120.000
1,050.0	123.000	125.000	126.000	127.000	127.000
1,065.0	128.000	127.000	124.000	120.000	116.000
1,080.0	113.000	110.000	107.000	106.000	105.000
1,095.0	104.000	103.000	103.000	102.000	102.000
1,110.0	101.000	98.000	95.000	90.000	85.000
1,125.0	80.000	75.000	70.000	64.000	60.000
1,140.0	57.000	56.000	57.000	59.000	61.000
1,155.0	63.000	67.000	72.000	77.000	81.000
1,170.0	85.000	86.000	86.000	85.000	82.000
1,185.0	80.000	76.000	70.000	65.000	61.000
1,200.0	58.000	56.000	57.000	59.000	61.000
1,215.0	63.000	66.000	67.000	68.000	69.000
1,230.0	69.000	69.000	70.000	70.000	70.000
1,245.0	70.000	69.000	65.000	62.000	58.000
1,260.0	56.000	55.000	56.000	59.000	62.000
1,275.0	65.000	65.000	63.000	60.000	57.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
1,290.0	55.000	55.000	56.000	59.000	62.000
1,305.0	65.000	65.000	63.000	60.000	57.000
1,320.0	55.000	55.000	57.000	61.000	64.000
1,335.0	66.000	66.000	64.000	60.000	57.000
1,350.0	55.000	54.000	52.000	51.000	49.000
1,365.0	48.000	47.000	46.000	45.000	44.000
1,380.0	44.000	44.000	43.000	43.000	43.000
1,395.0	43.000	43.000	45.000	46.000	47.000
1,410.0	47.000	48.000	48.000	49.000	49.000
1,425.0	49.000	49.000	49.000	49.000	49.000
1,440.0	48.000	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
0.0	0.000	4.000	20.000	58.000	114.000
15.0	172.000	219.000	254.000	285.000	315.000
30.0	342.000	366.000	388.000	403.000	414.000
45.0	427.000	439.000	447.000	448.000	445.000
60.0	442.000	445.000	455.000	474.000	496.000
75.0	518.000	535.000	547.000	554.000	562.000
90.0	579.000	601.000	620.000	633.000	643.000
105.0	656.000	678.000	707.000	731.000	745.000
120.0	750.000	753.000	757.000	765.000	788.000
135.0	833.000	892.000	951.000	987.000	1,026.000
150.0	1,123.000	1,272.000	1,448.000	1,634.000	1,783.000
165.0	1,852.000	1,796.000	1,612.000	1,365.000	1,112.000
180.0	897.000	728.000	585.000	464.000	362.000
195.0	281.000	220.000	173.000	138.000	111.000
210.0	90.000	74.000	61.000	51.000	45.000
225.0	39.000	35.000	32.000	29.000	27.000
240.0	25.000	23.000	21.000	20.000	19.000
255.0	18.000	17.000	16.000	16.000	15.000
270.0	14.000	14.000	13.000	12.000	12.000
285.0	12.000	11.000	11.000	10.000	10.000
300.0	10.000	10.000	9.000	9.000	9.000
315.0	9.000	8.000	8.000	8.000	8.000
330.0	8.000	7.000	7.000	7.000	7.000
345.0	7.000	7.000	7.000	6.000	6.000
360.0	6.000	6.000	6.000	6.000	6.000
375.0	6.000	5.000	5.000	5.000	5.000
390.0	5.000	5.000	5.000	5.000	5.000
405.0	5.000	5.000	5.000	5.000	5.000
420.0	4.000	4.000	4.000	4.000	4.000
435.0	4.000	4.000	4.000	4.000	4.000
450.0	4.000	4.000	4.000	4.000	4.000
465.0	4.000	4.000	4.000	4.000	3.000
480.0	3.000	3.000	3.000	3.000	3.000
495.0	3.000	3.000	3.000	3.000	3.000
510.0	3.000	3.000	3.000	3.000	3.000
525.0	3.000	3.000	3.000	3.000	3.000
540.0	3.000	3.000	3.000	3.000	3.000
555.0	2.000	2.000	2.000	2.000	2.000
570.0	2.000	2.000	2.000	2.000	2.000
585.0	2.000	2.000	2.000	2.000	2.000
600.0	2.000	2.000	2.000	2.000	2.000
615.0	2.000	2.000	2.000	2.000	2.000
630.0	2.000	2.000	2.000	2.000	2.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
645.0	2.000	2.000	2.000	2.000	2.000
660.0	2.000	2.000	2.000	2.000	2.000
675.0	1.000	1.000	1.000	1.000	1.000
690.0	1.000	1.000	1.000	1.000	1.000
705.0	1.000	1.000	1.000	1.000	1.000
720.0	1.000	1.000	1.000	1.000	1.000
735.0	1.000	1.000	1.000	1.000	1.000
750.0	1.000	1.000	1.000	1.000	1.000
765.0	1.000	1.000	1.000	1.000	1.000
780.0	1.000	1.000	1.000	1.000	1.000
795.0	1.000	1.000	1.000	1.000	1.000
810.0	1.000	1.000	1.000	1.000	1.000
825.0	1.000	1.000	1.000	1.000	1.000
840.0	1.000	1.000	1.000	1.000	1.000
855.0	1.000	1.000	1.000	1.000	1.000
870.0	1.000	1.000	1.000	1.000	1.000
885.0	1.000	1.000	1.000	1.000	1.000
900.0	1.000	1.000	1.000	1.000	1.000
915.0	1.000	1.000	1.000	1.000	0.000
930.0	0.000	0.000	0.000	0.000	0.000
945.0	0.000	0.000	0.000	0.000	0.000
960.0	0.000	0.000	0.000	0.000	0.000
975.0	0.000	0.000	0.000	0.000	0.000
990.0	0.000	0.000	0.000	0.000	0.000
1,005.0	0.000	0.000	0.000	0.000	0.000
1,020.0	0.000	0.000	0.000	0.000	0.000
1,035.0	0.000	0.000	0.000	0.000	0.000
1,050.0	0.000	0.000	0.000	0.000	0.000
1,065.0	0.000	0.000	0.000	0.000	0.000
1,080.0	0.000	0.000	0.000	0.000	0.000
1,095.0	0.000	0.000	0.000	0.000	0.000
1,110.0	0.000	0.000	0.000	0.000	0.000
1,125.0	0.000	0.000	0.000	0.000	0.000
1,140.0	0.000	0.000	0.000	0.000	0.000
1,155.0	0.000	0.000	0.000	0.000	0.000
1,170.0	0.000	0.000	0.000	0.000	0.000
1,185.0	0.000	0.000	0.000	0.000	0.000
1,200.0	0.000	0.000	0.000	0.000	0.000
1,215.0	0.000	0.000	0.000	0.000	0.000
1,230.0	0.000	0.000	0.000	0.000	0.000
1,245.0	0.000	0.000	0.000	0.000	0.000
1,260.0	0.000	0.000	0.000	0.000	0.000
1,275.0	0.000	0.000	0.000	0.000	0.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
1,290.0	0.000	0.000	0.000	0.000	0.000
1,305.0	0.000	0.000	0.000	0.000	0.000
1,320.0	0.000	0.000	0.000	0.000	0.000
1,335.0	0.000	0.000	0.000	0.000	0.000
1,350.0	0.000	0.000	0.000	0.000	0.000
1,365.0	0.000	0.000	0.000	0.000	0.000
1,380.0	0.000	0.000	0.000	0.000	0.000
1,395.0	0.000	0.000	0.000	0.000	0.000
1,410.0	0.000	0.000	0.000	0.000	0.000
1,425.0	0.000	0.000	0.000	0.000	0.000
1,440.0	0.000	(N/A)	(N/A)	(N/A)	(N/A)

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
0.0	0.000	2.000	9.000	28.000	59.000
15.0	96.000	131.000	159.000	182.000	199.000
30.0	211.000	223.000	235.000	245.000	254.000
45.0	260.000	265.000	269.000	273.000	275.000
60.0	277.000	281.000	287.000	293.000	299.000
75.0	304.000	307.000	310.000	312.000	313.000
90.0	314.000	315.000	316.000	316.000	316.000
105.0	316.000	316.000	316.000	316.000	317.000
120.0	318.000	320.000	325.000	327.000	328.000
135.0	331.000	335.000	339.000	342.000	345.000
150.0	346.000	347.000	347.000	348.000	348.000
165.0	349.000	352.000	358.000	364.000	369.000
180.0	374.000	377.000	380.000	383.000	387.000
195.0	393.000	400.000	406.000	412.000	419.000
210.0	427.000	439.000	454.000	470.000	485.000
225.0	500.000	513.000	526.000	537.000	549.000
240.0	560.000	571.000	581.000	593.000	606.000
255.0	620.000	636.000	653.000	671.000	690.000
270.0	707.000	722.000	736.000	748.000	762.000
285.0	777.000	794.000	810.000	824.000	837.000
300.0	851.000	868.000	890.000	923.000	971.000
315.0	1,027.000	1,093.000	1,174.000	1,265.000	1,369.000
330.0	1,489.000	1,616.000	1,713.000	1,699.000	1,548.000
345.0	1,306.000	1,032.000	798.000	626.000	497.000
360.0	396.000	316.000	255.000	204.000	164.000
375.0	132.000	107.000	88.000	72.000	61.000
390.0	52.000	45.000	40.000	35.000	32.000
405.0	29.000	27.000	25.000	23.000	22.000
420.0	20.000	19.000	18.000	17.000	16.000
435.0	16.000	15.000	14.000	14.000	13.000
450.0	13.000	12.000	12.000	11.000	11.000
465.0	10.000	10.000	10.000	10.000	9.000
480.0	9.000	9.000	9.000	8.000	8.000
495.0	8.000	8.000	8.000	7.000	7.000
510.0	7.000	7.000	7.000	7.000	7.000
525.0	6.000	6.000	6.000	6.000	6.000
540.0	6.000	6.000	6.000	5.000	5.000
555.0	5.000	5.000	5.000	5.000	5.000
570.0	5.000	5.000	5.000	5.000	5.000
585.0	5.000	5.000	4.000	4.000	4.000
600.0	4.000	4.000	4.000	4.000	4.000
615.0	4.000	4.000	4.000	4.000	4.000
630.0	4.000	4.000	4.000	4.000	4.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
645.0	4.000	3.000	3.000	3.000	3.000
660.0	3.000	3.000	3.000	3.000	3.000
675.0	3.000	3.000	3.000	3.000	3.000
690.0	3.000	3.000	3.000	3.000	3.000
705.0	3.000	3.000	3.000	3.000	3.000
720.0	3.000	3.000	2.000	2.000	2.000
735.0	2.000	2.000	2.000	2.000	2.000
750.0	2.000	2.000	2.000	2.000	2.000
765.0	2.000	2.000	2.000	2.000	2.000
780.0	2.000	2.000	2.000	2.000	2.000
795.0	2.000	2.000	2.000	2.000	2.000
810.0	2.000	2.000	2.000	2.000	2.000
825.0	2.000	2.000	2.000	2.000	2.000
840.0	2.000	2.000	1.000	1.000	1.000
855.0	1.000	1.000	1.000	1.000	1.000
870.0	1.000	1.000	1.000	1.000	1.000
885.0	1.000	1.000	1.000	1.000	1.000
900.0	1.000	1.000	1.000	1.000	1.000
915.0	1.000	1.000	1.000	1.000	1.000
930.0	1.000	1.000	1.000	1.000	1.000
945.0	1.000	1.000	1.000	1.000	1.000
960.0	1.000	1.000	1.000	1.000	1.000
975.0	1.000	1.000	1.000	1.000	1.000
990.0	1.000	1.000	1.000	1.000	1.000
1,005.0	1.000	1.000	1.000	1.000	1.000
1,020.0	1.000	1.000	1.000	1.000	1.000
1,035.0	1.000	1.000	1.000	1.000	1.000
1,050.0	1.000	1.000	1.000	1.000	1.000
1,065.0	1.000	1.000	1.000	1.000	1.000
1,080.0	1.000	1.000	1.000	1.000	1.000
1,095.0	1.000	1.000	0.000	0.000	0.000
1,110.0	0.000	0.000	0.000	0.000	0.000
1,125.0	0.000	0.000	0.000	0.000	0.000
1,140.0	0.000	0.000	0.000	0.000	0.000
1,155.0	0.000	0.000	0.000	0.000	0.000
1,170.0	0.000	0.000	0.000	0.000	0.000
1,185.0	0.000	0.000	0.000	0.000	0.000
1,200.0	0.000	0.000	0.000	0.000	0.000
1,215.0	0.000	0.000	0.000	0.000	0.000
1,230.0	0.000	0.000	0.000	0.000	0.000
1,245.0	0.000	0.000	0.000	0.000	0.000
1,260.0	0.000	0.000	0.000	0.000	0.000
1,275.0	0.000	0.000	0.000	0.000	0.000

Time vs. Volume (ft³)

Output Time increment = 3.0 min
Time on left represents time for first value in each row.

Time (min)	Volume (ft ³)				
1,290.0	0.000	0.000	0.000	0.000	0.000
1,305.0	0.000	0.000	0.000	0.000	0.000
1,320.0	0.000	0.000	0.000	0.000	0.000
1,335.0	0.000	0.000	0.000	0.000	0.000
1,350.0	0.000	0.000	0.000	0.000	0.000
1,365.0	0.000	0.000	0.000	0.000	0.000
1,380.0	0.000	0.000	0.000	0.000	0.000
1,395.0	0.000	0.000	0.000	0.000	0.000
1,410.0	0.000	0.000	0.000	0.000	0.000
1,425.0	0.000	0.000	0.000	0.000	0.000
1,440.0	0.000	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Outlet Input Data
Label: Overflow

Scenario: 100 yr 1 hr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,013.000 ft
Increment (Headwater)	0.010 ft
Maximum (Headwater)	1,017.000 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular Tailwater Settings	Orifice - 1 Tailwater	Forward	TW	1,003.220 (N/A)	1,007.220 (N/A)

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 1 hr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	1,003.220 ft
Orifice Diameter	12.00 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.010 ft
Tailwater Tolerance (Maximum)	0.500 ft
Headwater Tolerance (Minimum)	0.010 ft
Headwater Tolerance (Maximum)	0.500 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 24 hr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,013.000 ft
Increment (Headwater)	0.010 ft
Maximum (Headwater)	1,017.000 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular Tailwater Settings	Orifice - 1 Tailwater	Forward	TW	1,003.220 (N/A)	1,007.220 (N/A)

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 24 hr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	1,003.220 ft
Orifice Diameter	12.00 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.010 ft
Tailwater Tolerance (Maximum)	0.500 ft
Headwater Tolerance (Minimum)	0.010 ft
Headwater Tolerance (Maximum)	0.500 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 3 hr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,013.000 ft
Increment (Headwater)	0.010 ft
Maximum (Headwater)	1,017.000 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular Tailwater Settings	Orifice - 1 Tailwater	Forward	TW	1,003.220 (N/A)	1,007.220 (N/A)

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 3 hr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	1,003.220 ft
Orifice Diameter	12.00 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.010 ft
Tailwater Tolerance (Maximum)	0.500 ft
Headwater Tolerance (Minimum)	0.010 ft
Headwater Tolerance (Maximum)	0.500 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 6 hr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,013.000 ft
Increment (Headwater)	0.010 ft
Maximum (Headwater)	1,017.000 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular Tailwater Settings	Orifice - 1 Tailwater	Forward	TW	1,003.220 (N/A)	1,007.220 (N/A)

Subsection: Outlet Input Data
 Label: Overflow

Scenario: 100 yr 6 hr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	1,003.220 ft
Orifice Diameter	12.00 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.010 ft
Tailwater Tolerance (Maximum)	0.500 ft
Headwater Tolerance (Minimum)	0.010 ft
Headwater Tolerance (Maximum)	0.500 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.220	0.00000	0.000	0	0.00000	0.00000	0.00000
1,003.230	0.00033	4.537	0	0.00000	0.00033	0.05074
1,003.240	0.00131	9.075	0	0.00000	0.00131	0.10214
1,003.250	0.00326	13.612	0	0.00000	0.00326	0.15451
1,003.260	0.00522	18.150	0	0.00000	0.00522	0.20689
1,003.270	0.00848	22.687	0	0.00000	0.00848	0.26057
1,003.280	0.01240	27.225	0	0.00000	0.01240	0.31490
1,003.290	0.01697	31.762	0	0.00000	0.01697	0.36988
1,003.300	0.02219	36.300	0	0.00000	0.02219	0.42552
1,003.310	0.02741	40.837	0	0.00000	0.02741	0.48116
1,003.320	0.03393	45.375	0	0.00000	0.03393	0.53810
1,003.330	0.04046	49.913	0	0.00000	0.04046	0.59504
1,003.340	0.04829	54.450	0	0.00000	0.04829	0.65329
1,003.350	0.05743	58.988	0	0.00000	0.05743	0.71284
1,003.360	0.06526	63.525	0	0.00000	0.06526	0.77109
1,003.370	0.07570	68.063	0	0.00000	0.07570	0.83195
1,003.380	0.08614	72.600	0	0.00000	0.08614	0.89281
1,003.390	0.09658	80.247	0	0.00000	0.09658	0.98822
1,003.400	0.10702	87.894	0	0.00000	0.10702	1.08362
1,003.410	0.12008	95.541	0	0.00000	0.12008	1.18164
1,003.420	0.13313	103.188	0	0.00000	0.13313	1.27966
1,003.430	0.14618	110.835	0	0.00000	0.14618	1.37768
1,003.440	0.15923	118.482	0	0.00000	0.15923	1.47570
1,003.450	0.17489	126.129	0	0.00000	0.17489	1.57633
1,003.460	0.18794	133.776	0	0.00000	0.18794	1.67435
1,003.470	0.20361	141.424	0	0.00000	0.20361	1.77498
1,003.480	0.21927	149.071	0	0.00000	0.21927	1.87561
1,003.490	0.23754	156.718	0	0.00000	0.23754	1.97885
1,003.500	0.25581	164.365	0	0.00000	0.25581	2.08209
1,003.510	0.27147	172.012	0	0.00000	0.27147	2.18271
1,003.520	0.29236	179.659	0	0.00000	0.29236	2.28857

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.530	0.30802	187.306	0	0.00000	0.30802	2.38919
1,003.540	0.32890	194.953	0	0.00000	0.32890	2.49504
1,003.550	0.34978	202.600	0	0.00000	0.34978	2.60089
1,003.560	0.37067	212.282	0	0.00000	0.37067	2.72936
1,003.570	0.39155	221.965	0	0.00000	0.39155	2.85782
1,003.580	0.41243	231.647	0	0.00000	0.41243	2.98629
1,003.590	0.43331	241.329	0	0.00000	0.43331	3.11475
1,003.600	0.45681	251.012	0	0.00000	0.45681	3.24583
1,003.610	0.48030	260.694	0	0.00000	0.48030	3.37690
1,003.620	0.50118	270.376	0	0.00000	0.50118	3.50536
1,003.630	0.52729	280.059	0	0.00000	0.52729	3.63905
1,003.640	0.55339	289.741	0	0.00000	0.55339	3.77273
1,003.650	0.57427	299.424	0	0.00000	0.57427	3.90120
1,003.660	0.60037	309.106	0	0.00000	0.60037	4.03488
1,003.670	0.62648	318.788	0	0.00000	0.62648	4.16857
1,003.680	0.65258	328.471	0	0.00000	0.65258	4.30225
1,003.690	0.67868	338.153	0	0.00000	0.67868	4.43594
1,003.700	0.71001	347.835	0	0.00000	0.71001	4.57484
1,003.710	0.73611	357.518	0	0.00000	0.73611	4.70853
1,003.720	0.76221	367.200	0	0.00000	0.76221	4.84221
1,003.730	0.79354	379.094	0	0.00000	0.79354	5.00569
1,003.740	0.82486	390.987	0	0.00000	0.82486	5.16917
1,003.750	0.85096	402.881	0	0.00000	0.85096	5.32742
1,003.760	0.88229	414.775	0	0.00000	0.88229	5.49090
1,003.770	0.91361	426.669	0	0.00000	0.91361	5.65438
1,003.780	0.93972	438.562	0	0.00000	0.93972	5.81263
1,003.790	0.97104	450.456	0	0.00000	0.97104	5.97611
1,003.800	1.00236	462.350	0	0.00000	1.00236	6.13959
1,003.810	1.03369	474.244	0	0.00000	1.03369	6.30306
1,003.820	1.07023	486.138	0	0.00000	1.07023	6.47176
1,003.830	1.10156	498.031	0	0.00000	1.10156	6.63524
1,003.840	1.13288	509.925	0	0.00000	1.13288	6.79871
1,003.850	1.16942	521.819	0	0.00000	1.16942	6.96741
1,003.860	1.20075	533.713	0	0.00000	1.20075	7.13089
1,003.870	1.23207	545.606	0	0.00000	1.23207	7.29436
1,003.880	1.26862	557.500	0	0.00000	1.26862	7.46306
1,003.890	1.30516	569.894	0	0.00000	1.30516	7.63732
1,003.900	1.33648	582.288	0	0.00000	1.33648	7.80635
1,003.910	1.37303	594.682	0	0.00000	1.37303	7.98061
1,003.920	1.40957	607.076	0	0.00000	1.40957	8.15487
1,003.930	1.44612	619.471	0	0.00000	1.44612	8.32912
1,003.940	1.48266	631.865	0	0.00000	1.48266	8.50338
1,003.950	1.51399	644.259	0	0.00000	1.51399	8.67242
1,003.960	1.55575	656.653	0	0.00000	1.55575	8.85189
1,003.970	1.58707	669.047	0	0.00000	1.58707	9.02093

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.980	1.62884	681.441	0	0.00000	1.62884	9.20041
1,003.990	1.66538	693.835	0	0.00000	1.66538	9.37467
1,004.000	1.70193	706.229	0	0.00000	1.70193	9.54892
1,004.010	1.74369	718.624	0	0.00000	1.74369	9.72840
1,004.020	1.78024	731.018	0	0.00000	1.78024	9.90266
1,004.030	1.81678	743.412	0	0.00000	1.81678	10.07691
1,004.040	1.85855	755.806	0	0.00000	1.85855	10.25639
1,004.050	1.89509	768.200	0	0.00000	1.89509	10.43065
1,004.060	1.93164	781.541	0	0.00000	1.93164	10.61543
1,004.070	1.97340	794.882	0	0.00000	1.97340	10.80543
1,004.080	2.01517	808.224	0	0.00000	2.01517	10.99543
1,004.090	2.05171	821.565	0	0.00000	2.05171	11.18021
1,004.100	2.09348	834.906	0	0.00000	2.09348	11.37021
1,004.110	2.13002	848.247	0	0.00000	2.13002	11.55499
1,004.120	2.17179	861.588	0	0.00000	2.17179	11.74499
1,004.130	2.21355	874.929	0	0.00000	2.21355	11.93499
1,004.140	2.25532	888.271	0	0.00000	2.25532	12.12499
1,004.150	2.29708	901.612	0	0.00000	2.29708	12.31499
1,004.160	2.33363	914.953	0	0.00000	2.33363	12.49977
1,004.170	2.37539	928.294	0	0.00000	2.37539	12.68977
1,004.180	2.41716	941.635	0	0.00000	2.41716	12.87977
1,004.190	2.45370	954.976	0	0.00000	2.45370	13.06455
1,004.200	2.49547	968.318	0	0.00000	2.49547	13.25455
1,004.210	2.53723	981.659	0	0.00000	2.53723	13.44455
1,004.220	2.67297	995.000	0	0.00000	2.67297	13.72852
1,004.230	2.69957	1,009.987	0	0.00000	2.69957	13.92165
1,004.240	2.72590	1,024.975	0	0.00000	2.72590	14.11451
1,004.250	2.75199	1,039.962	0	0.00000	2.75199	14.30713
1,004.260	2.77783	1,054.950	0	0.00000	2.77783	14.49950
1,004.270	2.80343	1,069.937	0	0.00000	2.80343	14.69163
1,004.280	2.82880	1,084.925	0	0.00000	2.82880	14.88353
1,004.290	2.85395	1,099.912	0	0.00000	2.85395	15.07520
1,004.300	2.87887	1,114.900	0	0.00000	2.87887	15.26665
1,004.310	2.90359	1,129.887	0	0.00000	2.90359	15.45789
1,004.320	2.92809	1,144.875	0	0.00000	2.92809	15.64892
1,004.330	2.95239	1,159.863	0	0.00000	2.95239	15.83975
1,004.340	2.97649	1,174.850	0	0.00000	2.97649	16.03038
1,004.350	3.00040	1,189.838	0	0.00000	3.00040	16.22081
1,004.360	3.02412	1,204.825	0	0.00000	3.02412	16.41106
1,004.370	3.04765	1,219.813	0	0.00000	3.04765	16.60112
1,004.380	3.07101	1,234.800	0	0.00000	3.07101	16.79101
1,004.390	3.09418	1,249.518	0	0.00000	3.09418	16.97771
1,004.400	3.11719	1,264.235	0	0.00000	3.11719	17.16425
1,004.410	3.14003	1,278.953	0	0.00000	3.14003	17.35061
1,004.420	3.16270	1,293.671	0	0.00000	3.16270	17.53682

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.430	3.18521	1,308.388	0	0.00000	3.18521	17.72286
1,004.440	3.20756	1,323.106	0	0.00000	3.20756	17.90874
1,004.450	3.22976	1,337.824	0	0.00000	3.22976	18.09446
1,004.460	3.25181	1,352.541	0	0.00000	3.25181	18.28004
1,004.470	3.27370	1,367.259	0	0.00000	3.27370	18.46547
1,004.480	3.29546	1,381.976	0	0.00000	3.29546	18.65075
1,004.490	3.31707	1,396.694	0	0.00000	3.31707	18.83589
1,004.500	3.33854	1,411.412	0	0.00000	3.33854	19.02089
1,004.510	3.35987	1,426.129	0	0.00000	3.35987	19.20575
1,004.520	3.38107	1,440.847	0	0.00000	3.38107	19.39048
1,004.530	3.40213	1,455.565	0	0.00000	3.40213	19.57507
1,004.540	3.42307	1,470.282	0	0.00000	3.42307	19.75954
1,004.550	3.44388	1,485.000	0	0.00000	3.44388	19.94388
1,004.560	3.46456	1,500.188	0	0.00000	3.46456	20.13332
1,004.570	3.48512	1,515.376	0	0.00000	3.48512	20.32264
1,004.580	3.50556	1,530.565	0	0.00000	3.50556	20.51184
1,004.590	3.52589	1,545.753	0	0.00000	3.52589	20.70092
1,004.600	3.54609	1,560.941	0	0.00000	3.54609	20.88988
1,004.610	3.56618	1,576.129	0	0.00000	3.56618	21.07873
1,004.620	3.58616	1,591.318	0	0.00000	3.58616	21.26747
1,004.630	3.60603	1,606.506	0	0.00000	3.60603	21.45610
1,004.640	3.62579	1,621.694	0	0.00000	3.62579	21.64461
1,004.650	3.64544	1,636.882	0	0.00000	3.64544	21.83302
1,004.660	3.66499	1,652.071	0	0.00000	3.66499	22.02133
1,004.670	3.68443	1,667.259	0	0.00000	3.68443	22.20953
1,004.680	3.70377	1,682.447	0	0.00000	3.70377	22.39763
1,004.690	3.72301	1,697.635	0	0.00000	3.72301	22.58563
1,004.700	3.74215	1,712.824	0	0.00000	3.74215	22.77353
1,004.710	3.76120	1,728.012	0	0.00000	3.76120	22.96133
1,004.720	3.78015	1,743.200	0	0.00000	3.78015	23.14904
1,004.730	3.79900	1,759.700	0	0.00000	3.79900	23.35122
1,004.740	3.81776	1,776.200	0	0.00000	3.81776	23.55332
1,004.750	3.83643	1,792.700	0	0.00000	3.83643	23.75532
1,004.760	3.85501	1,809.200	0	0.00000	3.85501	23.95723
1,004.770	3.87350	1,825.700	0	0.00000	3.87350	24.15905
1,004.780	3.89190	1,842.200	0	0.00000	3.89190	24.36079
1,004.790	3.91021	1,858.700	0	0.00000	3.91021	24.56244
1,004.800	3.92844	1,875.200	0	0.00000	3.92844	24.76400
1,004.810	3.94659	1,891.700	0	0.00000	3.94659	24.96548
1,004.820	3.96465	1,908.200	0	0.00000	3.96465	25.16687
1,004.830	3.98263	1,924.700	0	0.00000	3.98263	25.36819
1,004.840	4.00053	1,941.200	0	0.00000	4.00053	25.56942
1,004.850	4.01835	1,957.700	0	0.00000	4.01835	25.77057
1,004.860	4.03609	1,974.200	0	0.00000	4.03609	25.97165
1,004.870	4.05376	1,990.700	0	0.00000	4.05376	26.17264

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.880	4.07134	2,007.200	0	0.00000	4.07134	26.37357
1,004.890	4.08885	2,022.953	0	0.00000	4.08885	26.56611
1,004.900	4.10629	2,038.706	0	0.00000	4.10629	26.75858
1,004.910	4.12365	2,054.459	0	0.00000	4.12365	26.95097
1,004.920	4.14094	2,070.212	0	0.00000	4.14094	27.14330
1,004.930	4.15816	2,085.965	0	0.00000	4.15816	27.33555
1,004.940	4.17531	2,101.718	0	0.00000	4.17531	27.52773
1,004.950	4.19239	2,117.471	0	0.00000	4.19239	27.71984
1,004.960	4.20939	2,133.224	0	0.00000	4.20939	27.91188
1,004.970	4.22633	2,148.976	0	0.00000	4.22633	28.10385
1,004.980	4.24320	2,164.729	0	0.00000	4.24320	28.29575
1,004.990	4.26001	2,180.482	0	0.00000	4.26001	28.48759
1,005.000	4.27675	2,196.235	0	0.00000	4.27675	28.67936
1,005.010	4.29342	2,211.988	0	0.00000	4.29342	28.87107
1,005.020	4.31003	2,227.741	0	0.00000	4.31003	29.06271
1,005.030	4.32658	2,243.494	0	0.00000	4.32658	29.25429
1,005.040	4.34306	2,259.247	0	0.00000	4.34306	29.44580
1,005.050	4.35948	2,275.000	0	0.00000	4.35948	29.63726
1,005.060	4.37584	2,290.865	0	0.00000	4.37584	29.82989
1,005.070	4.39213	2,306.729	0	0.00000	4.39213	30.02246
1,005.080	4.40837	2,322.594	0	0.00000	4.40837	30.21497
1,005.090	4.42455	2,338.459	0	0.00000	4.42455	30.40742
1,005.100	4.44067	2,354.324	0	0.00000	4.44067	30.59982
1,005.110	4.45673	2,370.188	0	0.00000	4.45673	30.79215
1,005.120	4.47273	2,386.053	0	0.00000	4.47273	30.98443
1,005.130	4.48868	2,401.918	0	0.00000	4.48868	31.17665
1,005.140	4.50457	2,417.782	0	0.00000	4.50457	31.36881
1,005.150	4.52040	2,433.647	0	0.00000	4.52040	31.56092
1,005.160	4.53618	2,449.512	0	0.00000	4.53618	31.75297
1,005.170	4.55190	2,465.376	0	0.00000	4.55190	31.94497
1,005.180	4.56757	2,481.241	0	0.00000	4.56757	32.13692
1,005.190	4.58318	2,497.106	0	0.00000	4.58318	32.32880
1,005.200	4.59875	2,512.971	0	0.00000	4.59875	32.52064
1,005.210	4.61426	2,528.835	0	0.00000	4.61426	32.71243
1,005.220	4.62972	2,544.700	0	0.00000	4.62972	32.90416
1,005.230	4.64512	2,561.556	0	0.00000	4.64512	33.10686
1,005.240	4.66048	2,578.412	0	0.00000	4.66048	33.30951
1,005.250	4.67578	2,595.269	0	0.00000	4.67578	33.51210
1,005.260	4.69104	2,612.125	0	0.00000	4.69104	33.71465
1,005.270	4.70625	2,628.981	0	0.00000	4.70625	33.91715
1,005.280	4.72140	2,645.837	0	0.00000	4.72140	34.11960
1,005.290	4.73651	2,662.694	0	0.00000	4.73651	34.32200
1,005.300	4.75157	2,679.550	0	0.00000	4.75157	34.52435
1,005.310	4.76658	2,696.406	0	0.00000	4.76658	34.72665
1,005.320	4.78155	2,713.263	0	0.00000	4.78155	34.92891

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.330	4.79647	2,730.119	0	0.00000	4.79647	35.13112
1,005.340	4.81134	2,746.975	0	0.00000	4.81134	35.33329
1,005.350	4.82617	2,763.831	0	0.00000	4.82617	35.53540
1,005.360	4.84095	2,780.688	0	0.00000	4.84095	35.73748
1,005.370	4.85569	2,797.544	0	0.00000	4.85569	35.93951
1,005.380	4.87038	2,814.400	0	0.00000	4.87038	36.14149
1,005.390	4.88503	2,830.153	0	0.00000	4.88503	36.33117
1,005.400	4.89963	2,845.906	0	0.00000	4.89963	36.52081
1,005.410	4.91419	2,861.659	0	0.00000	4.91419	36.71040
1,005.420	4.92871	2,877.412	0	0.00000	4.92871	36.89995
1,005.430	4.94318	2,893.165	0	0.00000	4.94318	37.08946
1,005.440	4.95762	2,908.918	0	0.00000	4.95762	37.27892
1,005.450	4.97201	2,924.671	0	0.00000	4.97201	37.46835
1,005.460	4.98636	2,940.424	0	0.00000	4.98636	37.65773
1,005.470	5.00066	2,956.176	0	0.00000	5.00066	37.84707
1,005.480	5.01493	2,971.929	0	0.00000	5.01493	38.03637
1,005.490	5.02916	2,987.682	0	0.00000	5.02916	38.22563
1,005.500	5.04335	3,003.435	0	0.00000	5.04335	38.41485
1,005.510	5.05749	3,019.188	0	0.00000	5.05749	38.60403
1,005.520	5.07160	3,034.941	0	0.00000	5.07160	38.79317
1,005.530	5.08567	3,050.694	0	0.00000	5.08567	38.98227
1,005.540	5.09970	3,066.447	0	0.00000	5.09970	39.17133
1,005.550	5.11369	3,082.200	0	0.00000	5.11369	39.36035
1,005.560	5.12764	3,097.729	0	0.00000	5.12764	39.54686
1,005.570	5.14156	3,113.259	0	0.00000	5.14156	39.73332
1,005.580	5.15543	3,128.788	0	0.00000	5.15543	39.91975
1,005.590	5.16927	3,144.318	0	0.00000	5.16927	40.10614
1,005.600	5.18308	3,159.847	0	0.00000	5.18308	40.29249
1,005.610	5.19684	3,175.376	0	0.00000	5.19684	40.47880
1,005.620	5.21057	3,190.906	0	0.00000	5.21057	40.66508
1,005.630	5.22427	3,206.435	0	0.00000	5.22427	40.85133
1,005.640	5.23793	3,221.965	0	0.00000	5.23793	41.03753
1,005.650	5.25155	3,237.494	0	0.00000	5.25155	41.22370
1,005.660	5.26514	3,253.024	0	0.00000	5.26514	41.40984
1,005.670	5.27869	3,268.553	0	0.00000	5.27869	41.59594
1,005.680	5.29221	3,284.082	0	0.00000	5.29221	41.78201
1,005.690	5.30569	3,299.612	0	0.00000	5.30569	41.96804
1,005.700	5.31914	3,315.141	0	0.00000	5.31914	42.15404
1,005.710	5.33255	3,330.671	0	0.00000	5.33255	42.34000
1,005.720	5.34594	3,346.200	0	0.00000	5.34594	42.52594
1,005.730	5.35928	3,362.331	0	0.00000	5.35928	42.71185
1,005.740	5.37260	3,378.462	0	0.00000	5.37260	42.91107
1,005.750	5.38588	3,394.594	0	0.00000	5.38588	43.10359
1,005.760	5.39913	3,410.725	0	0.00000	5.39913	43.29607
1,005.770	5.41235	3,426.856	0	0.00000	5.41235	43.48853

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.780	5.42553	3,442.987	0	0.00000	5.42553	43.68095
1,005.790	5.43868	3,459.119	0	0.00000	5.43868	43.87334
1,005.800	5.45181	3,475.250	0	0.00000	5.45181	44.06569
1,005.810	5.46490	3,491.381	0	0.00000	5.46490	44.25802
1,005.820	5.47795	3,507.513	0	0.00000	5.47795	44.45031
1,005.830	5.49098	3,523.644	0	0.00000	5.49098	44.64258
1,005.840	5.50398	3,539.775	0	0.00000	5.50398	44.83481
1,005.850	5.51694	3,555.906	0	0.00000	5.51694	45.02701
1,005.860	5.52988	3,572.038	0	0.00000	5.52988	45.21918
1,005.870	5.54278	3,588.169	0	0.00000	5.54278	45.41132
1,005.880	5.55566	3,604.300	0	0.00000	5.55566	45.60344
1,005.890	5.56850	3,619.018	0	0.00000	5.56850	45.77981
1,005.900	5.58132	3,633.735	0	0.00000	5.58132	45.95616
1,005.910	5.59411	3,648.453	0	0.00000	5.59411	46.13247
1,005.920	5.60686	3,663.171	0	0.00000	5.60686	46.30876
1,005.930	5.61959	3,677.888	0	0.00000	5.61959	46.48502
1,005.940	5.63229	3,692.606	0	0.00000	5.63229	46.66125
1,005.950	5.64496	3,707.324	0	0.00000	5.64496	46.83745
1,005.960	5.65761	3,722.041	0	0.00000	5.65761	47.01362
1,005.970	5.67022	3,736.759	0	0.00000	5.67022	47.18976
1,005.980	5.68281	3,751.476	0	0.00000	5.68281	47.36588
1,005.990	5.69537	3,766.194	0	0.00000	5.69537	47.54197
1,006.000	5.70790	3,780.912	0	0.00000	5.70790	47.71803
1,006.010	5.72040	3,795.629	0	0.00000	5.72040	47.89406
1,006.020	5.73288	3,810.347	0	0.00000	5.73288	48.07007
1,006.030	5.74533	3,825.065	0	0.00000	5.74533	48.24604
1,006.040	5.75775	3,839.782	0	0.00000	5.75775	48.42200
1,006.050	5.77014	3,854.500	0	0.00000	5.77014	48.59792
1,006.060	5.78251	3,868.612	0	0.00000	5.78251	48.76709
1,006.070	5.79486	3,882.724	0	0.00000	5.79486	48.93623
1,006.080	5.80717	3,896.835	0	0.00000	5.80717	49.10534
1,006.090	5.81946	3,910.947	0	0.00000	5.81946	49.27443
1,006.100	5.83173	3,925.059	0	0.00000	5.83173	49.44349
1,006.110	5.84397	3,939.171	0	0.00000	5.84397	49.61253
1,006.120	5.85618	3,953.282	0	0.00000	5.85618	49.78154
1,006.130	5.86837	3,967.394	0	0.00000	5.86837	49.95052
1,006.140	5.88053	3,981.506	0	0.00000	5.88053	50.11948
1,006.150	5.89267	3,995.618	0	0.00000	5.89267	50.28842
1,006.160	5.90478	4,009.729	0	0.00000	5.90478	50.45733
1,006.170	5.91687	4,023.841	0	0.00000	5.91687	50.62621
1,006.180	5.92893	4,037.953	0	0.00000	5.92893	50.79507
1,006.190	5.94097	4,052.065	0	0.00000	5.94097	50.96391
1,006.200	5.95298	4,066.176	0	0.00000	5.95298	51.13272
1,006.210	5.96497	4,080.288	0	0.00000	5.96497	51.30151
1,006.220	5.97694	4,094.400	0	0.00000	5.97694	51.47027

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.230	5.98888	4,108.575	0	0.00000	5.98888	51.63971
1,006.240	6.00080	4,122.750	0	0.00000	6.00080	51.80913
1,006.250	6.01269	4,136.925	0	0.00000	6.01269	51.97852
1,006.260	6.02456	4,151.100	0	0.00000	6.02456	52.14790
1,006.270	6.03641	4,165.275	0	0.00000	6.03641	52.31724
1,006.280	6.04824	4,179.450	0	0.00000	6.04824	52.48657
1,006.290	6.06004	4,193.625	0	0.00000	6.06004	52.65587
1,006.300	6.07182	4,207.800	0	0.00000	6.07182	52.82515
1,006.310	6.08357	4,221.975	0	0.00000	6.08357	52.99440
1,006.320	6.09530	4,236.150	0	0.00000	6.09530	53.16364
1,006.330	6.10701	4,250.325	0	0.00000	6.10701	53.33285
1,006.340	6.11870	4,264.500	0	0.00000	6.11870	53.50204
1,006.350	6.13037	4,278.675	0	0.00000	6.13037	53.67120
1,006.360	6.14201	4,292.850	0	0.00000	6.14201	53.84034
1,006.370	6.15363	4,307.025	0	0.00000	6.15363	54.00947
1,006.380	6.16523	4,321.200	0	0.00000	6.16523	54.17857
1,006.390	6.17681	4,333.588	0	0.00000	6.17681	54.32779
1,006.400	6.18837	4,345.976	0	0.00000	6.18837	54.47699
1,006.410	6.19990	4,358.365	0	0.00000	6.19990	54.62618
1,006.420	6.21142	4,370.753	0	0.00000	6.21142	54.77534
1,006.430	6.22291	4,383.141	0	0.00000	6.22291	54.92448
1,006.440	6.23438	4,395.529	0	0.00000	6.23438	55.07359
1,006.450	6.24583	4,407.918	0	0.00000	6.24583	55.22269
1,006.460	6.25726	4,420.306	0	0.00000	6.25726	55.37177
1,006.470	6.26866	4,432.694	0	0.00000	6.26866	55.52082
1,006.480	6.28005	4,445.082	0	0.00000	6.28005	55.66985
1,006.490	6.29142	4,457.471	0	0.00000	6.29142	55.81887
1,006.500	6.30276	4,469.859	0	0.00000	6.30276	55.96786
1,006.510	6.31409	4,482.247	0	0.00000	6.31409	56.11684
1,006.520	6.32540	4,494.635	0	0.00000	6.32540	56.26579
1,006.530	6.33668	4,507.024	0	0.00000	6.33668	56.41472
1,006.540	6.34795	4,519.412	0	0.00000	6.34795	56.56363
1,006.550	6.35919	4,531.800	0	0.00000	6.35919	56.71252
1,006.560	6.37042	4,543.000	0	0.00000	6.37042	56.84819
1,006.570	6.38162	4,554.200	0	0.00000	6.38162	56.98384
1,006.580	6.39281	4,565.400	0	0.00000	6.39281	57.11947
1,006.590	6.40398	4,576.600	0	0.00000	6.40398	57.25509
1,006.600	6.41512	4,587.800	0	0.00000	6.41512	57.39068
1,006.610	6.42625	4,599.000	0	0.00000	6.42625	57.52625
1,006.620	6.43736	4,610.200	0	0.00000	6.43736	57.66180
1,006.630	6.44845	4,621.400	0	0.00000	6.44845	57.79734
1,006.640	6.45952	4,632.600	0	0.00000	6.45952	57.93285
1,006.650	6.47057	4,643.800	0	0.00000	6.47057	58.06835
1,006.660	6.48160	4,655.000	0	0.00000	6.48160	58.20382
1,006.670	6.49262	4,666.200	0	0.00000	6.49262	58.33928

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.680	6.50361	4,677.400	0	0.00000	6.50361	58.47472
1,006.690	6.51459	4,688.600	0	0.00000	6.51459	58.61014
1,006.700	6.52555	4,699.800	0	0.00000	6.52555	58.74555
1,006.710	6.53649	4,711.000	0	0.00000	6.53649	58.88093
1,006.720	6.54741	4,722.200	0	0.00000	6.54741	59.01629
1,006.730	6.55831	4,732.487	0	0.00000	6.55831	59.14150
1,006.740	6.56920	4,742.775	0	0.00000	6.56920	59.26669
1,006.750	6.58006	4,753.062	0	0.00000	6.58006	59.39187
1,006.760	6.59091	4,763.350	0	0.00000	6.59091	59.51702
1,006.770	6.60174	4,773.637	0	0.00000	6.60174	59.64216
1,006.780	6.61256	4,783.925	0	0.00000	6.61256	59.76728
1,006.790	6.62335	4,794.212	0	0.00000	6.62335	59.89238
1,006.800	6.63413	4,804.500	0	0.00000	6.63413	60.01746
1,006.810	6.64489	4,814.787	0	0.00000	6.64489	60.14253
1,006.820	6.65564	4,825.075	0	0.00000	6.65564	60.26758
1,006.830	6.66636	4,835.363	0	0.00000	6.66636	60.39261
1,006.840	6.67707	4,845.650	0	0.00000	6.67707	60.51763
1,006.850	6.68776	4,855.938	0	0.00000	6.68776	60.64262
1,006.860	6.69844	4,866.225	0	0.00000	6.69844	60.76760
1,006.870	6.70910	4,876.513	0	0.00000	6.70910	60.89257
1,006.880	6.71974	4,886.800	0	0.00000	6.71974	61.01751
1,006.890	6.73036	4,894.447	0	0.00000	6.73036	61.11311
1,006.900	6.74097	4,902.094	0	0.00000	6.74097	61.20868
1,006.910	6.75156	4,909.741	0	0.00000	6.75156	61.30424
1,006.920	6.76213	4,917.388	0	0.00000	6.76213	61.39978
1,006.930	6.77269	4,925.035	0	0.00000	6.77269	61.49530
1,006.940	6.78323	4,932.682	0	0.00000	6.78323	61.59081
1,006.950	6.79376	4,940.329	0	0.00000	6.79376	61.68631
1,006.960	6.80426	4,947.976	0	0.00000	6.80426	61.78178
1,006.970	6.81476	4,955.624	0	0.00000	6.81476	61.87724
1,006.980	6.82523	4,963.271	0	0.00000	6.82523	61.97268
1,006.990	6.83569	4,970.918	0	0.00000	6.83569	62.06811
1,007.000	6.84614	4,978.565	0	0.00000	6.84614	62.16352
1,007.010	6.85657	4,986.212	0	0.00000	6.85657	62.25892
1,007.020	6.86698	4,993.859	0	0.00000	6.86698	62.35430
1,007.030	6.87737	5,001.506	0	0.00000	6.87737	62.44966
1,007.040	6.88776	5,009.153	0	0.00000	6.88776	62.54501
1,007.050	6.89812	5,016.800	0	0.00000	6.89812	62.64034
1,007.060	6.90847	5,021.071	0	0.00000	6.90847	62.69814
1,007.070	6.91881	5,025.341	0	0.00000	6.91881	62.75593
1,007.080	6.92912	5,029.612	0	0.00000	6.92912	62.81370
1,007.090	6.93943	5,033.882	0	0.00000	6.93943	62.87145
1,007.100	6.94972	5,038.153	0	0.00000	6.94972	62.92919
1,007.110	6.95999	5,042.424	0	0.00000	6.95999	62.98692
1,007.120	6.97025	5,046.694	0	0.00000	6.97025	63.04463

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 1 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,007.130	6.98049	5,050.965	0	0.00000	6.98049	63.10232
1,007.140	6.99072	5,055.235	0	0.00000	6.99072	63.16000
1,007.150	7.00093	5,059.506	0	0.00000	7.00093	63.21766
1,007.160	7.01113	5,063.776	0	0.00000	7.01113	63.27531
1,007.170	7.02131	5,068.047	0	0.00000	7.02131	63.33294
1,007.180	7.03148	5,072.318	0	0.00000	7.03148	63.39056
1,007.190	7.04163	5,076.588	0	0.00000	7.04163	63.44817
1,007.200	7.05177	5,080.859	0	0.00000	7.05177	63.50576
1,007.210	7.06190	5,085.129	0	0.00000	7.06190	63.56333
1,007.220	7.07201	5,089.400	0	0.00000	7.07201	63.62090

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.220	0.00000	0.000	0	0.00000	0.00000	0.00000
1,003.230	0.00033	4.537	0	0.00000	0.00033	0.05074
1,003.240	0.00131	9.075	0	0.00000	0.00131	0.10214
1,003.250	0.00326	13.612	0	0.00000	0.00326	0.15451
1,003.260	0.00522	18.150	0	0.00000	0.00522	0.20689
1,003.270	0.00848	22.687	0	0.00000	0.00848	0.26057
1,003.280	0.01240	27.225	0	0.00000	0.01240	0.31490
1,003.290	0.01697	31.762	0	0.00000	0.01697	0.36988
1,003.300	0.02219	36.300	0	0.00000	0.02219	0.42552
1,003.310	0.02741	40.837	0	0.00000	0.02741	0.48116
1,003.320	0.03393	45.375	0	0.00000	0.03393	0.53810
1,003.330	0.04046	49.913	0	0.00000	0.04046	0.59504
1,003.340	0.04829	54.450	0	0.00000	0.04829	0.65329
1,003.350	0.05743	58.988	0	0.00000	0.05743	0.71284
1,003.360	0.06526	63.525	0	0.00000	0.06526	0.77109
1,003.370	0.07570	68.063	0	0.00000	0.07570	0.83195
1,003.380	0.08614	72.600	0	0.00000	0.08614	0.89281
1,003.390	0.09658	80.247	0	0.00000	0.09658	0.98822
1,003.400	0.10702	87.894	0	0.00000	0.10702	1.08362
1,003.410	0.12008	95.541	0	0.00000	0.12008	1.18164
1,003.420	0.13313	103.188	0	0.00000	0.13313	1.27966
1,003.430	0.14618	110.835	0	0.00000	0.14618	1.37768
1,003.440	0.15923	118.482	0	0.00000	0.15923	1.47570
1,003.450	0.17489	126.129	0	0.00000	0.17489	1.57633
1,003.460	0.18794	133.776	0	0.00000	0.18794	1.67435
1,003.470	0.20361	141.424	0	0.00000	0.20361	1.77498
1,003.480	0.21927	149.071	0	0.00000	0.21927	1.87561
1,003.490	0.23754	156.718	0	0.00000	0.23754	1.97885
1,003.500	0.25581	164.365	0	0.00000	0.25581	2.08209
1,003.510	0.27147	172.012	0	0.00000	0.27147	2.18271
1,003.520	0.29236	179.659	0	0.00000	0.29236	2.28857

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.530	0.30802	187.306	0	0.00000	0.30802	2.38919
1,003.540	0.32890	194.953	0	0.00000	0.32890	2.49504
1,003.550	0.34978	202.600	0	0.00000	0.34978	2.60089
1,003.560	0.37067	212.282	0	0.00000	0.37067	2.72936
1,003.570	0.39155	221.965	0	0.00000	0.39155	2.85782
1,003.580	0.41243	231.647	0	0.00000	0.41243	2.98629
1,003.590	0.43331	241.329	0	0.00000	0.43331	3.11475
1,003.600	0.45681	251.012	0	0.00000	0.45681	3.24583
1,003.610	0.48030	260.694	0	0.00000	0.48030	3.37690
1,003.620	0.50118	270.376	0	0.00000	0.50118	3.50536
1,003.630	0.52729	280.059	0	0.00000	0.52729	3.63905
1,003.640	0.55339	289.741	0	0.00000	0.55339	3.77273
1,003.650	0.57427	299.424	0	0.00000	0.57427	3.90120
1,003.660	0.60037	309.106	0	0.00000	0.60037	4.03488
1,003.670	0.62648	318.788	0	0.00000	0.62648	4.16857
1,003.680	0.65258	328.471	0	0.00000	0.65258	4.30225
1,003.690	0.67868	338.153	0	0.00000	0.67868	4.43594
1,003.700	0.71001	347.835	0	0.00000	0.71001	4.57484
1,003.710	0.73611	357.518	0	0.00000	0.73611	4.70853
1,003.720	0.76221	367.200	0	0.00000	0.76221	4.84221
1,003.730	0.79354	379.094	0	0.00000	0.79354	5.00569
1,003.740	0.82486	390.987	0	0.00000	0.82486	5.16917
1,003.750	0.85096	402.881	0	0.00000	0.85096	5.32742
1,003.760	0.88229	414.775	0	0.00000	0.88229	5.49090
1,003.770	0.91361	426.669	0	0.00000	0.91361	5.65438
1,003.780	0.93972	438.562	0	0.00000	0.93972	5.81263
1,003.790	0.97104	450.456	0	0.00000	0.97104	5.97611
1,003.800	1.00236	462.350	0	0.00000	1.00236	6.13959
1,003.810	1.03369	474.244	0	0.00000	1.03369	6.30306
1,003.820	1.07023	486.138	0	0.00000	1.07023	6.47176
1,003.830	1.10156	498.031	0	0.00000	1.10156	6.63524
1,003.840	1.13288	509.925	0	0.00000	1.13288	6.79871
1,003.850	1.16942	521.819	0	0.00000	1.16942	6.96741
1,003.860	1.20075	533.713	0	0.00000	1.20075	7.13089
1,003.870	1.23207	545.606	0	0.00000	1.23207	7.29436
1,003.880	1.26862	557.500	0	0.00000	1.26862	7.46306
1,003.890	1.30516	569.894	0	0.00000	1.30516	7.63732
1,003.900	1.33648	582.288	0	0.00000	1.33648	7.80635
1,003.910	1.37303	594.682	0	0.00000	1.37303	7.98061
1,003.920	1.40957	607.076	0	0.00000	1.40957	8.15487
1,003.930	1.44612	619.471	0	0.00000	1.44612	8.32912
1,003.940	1.48266	631.865	0	0.00000	1.48266	8.50338
1,003.950	1.51399	644.259	0	0.00000	1.51399	8.67242
1,003.960	1.55575	656.653	0	0.00000	1.55575	8.85189
1,003.970	1.58707	669.047	0	0.00000	1.58707	9.02093

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.980	1.62884	681.441	0	0.00000	1.62884	9.20041
1,003.990	1.66538	693.835	0	0.00000	1.66538	9.37467
1,004.000	1.70193	706.229	0	0.00000	1.70193	9.54892
1,004.010	1.74369	718.624	0	0.00000	1.74369	9.72840
1,004.020	1.78024	731.018	0	0.00000	1.78024	9.90266
1,004.030	1.81678	743.412	0	0.00000	1.81678	10.07691
1,004.040	1.85855	755.806	0	0.00000	1.85855	10.25639
1,004.050	1.89509	768.200	0	0.00000	1.89509	10.43065
1,004.060	1.93164	781.541	0	0.00000	1.93164	10.61543
1,004.070	1.97340	794.882	0	0.00000	1.97340	10.80543
1,004.080	2.01517	808.224	0	0.00000	2.01517	10.99543
1,004.090	2.05171	821.565	0	0.00000	2.05171	11.18021
1,004.100	2.09348	834.906	0	0.00000	2.09348	11.37021
1,004.110	2.13002	848.247	0	0.00000	2.13002	11.55499
1,004.120	2.17179	861.588	0	0.00000	2.17179	11.74499
1,004.130	2.21355	874.929	0	0.00000	2.21355	11.93499
1,004.140	2.25532	888.271	0	0.00000	2.25532	12.12499
1,004.150	2.29708	901.612	0	0.00000	2.29708	12.31499
1,004.160	2.33363	914.953	0	0.00000	2.33363	12.49977
1,004.170	2.37539	928.294	0	0.00000	2.37539	12.68977
1,004.180	2.41716	941.635	0	0.00000	2.41716	12.87977
1,004.190	2.45370	954.976	0	0.00000	2.45370	13.06455
1,004.200	2.49547	968.318	0	0.00000	2.49547	13.25455
1,004.210	2.53723	981.659	0	0.00000	2.53723	13.44455
1,004.220	2.67297	995.000	0	0.00000	2.67297	13.72852
1,004.230	2.69957	1,009.987	0	0.00000	2.69957	13.92165
1,004.240	2.72590	1,024.975	0	0.00000	2.72590	14.11451
1,004.250	2.75199	1,039.962	0	0.00000	2.75199	14.30713
1,004.260	2.77783	1,054.950	0	0.00000	2.77783	14.49950
1,004.270	2.80343	1,069.937	0	0.00000	2.80343	14.69163
1,004.280	2.82880	1,084.925	0	0.00000	2.82880	14.88353
1,004.290	2.85395	1,099.912	0	0.00000	2.85395	15.07520
1,004.300	2.87887	1,114.900	0	0.00000	2.87887	15.26665
1,004.310	2.90359	1,129.887	0	0.00000	2.90359	15.45789
1,004.320	2.92809	1,144.875	0	0.00000	2.92809	15.64892
1,004.330	2.95239	1,159.863	0	0.00000	2.95239	15.83975
1,004.340	2.97649	1,174.850	0	0.00000	2.97649	16.03038
1,004.350	3.00040	1,189.838	0	0.00000	3.00040	16.22081
1,004.360	3.02412	1,204.825	0	0.00000	3.02412	16.41106
1,004.370	3.04765	1,219.813	0	0.00000	3.04765	16.60112
1,004.380	3.07101	1,234.800	0	0.00000	3.07101	16.79101
1,004.390	3.09418	1,249.518	0	0.00000	3.09418	16.97771
1,004.400	3.11719	1,264.235	0	0.00000	3.11719	17.16425
1,004.410	3.14003	1,278.953	0	0.00000	3.14003	17.35061
1,004.420	3.16270	1,293.671	0	0.00000	3.16270	17.53682

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.430	3.18521	1,308.388	0	0.00000	3.18521	17.72286
1,004.440	3.20756	1,323.106	0	0.00000	3.20756	17.90874
1,004.450	3.22976	1,337.824	0	0.00000	3.22976	18.09446
1,004.460	3.25181	1,352.541	0	0.00000	3.25181	18.28004
1,004.470	3.27370	1,367.259	0	0.00000	3.27370	18.46547
1,004.480	3.29546	1,381.976	0	0.00000	3.29546	18.65075
1,004.490	3.31707	1,396.694	0	0.00000	3.31707	18.83589
1,004.500	3.33854	1,411.412	0	0.00000	3.33854	19.02089
1,004.510	3.35987	1,426.129	0	0.00000	3.35987	19.20575
1,004.520	3.38107	1,440.847	0	0.00000	3.38107	19.39048
1,004.530	3.40213	1,455.565	0	0.00000	3.40213	19.57507
1,004.540	3.42307	1,470.282	0	0.00000	3.42307	19.75954
1,004.550	3.44388	1,485.000	0	0.00000	3.44388	19.94388
1,004.560	3.46456	1,500.188	0	0.00000	3.46456	20.13332
1,004.570	3.48512	1,515.376	0	0.00000	3.48512	20.32264
1,004.580	3.50556	1,530.565	0	0.00000	3.50556	20.51184
1,004.590	3.52589	1,545.753	0	0.00000	3.52589	20.70092
1,004.600	3.54609	1,560.941	0	0.00000	3.54609	20.88988
1,004.610	3.56618	1,576.129	0	0.00000	3.56618	21.07873
1,004.620	3.58616	1,591.318	0	0.00000	3.58616	21.26747
1,004.630	3.60603	1,606.506	0	0.00000	3.60603	21.45610
1,004.640	3.62579	1,621.694	0	0.00000	3.62579	21.64461
1,004.650	3.64544	1,636.882	0	0.00000	3.64544	21.83302
1,004.660	3.66499	1,652.071	0	0.00000	3.66499	22.02133
1,004.670	3.68443	1,667.259	0	0.00000	3.68443	22.20953
1,004.680	3.70377	1,682.447	0	0.00000	3.70377	22.39763
1,004.690	3.72301	1,697.635	0	0.00000	3.72301	22.58563
1,004.700	3.74215	1,712.824	0	0.00000	3.74215	22.77353
1,004.710	3.76120	1,728.012	0	0.00000	3.76120	22.96133
1,004.720	3.78015	1,743.200	0	0.00000	3.78015	23.14904
1,004.730	3.79900	1,759.700	0	0.00000	3.79900	23.35122
1,004.740	3.81776	1,776.200	0	0.00000	3.81776	23.55332
1,004.750	3.83643	1,792.700	0	0.00000	3.83643	23.75532
1,004.760	3.85501	1,809.200	0	0.00000	3.85501	23.95723
1,004.770	3.87350	1,825.700	0	0.00000	3.87350	24.15905
1,004.780	3.89190	1,842.200	0	0.00000	3.89190	24.36079
1,004.790	3.91021	1,858.700	0	0.00000	3.91021	24.56244
1,004.800	3.92844	1,875.200	0	0.00000	3.92844	24.76400
1,004.810	3.94659	1,891.700	0	0.00000	3.94659	24.96548
1,004.820	3.96465	1,908.200	0	0.00000	3.96465	25.16687
1,004.830	3.98263	1,924.700	0	0.00000	3.98263	25.36819
1,004.840	4.00053	1,941.200	0	0.00000	4.00053	25.56942
1,004.850	4.01835	1,957.700	0	0.00000	4.01835	25.77057
1,004.860	4.03609	1,974.200	0	0.00000	4.03609	25.97165
1,004.870	4.05376	1,990.700	0	0.00000	4.05376	26.17264

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.880	4.07134	2,007.200	0	0.00000	4.07134	26.37357
1,004.890	4.08885	2,022.953	0	0.00000	4.08885	26.56611
1,004.900	4.10629	2,038.706	0	0.00000	4.10629	26.75858
1,004.910	4.12365	2,054.459	0	0.00000	4.12365	26.95097
1,004.920	4.14094	2,070.212	0	0.00000	4.14094	27.14330
1,004.930	4.15816	2,085.965	0	0.00000	4.15816	27.33555
1,004.940	4.17531	2,101.718	0	0.00000	4.17531	27.52773
1,004.950	4.19239	2,117.471	0	0.00000	4.19239	27.71984
1,004.960	4.20939	2,133.224	0	0.00000	4.20939	27.91188
1,004.970	4.22633	2,148.976	0	0.00000	4.22633	28.10385
1,004.980	4.24320	2,164.729	0	0.00000	4.24320	28.29575
1,004.990	4.26001	2,180.482	0	0.00000	4.26001	28.48759
1,005.000	4.27675	2,196.235	0	0.00000	4.27675	28.67936
1,005.010	4.29342	2,211.988	0	0.00000	4.29342	28.87107
1,005.020	4.31003	2,227.741	0	0.00000	4.31003	29.06271
1,005.030	4.32658	2,243.494	0	0.00000	4.32658	29.25429
1,005.040	4.34306	2,259.247	0	0.00000	4.34306	29.44580
1,005.050	4.35948	2,275.000	0	0.00000	4.35948	29.63726
1,005.060	4.37584	2,290.865	0	0.00000	4.37584	29.82989
1,005.070	4.39213	2,306.729	0	0.00000	4.39213	30.02246
1,005.080	4.40837	2,322.594	0	0.00000	4.40837	30.21497
1,005.090	4.42455	2,338.459	0	0.00000	4.42455	30.40742
1,005.100	4.44067	2,354.324	0	0.00000	4.44067	30.59982
1,005.110	4.45673	2,370.188	0	0.00000	4.45673	30.79215
1,005.120	4.47273	2,386.053	0	0.00000	4.47273	30.98443
1,005.130	4.48868	2,401.918	0	0.00000	4.48868	31.17665
1,005.140	4.50457	2,417.782	0	0.00000	4.50457	31.36881
1,005.150	4.52040	2,433.647	0	0.00000	4.52040	31.56092
1,005.160	4.53618	2,449.512	0	0.00000	4.53618	31.75297
1,005.170	4.55190	2,465.376	0	0.00000	4.55190	31.94497
1,005.180	4.56757	2,481.241	0	0.00000	4.56757	32.13692
1,005.190	4.58318	2,497.106	0	0.00000	4.58318	32.32880
1,005.200	4.59875	2,512.971	0	0.00000	4.59875	32.52064
1,005.210	4.61426	2,528.835	0	0.00000	4.61426	32.71243
1,005.220	4.62972	2,544.700	0	0.00000	4.62972	32.90416
1,005.230	4.64512	2,561.556	0	0.00000	4.64512	33.10686
1,005.240	4.66048	2,578.412	0	0.00000	4.66048	33.30951
1,005.250	4.67578	2,595.269	0	0.00000	4.67578	33.51210
1,005.260	4.69104	2,612.125	0	0.00000	4.69104	33.71465
1,005.270	4.70625	2,628.981	0	0.00000	4.70625	33.91715
1,005.280	4.72140	2,645.837	0	0.00000	4.72140	34.11960
1,005.290	4.73651	2,662.694	0	0.00000	4.73651	34.32200
1,005.300	4.75157	2,679.550	0	0.00000	4.75157	34.52435
1,005.310	4.76658	2,696.406	0	0.00000	4.76658	34.72665
1,005.320	4.78155	2,713.263	0	0.00000	4.78155	34.92891

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.330	4.79647	2,730.119	0	0.00000	4.79647	35.13112
1,005.340	4.81134	2,746.975	0	0.00000	4.81134	35.33329
1,005.350	4.82617	2,763.831	0	0.00000	4.82617	35.53540
1,005.360	4.84095	2,780.688	0	0.00000	4.84095	35.73748
1,005.370	4.85569	2,797.544	0	0.00000	4.85569	35.93951
1,005.380	4.87038	2,814.400	0	0.00000	4.87038	36.14149
1,005.390	4.88503	2,830.153	0	0.00000	4.88503	36.33117
1,005.400	4.89963	2,845.906	0	0.00000	4.89963	36.52081
1,005.410	4.91419	2,861.659	0	0.00000	4.91419	36.71040
1,005.420	4.92871	2,877.412	0	0.00000	4.92871	36.89995
1,005.430	4.94318	2,893.165	0	0.00000	4.94318	37.08946
1,005.440	4.95762	2,908.918	0	0.00000	4.95762	37.27892
1,005.450	4.97201	2,924.671	0	0.00000	4.97201	37.46835
1,005.460	4.98636	2,940.424	0	0.00000	4.98636	37.65773
1,005.470	5.00066	2,956.176	0	0.00000	5.00066	37.84707
1,005.480	5.01493	2,971.929	0	0.00000	5.01493	38.03637
1,005.490	5.02916	2,987.682	0	0.00000	5.02916	38.22563
1,005.500	5.04335	3,003.435	0	0.00000	5.04335	38.41485
1,005.510	5.05749	3,019.188	0	0.00000	5.05749	38.60403
1,005.520	5.07160	3,034.941	0	0.00000	5.07160	38.79317
1,005.530	5.08567	3,050.694	0	0.00000	5.08567	38.98227
1,005.540	5.09970	3,066.447	0	0.00000	5.09970	39.17133
1,005.550	5.11369	3,082.200	0	0.00000	5.11369	39.36035
1,005.560	5.12764	3,097.729	0	0.00000	5.12764	39.54686
1,005.570	5.14156	3,113.259	0	0.00000	5.14156	39.73332
1,005.580	5.15543	3,128.788	0	0.00000	5.15543	39.91975
1,005.590	5.16927	3,144.318	0	0.00000	5.16927	40.10614
1,005.600	5.18308	3,159.847	0	0.00000	5.18308	40.29249
1,005.610	5.19684	3,175.376	0	0.00000	5.19684	40.47880
1,005.620	5.21057	3,190.906	0	0.00000	5.21057	40.66508
1,005.630	5.22427	3,206.435	0	0.00000	5.22427	40.85133
1,005.640	5.23793	3,221.965	0	0.00000	5.23793	41.03753
1,005.650	5.25155	3,237.494	0	0.00000	5.25155	41.22370
1,005.660	5.26514	3,253.024	0	0.00000	5.26514	41.40984
1,005.670	5.27869	3,268.553	0	0.00000	5.27869	41.59594
1,005.680	5.29221	3,284.082	0	0.00000	5.29221	41.78201
1,005.690	5.30569	3,299.612	0	0.00000	5.30569	41.96804
1,005.700	5.31914	3,315.141	0	0.00000	5.31914	42.15404
1,005.710	5.33255	3,330.671	0	0.00000	5.33255	42.34000
1,005.720	5.34594	3,346.200	0	0.00000	5.34594	42.52594
1,005.730	5.35928	3,362.331	0	0.00000	5.35928	42.71185
1,005.740	5.37260	3,378.462	0	0.00000	5.37260	42.91107
1,005.750	5.38588	3,394.594	0	0.00000	5.38588	43.10359
1,005.760	5.39913	3,410.725	0	0.00000	5.39913	43.29607
1,005.770	5.41235	3,426.856	0	0.00000	5.41235	43.48853

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.780	5.42553	3,442.987	0	0.00000	5.42553	43.68095
1,005.790	5.43868	3,459.119	0	0.00000	5.43868	43.87334
1,005.800	5.45181	3,475.250	0	0.00000	5.45181	44.06569
1,005.810	5.46490	3,491.381	0	0.00000	5.46490	44.25802
1,005.820	5.47795	3,507.513	0	0.00000	5.47795	44.45031
1,005.830	5.49098	3,523.644	0	0.00000	5.49098	44.64258
1,005.840	5.50398	3,539.775	0	0.00000	5.50398	44.83481
1,005.850	5.51694	3,555.906	0	0.00000	5.51694	45.02701
1,005.860	5.52988	3,572.038	0	0.00000	5.52988	45.21918
1,005.870	5.54278	3,588.169	0	0.00000	5.54278	45.41132
1,005.880	5.55566	3,604.300	0	0.00000	5.55566	45.60344
1,005.890	5.56850	3,619.018	0	0.00000	5.56850	45.77981
1,005.900	5.58132	3,633.735	0	0.00000	5.58132	45.95616
1,005.910	5.59411	3,648.453	0	0.00000	5.59411	46.13247
1,005.920	5.60686	3,663.171	0	0.00000	5.60686	46.30876
1,005.930	5.61959	3,677.888	0	0.00000	5.61959	46.48502
1,005.940	5.63229	3,692.606	0	0.00000	5.63229	46.66125
1,005.950	5.64496	3,707.324	0	0.00000	5.64496	46.83745
1,005.960	5.65761	3,722.041	0	0.00000	5.65761	47.01362
1,005.970	5.67022	3,736.759	0	0.00000	5.67022	47.18976
1,005.980	5.68281	3,751.476	0	0.00000	5.68281	47.36588
1,005.990	5.69537	3,766.194	0	0.00000	5.69537	47.54197
1,006.000	5.70790	3,780.912	0	0.00000	5.70790	47.71803
1,006.010	5.72040	3,795.629	0	0.00000	5.72040	47.89406
1,006.020	5.73288	3,810.347	0	0.00000	5.73288	48.07007
1,006.030	5.74533	3,825.065	0	0.00000	5.74533	48.24604
1,006.040	5.75775	3,839.782	0	0.00000	5.75775	48.42200
1,006.050	5.77014	3,854.500	0	0.00000	5.77014	48.59792
1,006.060	5.78251	3,868.612	0	0.00000	5.78251	48.76709
1,006.070	5.79486	3,882.724	0	0.00000	5.79486	48.93623
1,006.080	5.80717	3,896.835	0	0.00000	5.80717	49.10534
1,006.090	5.81946	3,910.947	0	0.00000	5.81946	49.27443
1,006.100	5.83173	3,925.059	0	0.00000	5.83173	49.44349
1,006.110	5.84397	3,939.171	0	0.00000	5.84397	49.61253
1,006.120	5.85618	3,953.282	0	0.00000	5.85618	49.78154
1,006.130	5.86837	3,967.394	0	0.00000	5.86837	49.95052
1,006.140	5.88053	3,981.506	0	0.00000	5.88053	50.11948
1,006.150	5.89267	3,995.618	0	0.00000	5.89267	50.28842
1,006.160	5.90478	4,009.729	0	0.00000	5.90478	50.45733
1,006.170	5.91687	4,023.841	0	0.00000	5.91687	50.62621
1,006.180	5.92893	4,037.953	0	0.00000	5.92893	50.79507
1,006.190	5.94097	4,052.065	0	0.00000	5.94097	50.96391
1,006.200	5.95298	4,066.176	0	0.00000	5.95298	51.13272
1,006.210	5.96497	4,080.288	0	0.00000	5.96497	51.30151
1,006.220	5.97694	4,094.400	0	0.00000	5.97694	51.47027

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.230	5.98888	4,108.575	0	0.00000	5.98888	51.63971
1,006.240	6.00080	4,122.750	0	0.00000	6.00080	51.80913
1,006.250	6.01269	4,136.925	0	0.00000	6.01269	51.97852
1,006.260	6.02456	4,151.100	0	0.00000	6.02456	52.14790
1,006.270	6.03641	4,165.275	0	0.00000	6.03641	52.31724
1,006.280	6.04824	4,179.450	0	0.00000	6.04824	52.48657
1,006.290	6.06004	4,193.625	0	0.00000	6.06004	52.65587
1,006.300	6.07182	4,207.800	0	0.00000	6.07182	52.82515
1,006.310	6.08357	4,221.975	0	0.00000	6.08357	52.99440
1,006.320	6.09530	4,236.150	0	0.00000	6.09530	53.16364
1,006.330	6.10701	4,250.325	0	0.00000	6.10701	53.33285
1,006.340	6.11870	4,264.500	0	0.00000	6.11870	53.50204
1,006.350	6.13037	4,278.675	0	0.00000	6.13037	53.67120
1,006.360	6.14201	4,292.850	0	0.00000	6.14201	53.84034
1,006.370	6.15363	4,307.025	0	0.00000	6.15363	54.00947
1,006.380	6.16523	4,321.200	0	0.00000	6.16523	54.17857
1,006.390	6.17681	4,333.588	0	0.00000	6.17681	54.32779
1,006.400	6.18837	4,345.976	0	0.00000	6.18837	54.47699
1,006.410	6.19990	4,358.365	0	0.00000	6.19990	54.62618
1,006.420	6.21142	4,370.753	0	0.00000	6.21142	54.77534
1,006.430	6.22291	4,383.141	0	0.00000	6.22291	54.92448
1,006.440	6.23438	4,395.529	0	0.00000	6.23438	55.07359
1,006.450	6.24583	4,407.918	0	0.00000	6.24583	55.22269
1,006.460	6.25726	4,420.306	0	0.00000	6.25726	55.37177
1,006.470	6.26866	4,432.694	0	0.00000	6.26866	55.52082
1,006.480	6.28005	4,445.082	0	0.00000	6.28005	55.66985
1,006.490	6.29142	4,457.471	0	0.00000	6.29142	55.81887
1,006.500	6.30276	4,469.859	0	0.00000	6.30276	55.96786
1,006.510	6.31409	4,482.247	0	0.00000	6.31409	56.11684
1,006.520	6.32540	4,494.635	0	0.00000	6.32540	56.26579
1,006.530	6.33668	4,507.024	0	0.00000	6.33668	56.41472
1,006.540	6.34795	4,519.412	0	0.00000	6.34795	56.56363
1,006.550	6.35919	4,531.800	0	0.00000	6.35919	56.71252
1,006.560	6.37042	4,543.000	0	0.00000	6.37042	56.84819
1,006.570	6.38162	4,554.200	0	0.00000	6.38162	56.98384
1,006.580	6.39281	4,565.400	0	0.00000	6.39281	57.11947
1,006.590	6.40398	4,576.600	0	0.00000	6.40398	57.25509
1,006.600	6.41512	4,587.800	0	0.00000	6.41512	57.39068
1,006.610	6.42625	4,599.000	0	0.00000	6.42625	57.52625
1,006.620	6.43736	4,610.200	0	0.00000	6.43736	57.66180
1,006.630	6.44845	4,621.400	0	0.00000	6.44845	57.79734
1,006.640	6.45952	4,632.600	0	0.00000	6.45952	57.93285
1,006.650	6.47057	4,643.800	0	0.00000	6.47057	58.06835
1,006.660	6.48160	4,655.000	0	0.00000	6.48160	58.20382
1,006.670	6.49262	4,666.200	0	0.00000	6.49262	58.33928

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.680	6.50361	4,677.400	0	0.00000	6.50361	58.47472
1,006.690	6.51459	4,688.600	0	0.00000	6.51459	58.61014
1,006.700	6.52555	4,699.800	0	0.00000	6.52555	58.74555
1,006.710	6.53649	4,711.000	0	0.00000	6.53649	58.88093
1,006.720	6.54741	4,722.200	0	0.00000	6.54741	59.01629
1,006.730	6.55831	4,732.487	0	0.00000	6.55831	59.14150
1,006.740	6.56920	4,742.775	0	0.00000	6.56920	59.26669
1,006.750	6.58006	4,753.062	0	0.00000	6.58006	59.39187
1,006.760	6.59091	4,763.350	0	0.00000	6.59091	59.51702
1,006.770	6.60174	4,773.637	0	0.00000	6.60174	59.64216
1,006.780	6.61256	4,783.925	0	0.00000	6.61256	59.76728
1,006.790	6.62335	4,794.212	0	0.00000	6.62335	59.89238
1,006.800	6.63413	4,804.500	0	0.00000	6.63413	60.01746
1,006.810	6.64489	4,814.787	0	0.00000	6.64489	60.14253
1,006.820	6.65564	4,825.075	0	0.00000	6.65564	60.26758
1,006.830	6.66636	4,835.363	0	0.00000	6.66636	60.39261
1,006.840	6.67707	4,845.650	0	0.00000	6.67707	60.51763
1,006.850	6.68776	4,855.938	0	0.00000	6.68776	60.64262
1,006.860	6.69844	4,866.225	0	0.00000	6.69844	60.76760
1,006.870	6.70910	4,876.513	0	0.00000	6.70910	60.89257
1,006.880	6.71974	4,886.800	0	0.00000	6.71974	61.01751
1,006.890	6.73036	4,894.447	0	0.00000	6.73036	61.11311
1,006.900	6.74097	4,902.094	0	0.00000	6.74097	61.20868
1,006.910	6.75156	4,909.741	0	0.00000	6.75156	61.30424
1,006.920	6.76213	4,917.388	0	0.00000	6.76213	61.39978
1,006.930	6.77269	4,925.035	0	0.00000	6.77269	61.49530
1,006.940	6.78323	4,932.682	0	0.00000	6.78323	61.59081
1,006.950	6.79376	4,940.329	0	0.00000	6.79376	61.68631
1,006.960	6.80426	4,947.976	0	0.00000	6.80426	61.78178
1,006.970	6.81476	4,955.624	0	0.00000	6.81476	61.87724
1,006.980	6.82523	4,963.271	0	0.00000	6.82523	61.97268
1,006.990	6.83569	4,970.918	0	0.00000	6.83569	62.06811
1,007.000	6.84614	4,978.565	0	0.00000	6.84614	62.16352
1,007.010	6.85657	4,986.212	0	0.00000	6.85657	62.25892
1,007.020	6.86698	4,993.859	0	0.00000	6.86698	62.35430
1,007.030	6.87737	5,001.506	0	0.00000	6.87737	62.44966
1,007.040	6.88776	5,009.153	0	0.00000	6.88776	62.54501
1,007.050	6.89812	5,016.800	0	0.00000	6.89812	62.64034
1,007.060	6.90847	5,021.071	0	0.00000	6.90847	62.69814
1,007.070	6.91881	5,025.341	0	0.00000	6.91881	62.75593
1,007.080	6.92912	5,029.612	0	0.00000	6.92912	62.81370
1,007.090	6.93943	5,033.882	0	0.00000	6.93943	62.87145
1,007.100	6.94972	5,038.153	0	0.00000	6.94972	62.92919
1,007.110	6.95999	5,042.424	0	0.00000	6.95999	62.98692
1,007.120	6.97025	5,046.694	0	0.00000	6.97025	63.04463

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,007.130	6.98049	5,050.965	0	0.00000	6.98049	63.10232
1,007.140	6.99072	5,055.235	0	0.00000	6.99072	63.16000
1,007.150	7.00093	5,059.506	0	0.00000	7.00093	63.21766
1,007.160	7.01113	5,063.776	0	0.00000	7.01113	63.27531
1,007.170	7.02131	5,068.047	0	0.00000	7.02131	63.33294
1,007.180	7.03148	5,072.318	0	0.00000	7.03148	63.39056
1,007.190	7.04163	5,076.588	0	0.00000	7.04163	63.44817
1,007.200	7.05177	5,080.859	0	0.00000	7.05177	63.50576
1,007.210	7.06190	5,085.129	0	0.00000	7.06190	63.56333
1,007.220	7.07201	5,089.400	0	0.00000	7.07201	63.62090

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.220	0.00000	0.000	0	0.00000	0.00000	0.00000
1,003.230	0.00033	4.537	0	0.00000	0.00033	0.05074
1,003.240	0.00131	9.075	0	0.00000	0.00131	0.10214
1,003.250	0.00326	13.612	0	0.00000	0.00326	0.15451
1,003.260	0.00522	18.150	0	0.00000	0.00522	0.20689
1,003.270	0.00848	22.687	0	0.00000	0.00848	0.26057
1,003.280	0.01240	27.225	0	0.00000	0.01240	0.31490
1,003.290	0.01697	31.762	0	0.00000	0.01697	0.36988
1,003.300	0.02219	36.300	0	0.00000	0.02219	0.42552
1,003.310	0.02741	40.837	0	0.00000	0.02741	0.48116
1,003.320	0.03393	45.375	0	0.00000	0.03393	0.53810
1,003.330	0.04046	49.913	0	0.00000	0.04046	0.59504
1,003.340	0.04829	54.450	0	0.00000	0.04829	0.65329
1,003.350	0.05743	58.988	0	0.00000	0.05743	0.71284
1,003.360	0.06526	63.525	0	0.00000	0.06526	0.77109
1,003.370	0.07570	68.063	0	0.00000	0.07570	0.83195
1,003.380	0.08614	72.600	0	0.00000	0.08614	0.89281
1,003.390	0.09658	80.247	0	0.00000	0.09658	0.98822
1,003.400	0.10702	87.894	0	0.00000	0.10702	1.08362
1,003.410	0.12008	95.541	0	0.00000	0.12008	1.18164
1,003.420	0.13313	103.188	0	0.00000	0.13313	1.27966
1,003.430	0.14618	110.835	0	0.00000	0.14618	1.37768
1,003.440	0.15923	118.482	0	0.00000	0.15923	1.47570
1,003.450	0.17489	126.129	0	0.00000	0.17489	1.57633
1,003.460	0.18794	133.776	0	0.00000	0.18794	1.67435
1,003.470	0.20361	141.424	0	0.00000	0.20361	1.77498
1,003.480	0.21927	149.071	0	0.00000	0.21927	1.87561
1,003.490	0.23754	156.718	0	0.00000	0.23754	1.97885
1,003.500	0.25581	164.365	0	0.00000	0.25581	2.08209
1,003.510	0.27147	172.012	0	0.00000	0.27147	2.18271
1,003.520	0.29236	179.659	0	0.00000	0.29236	2.28857

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.530	0.30802	187.306	0	0.00000	0.30802	2.38919
1,003.540	0.32890	194.953	0	0.00000	0.32890	2.49504
1,003.550	0.34978	202.600	0	0.00000	0.34978	2.60089
1,003.560	0.37067	212.282	0	0.00000	0.37067	2.72936
1,003.570	0.39155	221.965	0	0.00000	0.39155	2.85782
1,003.580	0.41243	231.647	0	0.00000	0.41243	2.98629
1,003.590	0.43331	241.329	0	0.00000	0.43331	3.11475
1,003.600	0.45681	251.012	0	0.00000	0.45681	3.24583
1,003.610	0.48030	260.694	0	0.00000	0.48030	3.37690
1,003.620	0.50118	270.376	0	0.00000	0.50118	3.50536
1,003.630	0.52729	280.059	0	0.00000	0.52729	3.63905
1,003.640	0.55339	289.741	0	0.00000	0.55339	3.77273
1,003.650	0.57427	299.424	0	0.00000	0.57427	3.90120
1,003.660	0.60037	309.106	0	0.00000	0.60037	4.03488
1,003.670	0.62648	318.788	0	0.00000	0.62648	4.16857
1,003.680	0.65258	328.471	0	0.00000	0.65258	4.30225
1,003.690	0.67868	338.153	0	0.00000	0.67868	4.43594
1,003.700	0.71001	347.835	0	0.00000	0.71001	4.57484
1,003.710	0.73611	357.518	0	0.00000	0.73611	4.70853
1,003.720	0.76221	367.200	0	0.00000	0.76221	4.84221
1,003.730	0.79354	379.094	0	0.00000	0.79354	5.00569
1,003.740	0.82486	390.987	0	0.00000	0.82486	5.16917
1,003.750	0.85096	402.881	0	0.00000	0.85096	5.32742
1,003.760	0.88229	414.775	0	0.00000	0.88229	5.49090
1,003.770	0.91361	426.669	0	0.00000	0.91361	5.65438
1,003.780	0.93972	438.562	0	0.00000	0.93972	5.81263
1,003.790	0.97104	450.456	0	0.00000	0.97104	5.97611
1,003.800	1.00236	462.350	0	0.00000	1.00236	6.13959
1,003.810	1.03369	474.244	0	0.00000	1.03369	6.30306
1,003.820	1.07023	486.138	0	0.00000	1.07023	6.47176
1,003.830	1.10156	498.031	0	0.00000	1.10156	6.63524
1,003.840	1.13288	509.925	0	0.00000	1.13288	6.79871
1,003.850	1.16942	521.819	0	0.00000	1.16942	6.96741
1,003.860	1.20075	533.713	0	0.00000	1.20075	7.13089
1,003.870	1.23207	545.606	0	0.00000	1.23207	7.29436
1,003.880	1.26862	557.500	0	0.00000	1.26862	7.46306
1,003.890	1.30516	569.894	0	0.00000	1.30516	7.63732
1,003.900	1.33648	582.288	0	0.00000	1.33648	7.80635
1,003.910	1.37303	594.682	0	0.00000	1.37303	7.98061
1,003.920	1.40957	607.076	0	0.00000	1.40957	8.15487
1,003.930	1.44612	619.471	0	0.00000	1.44612	8.32912
1,003.940	1.48266	631.865	0	0.00000	1.48266	8.50338
1,003.950	1.51399	644.259	0	0.00000	1.51399	8.67242
1,003.960	1.55575	656.653	0	0.00000	1.55575	8.85189
1,003.970	1.58707	669.047	0	0.00000	1.58707	9.02093

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.980	1.62884	681.441	0	0.00000	1.62884	9.20041
1,003.990	1.66538	693.835	0	0.00000	1.66538	9.37467
1,004.000	1.70193	706.229	0	0.00000	1.70193	9.54892
1,004.010	1.74369	718.624	0	0.00000	1.74369	9.72840
1,004.020	1.78024	731.018	0	0.00000	1.78024	9.90266
1,004.030	1.81678	743.412	0	0.00000	1.81678	10.07691
1,004.040	1.85855	755.806	0	0.00000	1.85855	10.25639
1,004.050	1.89509	768.200	0	0.00000	1.89509	10.43065
1,004.060	1.93164	781.541	0	0.00000	1.93164	10.61543
1,004.070	1.97340	794.882	0	0.00000	1.97340	10.80543
1,004.080	2.01517	808.224	0	0.00000	2.01517	10.99543
1,004.090	2.05171	821.565	0	0.00000	2.05171	11.18021
1,004.100	2.09348	834.906	0	0.00000	2.09348	11.37021
1,004.110	2.13002	848.247	0	0.00000	2.13002	11.55499
1,004.120	2.17179	861.588	0	0.00000	2.17179	11.74499
1,004.130	2.21355	874.929	0	0.00000	2.21355	11.93499
1,004.140	2.25532	888.271	0	0.00000	2.25532	12.12499
1,004.150	2.29708	901.612	0	0.00000	2.29708	12.31499
1,004.160	2.33363	914.953	0	0.00000	2.33363	12.49977
1,004.170	2.37539	928.294	0	0.00000	2.37539	12.68977
1,004.180	2.41716	941.635	0	0.00000	2.41716	12.87977
1,004.190	2.45370	954.976	0	0.00000	2.45370	13.06455
1,004.200	2.49547	968.318	0	0.00000	2.49547	13.25455
1,004.210	2.53723	981.659	0	0.00000	2.53723	13.44455
1,004.220	2.67297	995.000	0	0.00000	2.67297	13.72852
1,004.230	2.69957	1,009.987	0	0.00000	2.69957	13.92165
1,004.240	2.72590	1,024.975	0	0.00000	2.72590	14.11451
1,004.250	2.75199	1,039.962	0	0.00000	2.75199	14.30713
1,004.260	2.77783	1,054.950	0	0.00000	2.77783	14.49950
1,004.270	2.80343	1,069.937	0	0.00000	2.80343	14.69163
1,004.280	2.82880	1,084.925	0	0.00000	2.82880	14.88353
1,004.290	2.85395	1,099.912	0	0.00000	2.85395	15.07520
1,004.300	2.87887	1,114.900	0	0.00000	2.87887	15.26665
1,004.310	2.90359	1,129.887	0	0.00000	2.90359	15.45789
1,004.320	2.92809	1,144.875	0	0.00000	2.92809	15.64892
1,004.330	2.95239	1,159.863	0	0.00000	2.95239	15.83975
1,004.340	2.97649	1,174.850	0	0.00000	2.97649	16.03038
1,004.350	3.00040	1,189.838	0	0.00000	3.00040	16.22081
1,004.360	3.02412	1,204.825	0	0.00000	3.02412	16.41106
1,004.370	3.04765	1,219.813	0	0.00000	3.04765	16.60112
1,004.380	3.07101	1,234.800	0	0.00000	3.07101	16.79101
1,004.390	3.09418	1,249.518	0	0.00000	3.09418	16.97771
1,004.400	3.11719	1,264.235	0	0.00000	3.11719	17.16425
1,004.410	3.14003	1,278.953	0	0.00000	3.14003	17.35061
1,004.420	3.16270	1,293.671	0	0.00000	3.16270	17.53682

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.430	3.18521	1,308.388	0	0.00000	3.18521	17.72286
1,004.440	3.20756	1,323.106	0	0.00000	3.20756	17.90874
1,004.450	3.22976	1,337.824	0	0.00000	3.22976	18.09446
1,004.460	3.25181	1,352.541	0	0.00000	3.25181	18.28004
1,004.470	3.27370	1,367.259	0	0.00000	3.27370	18.46547
1,004.480	3.29546	1,381.976	0	0.00000	3.29546	18.65075
1,004.490	3.31707	1,396.694	0	0.00000	3.31707	18.83589
1,004.500	3.33854	1,411.412	0	0.00000	3.33854	19.02089
1,004.510	3.35987	1,426.129	0	0.00000	3.35987	19.20575
1,004.520	3.38107	1,440.847	0	0.00000	3.38107	19.39048
1,004.530	3.40213	1,455.565	0	0.00000	3.40213	19.57507
1,004.540	3.42307	1,470.282	0	0.00000	3.42307	19.75954
1,004.550	3.44388	1,485.000	0	0.00000	3.44388	19.94388
1,004.560	3.46456	1,500.188	0	0.00000	3.46456	20.13332
1,004.570	3.48512	1,515.376	0	0.00000	3.48512	20.32264
1,004.580	3.50556	1,530.565	0	0.00000	3.50556	20.51184
1,004.590	3.52589	1,545.753	0	0.00000	3.52589	20.70092
1,004.600	3.54609	1,560.941	0	0.00000	3.54609	20.88988
1,004.610	3.56618	1,576.129	0	0.00000	3.56618	21.07873
1,004.620	3.58616	1,591.318	0	0.00000	3.58616	21.26747
1,004.630	3.60603	1,606.506	0	0.00000	3.60603	21.45610
1,004.640	3.62579	1,621.694	0	0.00000	3.62579	21.64461
1,004.650	3.64544	1,636.882	0	0.00000	3.64544	21.83302
1,004.660	3.66499	1,652.071	0	0.00000	3.66499	22.02133
1,004.670	3.68443	1,667.259	0	0.00000	3.68443	22.20953
1,004.680	3.70377	1,682.447	0	0.00000	3.70377	22.39763
1,004.690	3.72301	1,697.635	0	0.00000	3.72301	22.58563
1,004.700	3.74215	1,712.824	0	0.00000	3.74215	22.77353
1,004.710	3.76120	1,728.012	0	0.00000	3.76120	22.96133
1,004.720	3.78015	1,743.200	0	0.00000	3.78015	23.14904
1,004.730	3.79900	1,759.700	0	0.00000	3.79900	23.35122
1,004.740	3.81776	1,776.200	0	0.00000	3.81776	23.55332
1,004.750	3.83643	1,792.700	0	0.00000	3.83643	23.75532
1,004.760	3.85501	1,809.200	0	0.00000	3.85501	23.95723
1,004.770	3.87350	1,825.700	0	0.00000	3.87350	24.15905
1,004.780	3.89190	1,842.200	0	0.00000	3.89190	24.36079
1,004.790	3.91021	1,858.700	0	0.00000	3.91021	24.56244
1,004.800	3.92844	1,875.200	0	0.00000	3.92844	24.76400
1,004.810	3.94659	1,891.700	0	0.00000	3.94659	24.96548
1,004.820	3.96465	1,908.200	0	0.00000	3.96465	25.16687
1,004.830	3.98263	1,924.700	0	0.00000	3.98263	25.36819
1,004.840	4.00053	1,941.200	0	0.00000	4.00053	25.56942
1,004.850	4.01835	1,957.700	0	0.00000	4.01835	25.77057
1,004.860	4.03609	1,974.200	0	0.00000	4.03609	25.97165
1,004.870	4.05376	1,990.700	0	0.00000	4.05376	26.17264

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.880	4.07134	2,007.200	0	0.00000	4.07134	26.37357
1,004.890	4.08885	2,022.953	0	0.00000	4.08885	26.56611
1,004.900	4.10629	2,038.706	0	0.00000	4.10629	26.75858
1,004.910	4.12365	2,054.459	0	0.00000	4.12365	26.95097
1,004.920	4.14094	2,070.212	0	0.00000	4.14094	27.14330
1,004.930	4.15816	2,085.965	0	0.00000	4.15816	27.33555
1,004.940	4.17531	2,101.718	0	0.00000	4.17531	27.52773
1,004.950	4.19239	2,117.471	0	0.00000	4.19239	27.71984
1,004.960	4.20939	2,133.224	0	0.00000	4.20939	27.91188
1,004.970	4.22633	2,148.976	0	0.00000	4.22633	28.10385
1,004.980	4.24320	2,164.729	0	0.00000	4.24320	28.29575
1,004.990	4.26001	2,180.482	0	0.00000	4.26001	28.48759
1,005.000	4.27675	2,196.235	0	0.00000	4.27675	28.67936
1,005.010	4.29342	2,211.988	0	0.00000	4.29342	28.87107
1,005.020	4.31003	2,227.741	0	0.00000	4.31003	29.06271
1,005.030	4.32658	2,243.494	0	0.00000	4.32658	29.25429
1,005.040	4.34306	2,259.247	0	0.00000	4.34306	29.44580
1,005.050	4.35948	2,275.000	0	0.00000	4.35948	29.63726
1,005.060	4.37584	2,290.865	0	0.00000	4.37584	29.82989
1,005.070	4.39213	2,306.729	0	0.00000	4.39213	30.02246
1,005.080	4.40837	2,322.594	0	0.00000	4.40837	30.21497
1,005.090	4.42455	2,338.459	0	0.00000	4.42455	30.40742
1,005.100	4.44067	2,354.324	0	0.00000	4.44067	30.59982
1,005.110	4.45673	2,370.188	0	0.00000	4.45673	30.79215
1,005.120	4.47273	2,386.053	0	0.00000	4.47273	30.98443
1,005.130	4.48868	2,401.918	0	0.00000	4.48868	31.17665
1,005.140	4.50457	2,417.782	0	0.00000	4.50457	31.36881
1,005.150	4.52040	2,433.647	0	0.00000	4.52040	31.56092
1,005.160	4.53618	2,449.512	0	0.00000	4.53618	31.75297
1,005.170	4.55190	2,465.376	0	0.00000	4.55190	31.94497
1,005.180	4.56757	2,481.241	0	0.00000	4.56757	32.13692
1,005.190	4.58318	2,497.106	0	0.00000	4.58318	32.32880
1,005.200	4.59875	2,512.971	0	0.00000	4.59875	32.52064
1,005.210	4.61426	2,528.835	0	0.00000	4.61426	32.71243
1,005.220	4.62972	2,544.700	0	0.00000	4.62972	32.90416
1,005.230	4.64512	2,561.556	0	0.00000	4.64512	33.10686
1,005.240	4.66048	2,578.412	0	0.00000	4.66048	33.30951
1,005.250	4.67578	2,595.269	0	0.00000	4.67578	33.51210
1,005.260	4.69104	2,612.125	0	0.00000	4.69104	33.71465
1,005.270	4.70625	2,628.981	0	0.00000	4.70625	33.91715
1,005.280	4.72140	2,645.837	0	0.00000	4.72140	34.11960
1,005.290	4.73651	2,662.694	0	0.00000	4.73651	34.32200
1,005.300	4.75157	2,679.550	0	0.00000	4.75157	34.52435
1,005.310	4.76658	2,696.406	0	0.00000	4.76658	34.72665
1,005.320	4.78155	2,713.263	0	0.00000	4.78155	34.92891

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.330	4.79647	2,730.119	0	0.00000	4.79647	35.13112
1,005.340	4.81134	2,746.975	0	0.00000	4.81134	35.33329
1,005.350	4.82617	2,763.831	0	0.00000	4.82617	35.53540
1,005.360	4.84095	2,780.688	0	0.00000	4.84095	35.73748
1,005.370	4.85569	2,797.544	0	0.00000	4.85569	35.93951
1,005.380	4.87038	2,814.400	0	0.00000	4.87038	36.14149
1,005.390	4.88503	2,830.153	0	0.00000	4.88503	36.33117
1,005.400	4.89963	2,845.906	0	0.00000	4.89963	36.52081
1,005.410	4.91419	2,861.659	0	0.00000	4.91419	36.71040
1,005.420	4.92871	2,877.412	0	0.00000	4.92871	36.89995
1,005.430	4.94318	2,893.165	0	0.00000	4.94318	37.08946
1,005.440	4.95762	2,908.918	0	0.00000	4.95762	37.27892
1,005.450	4.97201	2,924.671	0	0.00000	4.97201	37.46835
1,005.460	4.98636	2,940.424	0	0.00000	4.98636	37.65773
1,005.470	5.00066	2,956.176	0	0.00000	5.00066	37.84707
1,005.480	5.01493	2,971.929	0	0.00000	5.01493	38.03637
1,005.490	5.02916	2,987.682	0	0.00000	5.02916	38.22563
1,005.500	5.04335	3,003.435	0	0.00000	5.04335	38.41485
1,005.510	5.05749	3,019.188	0	0.00000	5.05749	38.60403
1,005.520	5.07160	3,034.941	0	0.00000	5.07160	38.79317
1,005.530	5.08567	3,050.694	0	0.00000	5.08567	38.98227
1,005.540	5.09970	3,066.447	0	0.00000	5.09970	39.17133
1,005.550	5.11369	3,082.200	0	0.00000	5.11369	39.36035
1,005.560	5.12764	3,097.729	0	0.00000	5.12764	39.54686
1,005.570	5.14156	3,113.259	0	0.00000	5.14156	39.73332
1,005.580	5.15543	3,128.788	0	0.00000	5.15543	39.91975
1,005.590	5.16927	3,144.318	0	0.00000	5.16927	40.10614
1,005.600	5.18308	3,159.847	0	0.00000	5.18308	40.29249
1,005.610	5.19684	3,175.376	0	0.00000	5.19684	40.47880
1,005.620	5.21057	3,190.906	0	0.00000	5.21057	40.66508
1,005.630	5.22427	3,206.435	0	0.00000	5.22427	40.85133
1,005.640	5.23793	3,221.965	0	0.00000	5.23793	41.03753
1,005.650	5.25155	3,237.494	0	0.00000	5.25155	41.22370
1,005.660	5.26514	3,253.024	0	0.00000	5.26514	41.40984
1,005.670	5.27869	3,268.553	0	0.00000	5.27869	41.59594
1,005.680	5.29221	3,284.082	0	0.00000	5.29221	41.78201
1,005.690	5.30569	3,299.612	0	0.00000	5.30569	41.96804
1,005.700	5.31914	3,315.141	0	0.00000	5.31914	42.15404
1,005.710	5.33255	3,330.671	0	0.00000	5.33255	42.34000
1,005.720	5.34594	3,346.200	0	0.00000	5.34594	42.52594
1,005.730	5.35928	3,362.331	0	0.00000	5.35928	42.71185
1,005.740	5.37260	3,378.462	0	0.00000	5.37260	42.91107
1,005.750	5.38588	3,394.594	0	0.00000	5.38588	43.10359
1,005.760	5.39913	3,410.725	0	0.00000	5.39913	43.29607
1,005.770	5.41235	3,426.856	0	0.00000	5.41235	43.48853

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.780	5.42553	3,442.987	0	0.00000	5.42553	43.68095
1,005.790	5.43868	3,459.119	0	0.00000	5.43868	43.87334
1,005.800	5.45181	3,475.250	0	0.00000	5.45181	44.06569
1,005.810	5.46490	3,491.381	0	0.00000	5.46490	44.25802
1,005.820	5.47795	3,507.513	0	0.00000	5.47795	44.45031
1,005.830	5.49098	3,523.644	0	0.00000	5.49098	44.64258
1,005.840	5.50398	3,539.775	0	0.00000	5.50398	44.83481
1,005.850	5.51694	3,555.906	0	0.00000	5.51694	45.02701
1,005.860	5.52988	3,572.038	0	0.00000	5.52988	45.21918
1,005.870	5.54278	3,588.169	0	0.00000	5.54278	45.41132
1,005.880	5.55566	3,604.300	0	0.00000	5.55566	45.60344
1,005.890	5.56850	3,619.018	0	0.00000	5.56850	45.77981
1,005.900	5.58132	3,633.735	0	0.00000	5.58132	45.95616
1,005.910	5.59411	3,648.453	0	0.00000	5.59411	46.13247
1,005.920	5.60686	3,663.171	0	0.00000	5.60686	46.30876
1,005.930	5.61959	3,677.888	0	0.00000	5.61959	46.48502
1,005.940	5.63229	3,692.606	0	0.00000	5.63229	46.66125
1,005.950	5.64496	3,707.324	0	0.00000	5.64496	46.83745
1,005.960	5.65761	3,722.041	0	0.00000	5.65761	47.01362
1,005.970	5.67022	3,736.759	0	0.00000	5.67022	47.18976
1,005.980	5.68281	3,751.476	0	0.00000	5.68281	47.36588
1,005.990	5.69537	3,766.194	0	0.00000	5.69537	47.54197
1,006.000	5.70790	3,780.912	0	0.00000	5.70790	47.71803
1,006.010	5.72040	3,795.629	0	0.00000	5.72040	47.89406
1,006.020	5.73288	3,810.347	0	0.00000	5.73288	48.07007
1,006.030	5.74533	3,825.065	0	0.00000	5.74533	48.24604
1,006.040	5.75775	3,839.782	0	0.00000	5.75775	48.42200
1,006.050	5.77014	3,854.500	0	0.00000	5.77014	48.59792
1,006.060	5.78251	3,868.612	0	0.00000	5.78251	48.76709
1,006.070	5.79486	3,882.724	0	0.00000	5.79486	48.93623
1,006.080	5.80717	3,896.835	0	0.00000	5.80717	49.10534
1,006.090	5.81946	3,910.947	0	0.00000	5.81946	49.27443
1,006.100	5.83173	3,925.059	0	0.00000	5.83173	49.44349
1,006.110	5.84397	3,939.171	0	0.00000	5.84397	49.61253
1,006.120	5.85618	3,953.282	0	0.00000	5.85618	49.78154
1,006.130	5.86837	3,967.394	0	0.00000	5.86837	49.95052
1,006.140	5.88053	3,981.506	0	0.00000	5.88053	50.11948
1,006.150	5.89267	3,995.618	0	0.00000	5.89267	50.28842
1,006.160	5.90478	4,009.729	0	0.00000	5.90478	50.45733
1,006.170	5.91687	4,023.841	0	0.00000	5.91687	50.62621
1,006.180	5.92893	4,037.953	0	0.00000	5.92893	50.79507
1,006.190	5.94097	4,052.065	0	0.00000	5.94097	50.96391
1,006.200	5.95298	4,066.176	0	0.00000	5.95298	51.13272
1,006.210	5.96497	4,080.288	0	0.00000	5.96497	51.30151
1,006.220	5.97694	4,094.400	0	0.00000	5.97694	51.47027

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.230	5.98888	4,108.575	0	0.00000	5.98888	51.63971
1,006.240	6.00080	4,122.750	0	0.00000	6.00080	51.80913
1,006.250	6.01269	4,136.925	0	0.00000	6.01269	51.97852
1,006.260	6.02456	4,151.100	0	0.00000	6.02456	52.14790
1,006.270	6.03641	4,165.275	0	0.00000	6.03641	52.31724
1,006.280	6.04824	4,179.450	0	0.00000	6.04824	52.48657
1,006.290	6.06004	4,193.625	0	0.00000	6.06004	52.65587
1,006.300	6.07182	4,207.800	0	0.00000	6.07182	52.82515
1,006.310	6.08357	4,221.975	0	0.00000	6.08357	52.99440
1,006.320	6.09530	4,236.150	0	0.00000	6.09530	53.16364
1,006.330	6.10701	4,250.325	0	0.00000	6.10701	53.33285
1,006.340	6.11870	4,264.500	0	0.00000	6.11870	53.50204
1,006.350	6.13037	4,278.675	0	0.00000	6.13037	53.67120
1,006.360	6.14201	4,292.850	0	0.00000	6.14201	53.84034
1,006.370	6.15363	4,307.025	0	0.00000	6.15363	54.00947
1,006.380	6.16523	4,321.200	0	0.00000	6.16523	54.17857
1,006.390	6.17681	4,333.588	0	0.00000	6.17681	54.32779
1,006.400	6.18837	4,345.976	0	0.00000	6.18837	54.47699
1,006.410	6.19990	4,358.365	0	0.00000	6.19990	54.62618
1,006.420	6.21142	4,370.753	0	0.00000	6.21142	54.77534
1,006.430	6.22291	4,383.141	0	0.00000	6.22291	54.92448
1,006.440	6.23438	4,395.529	0	0.00000	6.23438	55.07359
1,006.450	6.24583	4,407.918	0	0.00000	6.24583	55.22269
1,006.460	6.25726	4,420.306	0	0.00000	6.25726	55.37177
1,006.470	6.26866	4,432.694	0	0.00000	6.26866	55.52082
1,006.480	6.28005	4,445.082	0	0.00000	6.28005	55.66985
1,006.490	6.29142	4,457.471	0	0.00000	6.29142	55.81887
1,006.500	6.30276	4,469.859	0	0.00000	6.30276	55.96786
1,006.510	6.31409	4,482.247	0	0.00000	6.31409	56.11684
1,006.520	6.32540	4,494.635	0	0.00000	6.32540	56.26579
1,006.530	6.33668	4,507.024	0	0.00000	6.33668	56.41472
1,006.540	6.34795	4,519.412	0	0.00000	6.34795	56.56363
1,006.550	6.35919	4,531.800	0	0.00000	6.35919	56.71252
1,006.560	6.37042	4,543.000	0	0.00000	6.37042	56.84819
1,006.570	6.38162	4,554.200	0	0.00000	6.38162	56.98384
1,006.580	6.39281	4,565.400	0	0.00000	6.39281	57.11947
1,006.590	6.40398	4,576.600	0	0.00000	6.40398	57.25509
1,006.600	6.41512	4,587.800	0	0.00000	6.41512	57.39068
1,006.610	6.42625	4,599.000	0	0.00000	6.42625	57.52625
1,006.620	6.43736	4,610.200	0	0.00000	6.43736	57.66180
1,006.630	6.44845	4,621.400	0	0.00000	6.44845	57.79734
1,006.640	6.45952	4,632.600	0	0.00000	6.45952	57.93285
1,006.650	6.47057	4,643.800	0	0.00000	6.47057	58.06835
1,006.660	6.48160	4,655.000	0	0.00000	6.48160	58.20382
1,006.670	6.49262	4,666.200	0	0.00000	6.49262	58.33928

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.680	6.50361	4,677.400	0	0.00000	6.50361	58.47472
1,006.690	6.51459	4,688.600	0	0.00000	6.51459	58.61014
1,006.700	6.52555	4,699.800	0	0.00000	6.52555	58.74555
1,006.710	6.53649	4,711.000	0	0.00000	6.53649	58.88093
1,006.720	6.54741	4,722.200	0	0.00000	6.54741	59.01629
1,006.730	6.55831	4,732.487	0	0.00000	6.55831	59.14150
1,006.740	6.56920	4,742.775	0	0.00000	6.56920	59.26669
1,006.750	6.58006	4,753.062	0	0.00000	6.58006	59.39187
1,006.760	6.59091	4,763.350	0	0.00000	6.59091	59.51702
1,006.770	6.60174	4,773.637	0	0.00000	6.60174	59.64216
1,006.780	6.61256	4,783.925	0	0.00000	6.61256	59.76728
1,006.790	6.62335	4,794.212	0	0.00000	6.62335	59.89238
1,006.800	6.63413	4,804.500	0	0.00000	6.63413	60.01746
1,006.810	6.64489	4,814.787	0	0.00000	6.64489	60.14253
1,006.820	6.65564	4,825.075	0	0.00000	6.65564	60.26758
1,006.830	6.66636	4,835.363	0	0.00000	6.66636	60.39261
1,006.840	6.67707	4,845.650	0	0.00000	6.67707	60.51763
1,006.850	6.68776	4,855.938	0	0.00000	6.68776	60.64262
1,006.860	6.69844	4,866.225	0	0.00000	6.69844	60.76760
1,006.870	6.70910	4,876.513	0	0.00000	6.70910	60.89257
1,006.880	6.71974	4,886.800	0	0.00000	6.71974	61.01751
1,006.890	6.73036	4,894.447	0	0.00000	6.73036	61.11311
1,006.900	6.74097	4,902.094	0	0.00000	6.74097	61.20868
1,006.910	6.75156	4,909.741	0	0.00000	6.75156	61.30424
1,006.920	6.76213	4,917.388	0	0.00000	6.76213	61.39978
1,006.930	6.77269	4,925.035	0	0.00000	6.77269	61.49530
1,006.940	6.78323	4,932.682	0	0.00000	6.78323	61.59081
1,006.950	6.79376	4,940.329	0	0.00000	6.79376	61.68631
1,006.960	6.80426	4,947.976	0	0.00000	6.80426	61.78178
1,006.970	6.81476	4,955.624	0	0.00000	6.81476	61.87724
1,006.980	6.82523	4,963.271	0	0.00000	6.82523	61.97268
1,006.990	6.83569	4,970.918	0	0.00000	6.83569	62.06811
1,007.000	6.84614	4,978.565	0	0.00000	6.84614	62.16352
1,007.010	6.85657	4,986.212	0	0.00000	6.85657	62.25892
1,007.020	6.86698	4,993.859	0	0.00000	6.86698	62.35430
1,007.030	6.87737	5,001.506	0	0.00000	6.87737	62.44966
1,007.040	6.88776	5,009.153	0	0.00000	6.88776	62.54501
1,007.050	6.89812	5,016.800	0	0.00000	6.89812	62.64034
1,007.060	6.90847	5,021.071	0	0.00000	6.90847	62.69814
1,007.070	6.91881	5,025.341	0	0.00000	6.91881	62.75593
1,007.080	6.92912	5,029.612	0	0.00000	6.92912	62.81370
1,007.090	6.93943	5,033.882	0	0.00000	6.93943	62.87145
1,007.100	6.94972	5,038.153	0	0.00000	6.94972	62.92919
1,007.110	6.95999	5,042.424	0	0.00000	6.95999	62.98692
1,007.120	6.97025	5,046.694	0	0.00000	6.97025	63.04463

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 3 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,007.130	6.98049	5,050.965	0	0.00000	6.98049	63.10232
1,007.140	6.99072	5,055.235	0	0.00000	6.99072	63.16000
1,007.150	7.00093	5,059.506	0	0.00000	7.00093	63.21766
1,007.160	7.01113	5,063.776	0	0.00000	7.01113	63.27531
1,007.170	7.02131	5,068.047	0	0.00000	7.02131	63.33294
1,007.180	7.03148	5,072.318	0	0.00000	7.03148	63.39056
1,007.190	7.04163	5,076.588	0	0.00000	7.04163	63.44817
1,007.200	7.05177	5,080.859	0	0.00000	7.05177	63.50576
1,007.210	7.06190	5,085.129	0	0.00000	7.06190	63.56333
1,007.220	7.07201	5,089.400	0	0.00000	7.07201	63.62090

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.220	0.00000	0.000	0	0.00000	0.00000	0.00000
1,003.230	0.00033	4.537	0	0.00000	0.00033	0.05074
1,003.240	0.00131	9.075	0	0.00000	0.00131	0.10214
1,003.250	0.00326	13.612	0	0.00000	0.00326	0.15451
1,003.260	0.00522	18.150	0	0.00000	0.00522	0.20689
1,003.270	0.00848	22.687	0	0.00000	0.00848	0.26057
1,003.280	0.01240	27.225	0	0.00000	0.01240	0.31490
1,003.290	0.01697	31.762	0	0.00000	0.01697	0.36988
1,003.300	0.02219	36.300	0	0.00000	0.02219	0.42552
1,003.310	0.02741	40.837	0	0.00000	0.02741	0.48116
1,003.320	0.03393	45.375	0	0.00000	0.03393	0.53810
1,003.330	0.04046	49.913	0	0.00000	0.04046	0.59504
1,003.340	0.04829	54.450	0	0.00000	0.04829	0.65329
1,003.350	0.05743	58.988	0	0.00000	0.05743	0.71284
1,003.360	0.06526	63.525	0	0.00000	0.06526	0.77109
1,003.370	0.07570	68.063	0	0.00000	0.07570	0.83195
1,003.380	0.08614	72.600	0	0.00000	0.08614	0.89281
1,003.390	0.09658	80.247	0	0.00000	0.09658	0.98822
1,003.400	0.10702	87.894	0	0.00000	0.10702	1.08362
1,003.410	0.12008	95.541	0	0.00000	0.12008	1.18164
1,003.420	0.13313	103.188	0	0.00000	0.13313	1.27966
1,003.430	0.14618	110.835	0	0.00000	0.14618	1.37768
1,003.440	0.15923	118.482	0	0.00000	0.15923	1.47570
1,003.450	0.17489	126.129	0	0.00000	0.17489	1.57633
1,003.460	0.18794	133.776	0	0.00000	0.18794	1.67435
1,003.470	0.20361	141.424	0	0.00000	0.20361	1.77498
1,003.480	0.21927	149.071	0	0.00000	0.21927	1.87561
1,003.490	0.23754	156.718	0	0.00000	0.23754	1.97885
1,003.500	0.25581	164.365	0	0.00000	0.25581	2.08209
1,003.510	0.27147	172.012	0	0.00000	0.27147	2.18271
1,003.520	0.29236	179.659	0	0.00000	0.29236	2.28857

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.530	0.30802	187.306	0	0.00000	0.30802	2.38919
1,003.540	0.32890	194.953	0	0.00000	0.32890	2.49504
1,003.550	0.34978	202.600	0	0.00000	0.34978	2.60089
1,003.560	0.37067	212.282	0	0.00000	0.37067	2.72936
1,003.570	0.39155	221.965	0	0.00000	0.39155	2.85782
1,003.580	0.41243	231.647	0	0.00000	0.41243	2.98629
1,003.590	0.43331	241.329	0	0.00000	0.43331	3.11475
1,003.600	0.45681	251.012	0	0.00000	0.45681	3.24583
1,003.610	0.48030	260.694	0	0.00000	0.48030	3.37690
1,003.620	0.50118	270.376	0	0.00000	0.50118	3.50536
1,003.630	0.52729	280.059	0	0.00000	0.52729	3.63905
1,003.640	0.55339	289.741	0	0.00000	0.55339	3.77273
1,003.650	0.57427	299.424	0	0.00000	0.57427	3.90120
1,003.660	0.60037	309.106	0	0.00000	0.60037	4.03488
1,003.670	0.62648	318.788	0	0.00000	0.62648	4.16857
1,003.680	0.65258	328.471	0	0.00000	0.65258	4.30225
1,003.690	0.67868	338.153	0	0.00000	0.67868	4.43594
1,003.700	0.71001	347.835	0	0.00000	0.71001	4.57484
1,003.710	0.73611	357.518	0	0.00000	0.73611	4.70853
1,003.720	0.76221	367.200	0	0.00000	0.76221	4.84221
1,003.730	0.79354	379.094	0	0.00000	0.79354	5.00569
1,003.740	0.82486	390.987	0	0.00000	0.82486	5.16917
1,003.750	0.85096	402.881	0	0.00000	0.85096	5.32742
1,003.760	0.88229	414.775	0	0.00000	0.88229	5.49090
1,003.770	0.91361	426.669	0	0.00000	0.91361	5.65438
1,003.780	0.93972	438.562	0	0.00000	0.93972	5.81263
1,003.790	0.97104	450.456	0	0.00000	0.97104	5.97611
1,003.800	1.00236	462.350	0	0.00000	1.00236	6.13959
1,003.810	1.03369	474.244	0	0.00000	1.03369	6.30306
1,003.820	1.07023	486.138	0	0.00000	1.07023	6.47176
1,003.830	1.10156	498.031	0	0.00000	1.10156	6.63524
1,003.840	1.13288	509.925	0	0.00000	1.13288	6.79871
1,003.850	1.16942	521.819	0	0.00000	1.16942	6.96741
1,003.860	1.20075	533.713	0	0.00000	1.20075	7.13089
1,003.870	1.23207	545.606	0	0.00000	1.23207	7.29436
1,003.880	1.26862	557.500	0	0.00000	1.26862	7.46306
1,003.890	1.30516	569.894	0	0.00000	1.30516	7.63732
1,003.900	1.33648	582.288	0	0.00000	1.33648	7.80635
1,003.910	1.37303	594.682	0	0.00000	1.37303	7.98061
1,003.920	1.40957	607.076	0	0.00000	1.40957	8.15487
1,003.930	1.44612	619.471	0	0.00000	1.44612	8.32912
1,003.940	1.48266	631.865	0	0.00000	1.48266	8.50338
1,003.950	1.51399	644.259	0	0.00000	1.51399	8.67242
1,003.960	1.55575	656.653	0	0.00000	1.55575	8.85189
1,003.970	1.58707	669.047	0	0.00000	1.58707	9.02093

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,003.980	1.62884	681.441	0	0.00000	1.62884	9.20041
1,003.990	1.66538	693.835	0	0.00000	1.66538	9.37467
1,004.000	1.70193	706.229	0	0.00000	1.70193	9.54892
1,004.010	1.74369	718.624	0	0.00000	1.74369	9.72840
1,004.020	1.78024	731.018	0	0.00000	1.78024	9.90266
1,004.030	1.81678	743.412	0	0.00000	1.81678	10.07691
1,004.040	1.85855	755.806	0	0.00000	1.85855	10.25639
1,004.050	1.89509	768.200	0	0.00000	1.89509	10.43065
1,004.060	1.93164	781.541	0	0.00000	1.93164	10.61543
1,004.070	1.97340	794.882	0	0.00000	1.97340	10.80543
1,004.080	2.01517	808.224	0	0.00000	2.01517	10.99543
1,004.090	2.05171	821.565	0	0.00000	2.05171	11.18021
1,004.100	2.09348	834.906	0	0.00000	2.09348	11.37021
1,004.110	2.13002	848.247	0	0.00000	2.13002	11.55499
1,004.120	2.17179	861.588	0	0.00000	2.17179	11.74499
1,004.130	2.21355	874.929	0	0.00000	2.21355	11.93499
1,004.140	2.25532	888.271	0	0.00000	2.25532	12.12499
1,004.150	2.29708	901.612	0	0.00000	2.29708	12.31499
1,004.160	2.33363	914.953	0	0.00000	2.33363	12.49977
1,004.170	2.37539	928.294	0	0.00000	2.37539	12.68977
1,004.180	2.41716	941.635	0	0.00000	2.41716	12.87977
1,004.190	2.45370	954.976	0	0.00000	2.45370	13.06455
1,004.200	2.49547	968.318	0	0.00000	2.49547	13.25455
1,004.210	2.53723	981.659	0	0.00000	2.53723	13.44455
1,004.220	2.67297	995.000	0	0.00000	2.67297	13.72852
1,004.230	2.69957	1,009.987	0	0.00000	2.69957	13.92165
1,004.240	2.72590	1,024.975	0	0.00000	2.72590	14.11451
1,004.250	2.75199	1,039.962	0	0.00000	2.75199	14.30713
1,004.260	2.77783	1,054.950	0	0.00000	2.77783	14.49950
1,004.270	2.80343	1,069.937	0	0.00000	2.80343	14.69163
1,004.280	2.82880	1,084.925	0	0.00000	2.82880	14.88353
1,004.290	2.85395	1,099.912	0	0.00000	2.85395	15.07520
1,004.300	2.87887	1,114.900	0	0.00000	2.87887	15.26665
1,004.310	2.90359	1,129.887	0	0.00000	2.90359	15.45789
1,004.320	2.92809	1,144.875	0	0.00000	2.92809	15.64892
1,004.330	2.95239	1,159.863	0	0.00000	2.95239	15.83975
1,004.340	2.97649	1,174.850	0	0.00000	2.97649	16.03038
1,004.350	3.00040	1,189.838	0	0.00000	3.00040	16.22081
1,004.360	3.02412	1,204.825	0	0.00000	3.02412	16.41106
1,004.370	3.04765	1,219.813	0	0.00000	3.04765	16.60112
1,004.380	3.07101	1,234.800	0	0.00000	3.07101	16.79101
1,004.390	3.09418	1,249.518	0	0.00000	3.09418	16.97771
1,004.400	3.11719	1,264.235	0	0.00000	3.11719	17.16425
1,004.410	3.14003	1,278.953	0	0.00000	3.14003	17.35061
1,004.420	3.16270	1,293.671	0	0.00000	3.16270	17.53682

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.430	3.18521	1,308.388	0	0.00000	3.18521	17.72286
1,004.440	3.20756	1,323.106	0	0.00000	3.20756	17.90874
1,004.450	3.22976	1,337.824	0	0.00000	3.22976	18.09446
1,004.460	3.25181	1,352.541	0	0.00000	3.25181	18.28004
1,004.470	3.27370	1,367.259	0	0.00000	3.27370	18.46547
1,004.480	3.29546	1,381.976	0	0.00000	3.29546	18.65075
1,004.490	3.31707	1,396.694	0	0.00000	3.31707	18.83589
1,004.500	3.33854	1,411.412	0	0.00000	3.33854	19.02089
1,004.510	3.35987	1,426.129	0	0.00000	3.35987	19.20575
1,004.520	3.38107	1,440.847	0	0.00000	3.38107	19.39048
1,004.530	3.40213	1,455.565	0	0.00000	3.40213	19.57507
1,004.540	3.42307	1,470.282	0	0.00000	3.42307	19.75954
1,004.550	3.44388	1,485.000	0	0.00000	3.44388	19.94388
1,004.560	3.46456	1,500.188	0	0.00000	3.46456	20.13332
1,004.570	3.48512	1,515.376	0	0.00000	3.48512	20.32264
1,004.580	3.50556	1,530.565	0	0.00000	3.50556	20.51184
1,004.590	3.52589	1,545.753	0	0.00000	3.52589	20.70092
1,004.600	3.54609	1,560.941	0	0.00000	3.54609	20.88988
1,004.610	3.56618	1,576.129	0	0.00000	3.56618	21.07873
1,004.620	3.58616	1,591.318	0	0.00000	3.58616	21.26747
1,004.630	3.60603	1,606.506	0	0.00000	3.60603	21.45610
1,004.640	3.62579	1,621.694	0	0.00000	3.62579	21.64461
1,004.650	3.64544	1,636.882	0	0.00000	3.64544	21.83302
1,004.660	3.66499	1,652.071	0	0.00000	3.66499	22.02133
1,004.670	3.68443	1,667.259	0	0.00000	3.68443	22.20953
1,004.680	3.70377	1,682.447	0	0.00000	3.70377	22.39763
1,004.690	3.72301	1,697.635	0	0.00000	3.72301	22.58563
1,004.700	3.74215	1,712.824	0	0.00000	3.74215	22.77353
1,004.710	3.76120	1,728.012	0	0.00000	3.76120	22.96133
1,004.720	3.78015	1,743.200	0	0.00000	3.78015	23.14904
1,004.730	3.79900	1,759.700	0	0.00000	3.79900	23.33512
1,004.740	3.81776	1,776.200	0	0.00000	3.81776	23.52332
1,004.750	3.83643	1,792.700	0	0.00000	3.83643	23.71532
1,004.760	3.85501	1,809.200	0	0.00000	3.85501	23.91223
1,004.770	3.87350	1,825.700	0	0.00000	3.87350	24.11505
1,004.780	3.89190	1,842.200	0	0.00000	3.89190	24.32679
1,004.790	3.91021	1,858.700	0	0.00000	3.91021	24.54624
1,004.800	3.92844	1,875.200	0	0.00000	3.92844	24.77400
1,004.810	3.94659	1,891.700	0	0.00000	3.94659	24.96548
1,004.820	3.96465	1,908.200	0	0.00000	3.96465	25.16687
1,004.830	3.98263	1,924.700	0	0.00000	3.98263	25.36819
1,004.840	4.00053	1,941.200	0	0.00000	4.00053	25.56942
1,004.850	4.01835	1,957.700	0	0.00000	4.01835	25.77057
1,004.860	4.03609	1,974.200	0	0.00000	4.03609	25.97165
1,004.870	4.05376	1,990.700	0	0.00000	4.05376	26.17264

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,004.880	4.07134	2,007.200	0	0.00000	4.07134	26.37357
1,004.890	4.08885	2,022.953	0	0.00000	4.08885	26.56611
1,004.900	4.10629	2,038.706	0	0.00000	4.10629	26.75858
1,004.910	4.12365	2,054.459	0	0.00000	4.12365	26.95097
1,004.920	4.14094	2,070.212	0	0.00000	4.14094	27.14330
1,004.930	4.15816	2,085.965	0	0.00000	4.15816	27.33555
1,004.940	4.17531	2,101.718	0	0.00000	4.17531	27.52773
1,004.950	4.19239	2,117.471	0	0.00000	4.19239	27.71984
1,004.960	4.20939	2,133.224	0	0.00000	4.20939	27.91188
1,004.970	4.22633	2,148.976	0	0.00000	4.22633	28.10385
1,004.980	4.24320	2,164.729	0	0.00000	4.24320	28.29575
1,004.990	4.26001	2,180.482	0	0.00000	4.26001	28.48759
1,005.000	4.27675	2,196.235	0	0.00000	4.27675	28.67936
1,005.010	4.29342	2,211.988	0	0.00000	4.29342	28.87107
1,005.020	4.31003	2,227.741	0	0.00000	4.31003	29.06271
1,005.030	4.32658	2,243.494	0	0.00000	4.32658	29.25429
1,005.040	4.34306	2,259.247	0	0.00000	4.34306	29.44580
1,005.050	4.35948	2,275.000	0	0.00000	4.35948	29.63726
1,005.060	4.37584	2,290.865	0	0.00000	4.37584	29.82989
1,005.070	4.39213	2,306.729	0	0.00000	4.39213	30.02246
1,005.080	4.40837	2,322.594	0	0.00000	4.40837	30.21497
1,005.090	4.42455	2,338.459	0	0.00000	4.42455	30.40742
1,005.100	4.44067	2,354.324	0	0.00000	4.44067	30.59982
1,005.110	4.45673	2,370.188	0	0.00000	4.45673	30.79215
1,005.120	4.47273	2,386.053	0	0.00000	4.47273	30.98443
1,005.130	4.48868	2,401.918	0	0.00000	4.48868	31.17665
1,005.140	4.50457	2,417.782	0	0.00000	4.50457	31.36881
1,005.150	4.52040	2,433.647	0	0.00000	4.52040	31.56092
1,005.160	4.53618	2,449.512	0	0.00000	4.53618	31.75297
1,005.170	4.55190	2,465.376	0	0.00000	4.55190	31.94497
1,005.180	4.56757	2,481.241	0	0.00000	4.56757	32.13692
1,005.190	4.58318	2,497.106	0	0.00000	4.58318	32.32880
1,005.200	4.59875	2,512.971	0	0.00000	4.59875	32.52064
1,005.210	4.61426	2,528.835	0	0.00000	4.61426	32.71243
1,005.220	4.62972	2,544.700	0	0.00000	4.62972	32.90416
1,005.230	4.64512	2,561.556	0	0.00000	4.64512	33.10686
1,005.240	4.66048	2,578.412	0	0.00000	4.66048	33.30951
1,005.250	4.67578	2,595.269	0	0.00000	4.67578	33.51210
1,005.260	4.69104	2,612.125	0	0.00000	4.69104	33.71465
1,005.270	4.70625	2,628.981	0	0.00000	4.70625	33.91715
1,005.280	4.72140	2,645.837	0	0.00000	4.72140	34.11960
1,005.290	4.73651	2,662.694	0	0.00000	4.73651	34.32200
1,005.300	4.75157	2,679.550	0	0.00000	4.75157	34.52435
1,005.310	4.76658	2,696.406	0	0.00000	4.76658	34.72665
1,005.320	4.78155	2,713.263	0	0.00000	4.78155	34.92891

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.330	4.79647	2,730.119	0	0.00000	4.79647	35.13112
1,005.340	4.81134	2,746.975	0	0.00000	4.81134	35.33329
1,005.350	4.82617	2,763.831	0	0.00000	4.82617	35.53540
1,005.360	4.84095	2,780.688	0	0.00000	4.84095	35.73748
1,005.370	4.85569	2,797.544	0	0.00000	4.85569	35.93951
1,005.380	4.87038	2,814.400	0	0.00000	4.87038	36.14149
1,005.390	4.88503	2,830.153	0	0.00000	4.88503	36.33117
1,005.400	4.89963	2,845.906	0	0.00000	4.89963	36.52081
1,005.410	4.91419	2,861.659	0	0.00000	4.91419	36.71040
1,005.420	4.92871	2,877.412	0	0.00000	4.92871	36.89995
1,005.430	4.94318	2,893.165	0	0.00000	4.94318	37.08946
1,005.440	4.95762	2,908.918	0	0.00000	4.95762	37.27892
1,005.450	4.97201	2,924.671	0	0.00000	4.97201	37.46835
1,005.460	4.98636	2,940.424	0	0.00000	4.98636	37.65773
1,005.470	5.00066	2,956.176	0	0.00000	5.00066	37.84707
1,005.480	5.01493	2,971.929	0	0.00000	5.01493	38.03637
1,005.490	5.02916	2,987.682	0	0.00000	5.02916	38.22563
1,005.500	5.04335	3,003.435	0	0.00000	5.04335	38.41485
1,005.510	5.05749	3,019.188	0	0.00000	5.05749	38.60403
1,005.520	5.07160	3,034.941	0	0.00000	5.07160	38.79317
1,005.530	5.08567	3,050.694	0	0.00000	5.08567	38.98227
1,005.540	5.09970	3,066.447	0	0.00000	5.09970	39.17133
1,005.550	5.11369	3,082.200	0	0.00000	5.11369	39.36035
1,005.560	5.12764	3,097.729	0	0.00000	5.12764	39.54686
1,005.570	5.14156	3,113.259	0	0.00000	5.14156	39.73332
1,005.580	5.15543	3,128.788	0	0.00000	5.15543	39.91975
1,005.590	5.16927	3,144.318	0	0.00000	5.16927	40.10614
1,005.600	5.18308	3,159.847	0	0.00000	5.18308	40.29249
1,005.610	5.19684	3,175.376	0	0.00000	5.19684	40.47880
1,005.620	5.21057	3,190.906	0	0.00000	5.21057	40.66508
1,005.630	5.22427	3,206.435	0	0.00000	5.22427	40.85133
1,005.640	5.23793	3,221.965	0	0.00000	5.23793	41.03753
1,005.650	5.25155	3,237.494	0	0.00000	5.25155	41.22370
1,005.660	5.26514	3,253.024	0	0.00000	5.26514	41.40984
1,005.670	5.27869	3,268.553	0	0.00000	5.27869	41.59594
1,005.680	5.29221	3,284.082	0	0.00000	5.29221	41.78201
1,005.690	5.30569	3,299.612	0	0.00000	5.30569	41.96804
1,005.700	5.31914	3,315.141	0	0.00000	5.31914	42.15404
1,005.710	5.33255	3,330.671	0	0.00000	5.33255	42.34000
1,005.720	5.34594	3,346.200	0	0.00000	5.34594	42.52594
1,005.730	5.35928	3,362.331	0	0.00000	5.35928	42.71185
1,005.740	5.37260	3,378.462	0	0.00000	5.37260	42.91107
1,005.750	5.38588	3,394.594	0	0.00000	5.38588	43.10359
1,005.760	5.39913	3,410.725	0	0.00000	5.39913	43.29607
1,005.770	5.41235	3,426.856	0	0.00000	5.41235	43.48853

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,005.780	5.42553	3,442.987	0	0.00000	5.42553	43.68095
1,005.790	5.43868	3,459.119	0	0.00000	5.43868	43.87334
1,005.800	5.45181	3,475.250	0	0.00000	5.45181	44.06569
1,005.810	5.46490	3,491.381	0	0.00000	5.46490	44.25802
1,005.820	5.47795	3,507.513	0	0.00000	5.47795	44.45031
1,005.830	5.49098	3,523.644	0	0.00000	5.49098	44.64258
1,005.840	5.50398	3,539.775	0	0.00000	5.50398	44.83481
1,005.850	5.51694	3,555.906	0	0.00000	5.51694	45.02701
1,005.860	5.52988	3,572.038	0	0.00000	5.52988	45.21918
1,005.870	5.54278	3,588.169	0	0.00000	5.54278	45.41132
1,005.880	5.55566	3,604.300	0	0.00000	5.55566	45.60344
1,005.890	5.56850	3,619.018	0	0.00000	5.56850	45.77981
1,005.900	5.58132	3,633.735	0	0.00000	5.58132	45.95616
1,005.910	5.59411	3,648.453	0	0.00000	5.59411	46.13247
1,005.920	5.60686	3,663.171	0	0.00000	5.60686	46.30876
1,005.930	5.61959	3,677.888	0	0.00000	5.61959	46.48502
1,005.940	5.63229	3,692.606	0	0.00000	5.63229	46.66125
1,005.950	5.64496	3,707.324	0	0.00000	5.64496	46.83745
1,005.960	5.65761	3,722.041	0	0.00000	5.65761	47.01362
1,005.970	5.67022	3,736.759	0	0.00000	5.67022	47.18976
1,005.980	5.68281	3,751.476	0	0.00000	5.68281	47.36588
1,005.990	5.69537	3,766.194	0	0.00000	5.69537	47.54197
1,006.000	5.70790	3,780.912	0	0.00000	5.70790	47.71803
1,006.010	5.72040	3,795.629	0	0.00000	5.72040	47.89406
1,006.020	5.73288	3,810.347	0	0.00000	5.73288	48.07007
1,006.030	5.74533	3,825.065	0	0.00000	5.74533	48.24604
1,006.040	5.75775	3,839.782	0	0.00000	5.75775	48.42200
1,006.050	5.77014	3,854.500	0	0.00000	5.77014	48.59792
1,006.060	5.78251	3,868.612	0	0.00000	5.78251	48.76709
1,006.070	5.79486	3,882.724	0	0.00000	5.79486	48.93623
1,006.080	5.80717	3,896.835	0	0.00000	5.80717	49.10534
1,006.090	5.81946	3,910.947	0	0.00000	5.81946	49.27443
1,006.100	5.83173	3,925.059	0	0.00000	5.83173	49.44349
1,006.110	5.84397	3,939.171	0	0.00000	5.84397	49.61253
1,006.120	5.85618	3,953.282	0	0.00000	5.85618	49.78154
1,006.130	5.86837	3,967.394	0	0.00000	5.86837	49.95052
1,006.140	5.88053	3,981.506	0	0.00000	5.88053	50.11948
1,006.150	5.89267	3,995.618	0	0.00000	5.89267	50.28842
1,006.160	5.90478	4,009.729	0	0.00000	5.90478	50.45733
1,006.170	5.91687	4,023.841	0	0.00000	5.91687	50.62621
1,006.180	5.92893	4,037.953	0	0.00000	5.92893	50.79507
1,006.190	5.94097	4,052.065	0	0.00000	5.94097	50.96391
1,006.200	5.95298	4,066.176	0	0.00000	5.95298	51.13272
1,006.210	5.96497	4,080.288	0	0.00000	5.96497	51.30151
1,006.220	5.97694	4,094.400	0	0.00000	5.97694	51.47027

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.230	5.98888	4,108.575	0	0.00000	5.98888	51.63971
1,006.240	6.00080	4,122.750	0	0.00000	6.00080	51.80913
1,006.250	6.01269	4,136.925	0	0.00000	6.01269	51.97852
1,006.260	6.02456	4,151.100	0	0.00000	6.02456	52.14790
1,006.270	6.03641	4,165.275	0	0.00000	6.03641	52.31724
1,006.280	6.04824	4,179.450	0	0.00000	6.04824	52.48657
1,006.290	6.06004	4,193.625	0	0.00000	6.06004	52.65587
1,006.300	6.07182	4,207.800	0	0.00000	6.07182	52.82515
1,006.310	6.08357	4,221.975	0	0.00000	6.08357	52.99440
1,006.320	6.09530	4,236.150	0	0.00000	6.09530	53.16364
1,006.330	6.10701	4,250.325	0	0.00000	6.10701	53.33285
1,006.340	6.11870	4,264.500	0	0.00000	6.11870	53.50204
1,006.350	6.13037	4,278.675	0	0.00000	6.13037	53.67120
1,006.360	6.14201	4,292.850	0	0.00000	6.14201	53.84034
1,006.370	6.15363	4,307.025	0	0.00000	6.15363	54.00947
1,006.380	6.16523	4,321.200	0	0.00000	6.16523	54.17857
1,006.390	6.17681	4,333.588	0	0.00000	6.17681	54.32779
1,006.400	6.18837	4,345.976	0	0.00000	6.18837	54.47699
1,006.410	6.19990	4,358.365	0	0.00000	6.19990	54.62618
1,006.420	6.21142	4,370.753	0	0.00000	6.21142	54.77534
1,006.430	6.22291	4,383.141	0	0.00000	6.22291	54.92448
1,006.440	6.23438	4,395.529	0	0.00000	6.23438	55.07359
1,006.450	6.24583	4,407.918	0	0.00000	6.24583	55.22269
1,006.460	6.25726	4,420.306	0	0.00000	6.25726	55.37177
1,006.470	6.26866	4,432.694	0	0.00000	6.26866	55.52082
1,006.480	6.28005	4,445.082	0	0.00000	6.28005	55.66985
1,006.490	6.29142	4,457.471	0	0.00000	6.29142	55.81887
1,006.500	6.30276	4,469.859	0	0.00000	6.30276	55.96786
1,006.510	6.31409	4,482.247	0	0.00000	6.31409	56.11684
1,006.520	6.32540	4,494.635	0	0.00000	6.32540	56.26579
1,006.530	6.33668	4,507.024	0	0.00000	6.33668	56.41472
1,006.540	6.34795	4,519.412	0	0.00000	6.34795	56.56363
1,006.550	6.35919	4,531.800	0	0.00000	6.35919	56.71252
1,006.560	6.37042	4,543.000	0	0.00000	6.37042	56.84819
1,006.570	6.38162	4,554.200	0	0.00000	6.38162	56.98384
1,006.580	6.39281	4,565.400	0	0.00000	6.39281	57.11947
1,006.590	6.40398	4,576.600	0	0.00000	6.40398	57.25509
1,006.600	6.41512	4,587.800	0	0.00000	6.41512	57.39068
1,006.610	6.42625	4,599.000	0	0.00000	6.42625	57.52625
1,006.620	6.43736	4,610.200	0	0.00000	6.43736	57.66180
1,006.630	6.44845	4,621.400	0	0.00000	6.44845	57.79734
1,006.640	6.45952	4,632.600	0	0.00000	6.45952	57.93285
1,006.650	6.47057	4,643.800	0	0.00000	6.47057	58.06835
1,006.660	6.48160	4,655.000	0	0.00000	6.48160	58.20382
1,006.670	6.49262	4,666.200	0	0.00000	6.49262	58.33928

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,006.680	6.50361	4,677.400	0	0.00000	6.50361	58.47472
1,006.690	6.51459	4,688.600	0	0.00000	6.51459	58.61014
1,006.700	6.52555	4,699.800	0	0.00000	6.52555	58.74555
1,006.710	6.53649	4,711.000	0	0.00000	6.53649	58.88093
1,006.720	6.54741	4,722.200	0	0.00000	6.54741	59.01629
1,006.730	6.55831	4,732.487	0	0.00000	6.55831	59.14150
1,006.740	6.56920	4,742.775	0	0.00000	6.56920	59.26669
1,006.750	6.58006	4,753.062	0	0.00000	6.58006	59.39187
1,006.760	6.59091	4,763.350	0	0.00000	6.59091	59.51702
1,006.770	6.60174	4,773.637	0	0.00000	6.60174	59.64216
1,006.780	6.61256	4,783.925	0	0.00000	6.61256	59.76728
1,006.790	6.62335	4,794.212	0	0.00000	6.62335	59.89238
1,006.800	6.63413	4,804.500	0	0.00000	6.63413	60.01746
1,006.810	6.64489	4,814.787	0	0.00000	6.64489	60.14253
1,006.820	6.65564	4,825.075	0	0.00000	6.65564	60.26758
1,006.830	6.66636	4,835.363	0	0.00000	6.66636	60.39261
1,006.840	6.67707	4,845.650	0	0.00000	6.67707	60.51763
1,006.850	6.68776	4,855.938	0	0.00000	6.68776	60.64262
1,006.860	6.69844	4,866.225	0	0.00000	6.69844	60.76760
1,006.870	6.70910	4,876.513	0	0.00000	6.70910	60.89257
1,006.880	6.71974	4,886.800	0	0.00000	6.71974	61.01751
1,006.890	6.73036	4,894.447	0	0.00000	6.73036	61.11311
1,006.900	6.74097	4,902.094	0	0.00000	6.74097	61.20868
1,006.910	6.75156	4,909.741	0	0.00000	6.75156	61.30424
1,006.920	6.76213	4,917.388	0	0.00000	6.76213	61.39978
1,006.930	6.77269	4,925.035	0	0.00000	6.77269	61.49530
1,006.940	6.78323	4,932.682	0	0.00000	6.78323	61.59081
1,006.950	6.79376	4,940.329	0	0.00000	6.79376	61.68631
1,006.960	6.80426	4,947.976	0	0.00000	6.80426	61.78178
1,006.970	6.81476	4,955.624	0	0.00000	6.81476	61.87724
1,006.980	6.82523	4,963.271	0	0.00000	6.82523	61.97268
1,006.990	6.83569	4,970.918	0	0.00000	6.83569	62.06811
1,007.000	6.84614	4,978.565	0	0.00000	6.84614	62.16352
1,007.010	6.85657	4,986.212	0	0.00000	6.85657	62.25892
1,007.020	6.86698	4,993.859	0	0.00000	6.86698	62.35430
1,007.030	6.87737	5,001.506	0	0.00000	6.87737	62.44966
1,007.040	6.88776	5,009.153	0	0.00000	6.88776	62.54501
1,007.050	6.89812	5,016.800	0	0.00000	6.89812	62.64034
1,007.060	6.90847	5,021.071	0	0.00000	6.90847	62.69814
1,007.070	6.91881	5,025.341	0	0.00000	6.91881	62.75593
1,007.080	6.92912	5,029.612	0	0.00000	6.92912	62.81370
1,007.090	6.93943	5,033.882	0	0.00000	6.93943	62.87145
1,007.100	6.94972	5,038.153	0	0.00000	6.94972	62.92919
1,007.110	6.95999	5,042.424	0	0.00000	6.95999	62.98692
1,007.120	6.97025	5,046.694	0	0.00000	6.97025	63.04463

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: UNDERGROUND SYSTEM

Scenario: 100 yr 6 hr

Elevation (ft)	Outflow (ft ³ /s)	Storage (ft ³)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
1,007.130	6.98049	5,050.965	0	0.00000	6.98049	63.10232
1,007.140	6.99072	5,055.235	0	0.00000	6.99072	63.16000
1,007.150	7.00093	5,059.506	0	0.00000	7.00093	63.21766
1,007.160	7.01113	5,063.776	0	0.00000	7.01113	63.27531
1,007.170	7.02131	5,068.047	0	0.00000	7.02131	63.33294
1,007.180	7.03148	5,072.318	0	0.00000	7.03148	63.39056
1,007.190	7.04163	5,076.588	0	0.00000	7.04163	63.44817
1,007.200	7.05177	5,080.859	0	0.00000	7.05177	63.50576
1,007.210	7.06190	5,085.129	0	0.00000	7.06190	63.56333
1,007.220	7.07201	5,089.400	0	0.00000	7.07201	63.62090

Subsection: Level Pool Pond Routing Summary
 Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 1 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	7.59800 ft ³ /s	Time to Peak (Flow, In)	54.0 min
Flow (Peak Outlet)	4.85775 ft ³ /s	Time to Peak (Flow, Outlet)	60.0 min

Elevation (Water Surface, Peak)	1,005.371 ft
Volume (Peak)	2,799.913 ft ³

Mass Balance (ft ³)	
Volume (Initial)	0.000 ft ³
Volume (Total Inflow)	11,886.000 ft ³
Volume (Total Infiltration)	0.000 ft ³
Volume (Total Outlet Outflow)	11,871.000 ft ³
Volume (Retained)	15.000 ft ³
Volume (Unrouted)	-1.000 ft ³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
 Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 24 hr

Infiltration			
Infiltration Method (Computed)	No Infiltration		
Initial Conditions			
Elevation (Water Surface, Initial)	1,003.220 ft		
Volume (Initial)	0.000 ft ³		
Flow (Initial Outlet)	0.00000 ft ³ /s		
Flow (Initial Infiltration)	0.00000 ft ³ /s		
Flow (Initial, Total)	0.00000 ft ³ /s		
Time Increment	3.0 min		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.79000 ft ³ /s	Time to Peak (Flow, In)	801.0 min
Flow (Peak Outlet)	1.77606 ft ³ /s	Time to Peak (Flow, Outlet)	807.0 min
Elevation (Water Surface, Peak)	1,004.019 ft		
Volume (Peak)	729.601 ft ³		
Mass Balance (ft ³)			
Volume (Initial)	0.000 ft ³		
Volume (Total Inflow)	38,927.000 ft ³		
Volume (Total Infiltration)	0.000 ft ³		
Volume (Total Outlet Outflow)	38,879.000 ft ³		
Volume (Retained)	42.000 ft ³		
Volume (Unrouted)	-6.000 ft ³		
Error (Mass Balance)	0.0 %		

Subsection: Level Pool Pond Routing Summary
 Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 3 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	1,003.220 ft
Volume (Initial)	0.000 ft ³
Flow (Initial Outlet)	0.00000 ft ³ /s
Flow (Initial Infiltration)	0.00000 ft ³ /s
Flow (Initial, Total)	0.00000 ft ³ /s
Time Increment	3.0 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.66800 ft ³ /s	Time to Peak (Flow, In)	159.0 min
Flow (Peak Outlet)	3.90275 ft ³ /s	Time to Peak (Flow, Outlet)	165.0 min

Elevation (Water Surface, Peak)	1,004.786 ft
Volume (Peak)	1,851.975 ft ³

Mass Balance (ft ³)	
Volume (Initial)	0.000 ft ³
Volume (Total Inflow)	18,570.000 ft ³
Volume (Total Infiltration)	0.000 ft ³
Volume (Total Outlet Outflow)	18,569.000 ft ³
Volume (Retained)	0.000 ft ³
Volume (Unrouted)	0.000 ft ³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
 Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 6 hr

Infiltration			
Infiltration Method (Computed)	No Infiltration		
Initial Conditions			
Elevation (Water Surface, Initial)	1,003.220 ft		
Volume (Initial)	0.000 ft ³		
Flow (Initial Outlet)	0.00000 ft ³ /s		
Flow (Initial Infiltration)	0.00000 ft ³ /s		
Flow (Initial, Total)	0.00000 ft ³ /s		
Time Increment	3.0 min		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.32200 ft ³ /s	Time to Peak (Flow, In)	333.0 min
Flow (Peak Outlet)	3.74284 ft ³ /s	Time to Peak (Flow, Outlet)	336.0 min
Elevation (Water Surface, Peak)	1,004.700 ft		
Volume (Peak)	1,713.371 ft ³		
Mass Balance (ft ³)			
Volume (Initial)	0.000 ft ³		
Volume (Total Inflow)	25,644.000 ft ³		
Volume (Total Infiltration)	0.000 ft ³		
Volume (Total Outlet Outflow)	25,643.000 ft ³		
Volume (Retained)	0.000 ft ³		
Volume (Unrouted)	0.000 ft ³		
Error (Mass Balance)	0.0 %		

Subsection: Pond Inflow Summary
Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 1 hr

Summary for Hydrograph Addition at 'UNDERGROUND SYSTEM'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Onsite

Node Inflows

Inflow Type	Element	Volume (ft ³)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Onsite	11,592.000	55.0	8.23000
Flow (In)	UNDERGROUND SYSTEM	11,886.120	54.0	7.59800

Subsection: Pond Inflow Summary
Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 24 hr

Summary for Hydrograph Addition at 'UNDERGROUND SYSTEM'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Onsite

Node Inflows

Inflow Type	Element	Volume (ft ³)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Onsite	38,940.000	800.0	1.79000
Flow (In)	UNDERGROUND SYSTEM	38,926.980	801.0	1.79000

Subsection: Pond Inflow Summary
Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 3 hr

Summary for Hydrograph Addition at 'UNDERGROUND SYSTEM'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Onsite

Node Inflows

Inflow Type	Element	Volume (ft ³)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Onsite	18,555.000	160.0	4.75000
Flow (In)	UNDERGROUND SYSTEM	18,569.520	159.0	4.66800

Subsection: Pond Inflow Summary
Label: UNDERGROUND SYSTEM (IN)

Scenario: 100 yr 6 hr

Summary for Hydrograph Addition at 'UNDERGROUND SYSTEM'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Onsite

Node Inflows

Inflow Type	Element	Volume (ft ³)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Onsite	25,650.000	335.0	4.43000
Flow (In)	UNDERGROUND SYSTEM	25,643.520	333.0	4.32200

Index

M

Master Network Summary...3

O

Onsite (Read Hydrograph)...

Outlet Input Data...33, 34, 35, 36, 37, 38, 39, 40

Overflow (Outlet Input Data)...

U

UNDERGROUND SYSTEM (Elevation-Volume-Flow Table (Pond))...

UNDERGROUND SYSTEM (IN) (Level Pool Pond Routing Summary)...

UNDERGROUND SYSTEM (IN) (Pond Inflow Summary)...

UNDERGROUND SYSTEM (OUT) (Time vs. Elevation)...

UNDERGROUND SYSTEM (Time vs. Volume)...

User Notifications...2

Appendix J - Sizing Calculations

TO BE PROVIDED
DURING FINAL
ENGINEERING

Appendix H
Preliminary WQMP

City of Temecula

WATER QUALITY MANAGEMENT PLAN (WQMP)

PROJECT NAME & PERMIT N^o:
Bedford Court – Temecula CA

PROJECT ADDRESS:
Bedford Court
Temecula, CA 92592

PROJECT APN:
922-210-042

PREPARED BY:

Name
Address

Kimley Horn & Associates, Inc.
3880 Lemon Street, Suite 420
Riverside, CA 92501

Phone
Email

213-261-4103
Lupita.Astorga@kimley-horn.com

PREPARED FOR:

Name
Address

Catalyst Commercial Group
38605 Calistoga Drive, Suite 150
Murrieta, CA, 92563

Phone
Email

951-395-0000
markc@catalystretail.com

DATE OF WQMP: August 15, 2024

APPROVED BY:

APPROVAL DATE:



Applicant's Certification

Project Name: Bedford Court – Temecula, CA
Permit Number:

APPLICANT'S CERTIFICATION

I have read and understand that the City of Temecula has adopted minimum requirements for managing urban runoff, including stormwater, from land development activities, as described in the BMP Design Manual. I certify that this WQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this WQMP by City staff is confined to a review and does not relieve me, as the Applicant, of my responsibilities for project design.

I hereby declare that the design is consistent with the requirements of the City of Temecula BMP Design Manual, which is a design manual for compliance with local City of Temecula Stormwater and Urban Runoff Management and Discharge Controls Ordinance (Chapter 8.28 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for stormwater management; as well as the requirements of the City of Temecula Engineering and Construction Manual (Chapter 18) and the City of Temecula Erosion and Sediment Control Ordinance (Chapter 18.18 et seq.).

Applicant's Signature 8/15/2024
Date:

Leticia Alvarez

Print Name

Kimley-Horn and Associates

Company



STOP! Before continuing this form review Chapter 1.3 of the BMP Design Manual. If the project type is listed in [Table 1-2](#), permanent stormwater requirements do not apply to your project. Write your exempt project category in the space provided below and skip to Step 3. Do not complete Steps 1, 2, or 4 of this WQMP.

N/A
Exempt Project category

Step 1: Source Control BMP Checklist

Source Control BMPs			
<p>All development projects must implement source control BMPs 4.2.1 through 4.2.6 where applicable and feasible. See Chapter 4.2 and Appendix E of the City BMP Design Manual for information to implement source control BMPs shown in this checklist.</p> <p>Answer each category below pursuant to the following:</p> <ul style="list-style-type: none"> • "Yes" means the project will implement the source control BMP as described in Chapter 4.2 and/or Appendix E of the City BMP Design Manual. Discussion / justification must be provided and show locations on the project plans. Select applicable Source Controls in the Source Control BMP summary on the following page. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification must be provided. 			
Source Control Requirement	Applied?		
4.2.1 Prevention of Illicit Discharges into the MS4	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Illicit discharges will be eliminated by implementing the following source control BMPs: SC-G, SC-J, SC-O, SC-N, and SC-P. Carwash activities will be covered. Carwash water from the building will be routed to sewer. Trash enclosures will be provided and will be covered to prevent leaks and exposure to stormwater as shown in the Grading Plan. Plazas, sidewalks, drive aisles and alleys will be swept on a regular basis.</p>			
4.2.2 Storm Drain Stenciling or Signage	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Storm drain stenciling will be provided at all catch basin inlets and will be maintained on a regular basis to replace markings as needed. Refer to Preliminary Grading Plans.</p>			
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<p><i>Discussion / justification:</i></p>			
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> <input checked="" type="checkbox"/> N/A
<p><i>Discussion / justification:</i></p>			
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Large trash receptacles will be provided onsite and will covered and graded to avoid run-on. Small trash receptacles for the carwash will be provided in the vacuum areas and will be placed underneath the proposed awning to prevent exposure to rainfall.</p>			
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

Discussion / justification. Clearly identify which sources of runoff pollutants are discussed:

Source Control BMP Summary			
Select all source control BMPs identified for your project in sections 4.2.1 through 4.2.6 above in the column on the left below. Then select "yes" if the BMP has been implemented and shown on the project plans , "No" if the BMP has not been implemented, or "N/A" if the BMP is not applicable to your project.			
<input checked="" type="checkbox"/> SC-A. On-site storm drain inlets	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-B. Interior floor drains and elevator shaft sump pumps	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> SC-C. Interior parking garages	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-D1. Need for future indoor & structural pest control	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-D2. Landscape/outdoor pesticide use	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> SC-E. Pools, spas, ponds, fountains, and other water features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-F. Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-G. Refuse areas	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> SC-H. Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-I. Outdoor storage of equipment or materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-J. Vehicle and equipment cleaning	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> SC-K. Vehicle/equipment repair and maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-L. Fuel dispensing areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-M. Loading docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-N. Fire sprinkler test water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-O. Miscellaneous drain or wash water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> SC-P. Plazas, sidewalks, and parking lots	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> SC-Q. Large trash generating facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-R. Animal facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-S. Plant nurseries and garden centers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> SC-T. Automotive facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

Note: Show all source control measures applied above on the plan sheets.

Step 2: Site Design BMP Checklist

Site Design BMPs			
<p>All development projects must implement site design BMPs SD-A through SD-H where applicable and feasible. See Chapter 4.3 and Appendix E of the City BMP Design Manual for information to implement site design BMPs shown in this checklist.</p> <p>Answer each category below pursuant to the following:</p> <ul style="list-style-type: none"> • "Yes" means the project will implement the site design BMP as described in Chapter 4.3 and/or Appendix E of the City BMP Design Manual. Discussion / justification must be provided and show locations on the project plans. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification must be provided. 			
Site Design Requirement	Applied?		
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> The site will be graded and new low points will be introduced to collect runoff and route to the proposed BMPs. The site will be in fill condition.</p>			
4.3.2 Conserve Natural Areas, Soils, and Vegetation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> The entire project will be disturbed. Topsoil in the proposed landscaped areas will be scarified during landscaping construction activities.</p>			
4.3.3 Minimize Impervious Area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Landscape areas have been designed to the maximum extent feasible. Driveways, parking stalls, and sidewalks have also been designed to the minimum width requirements. Refer to the Preliminary Grading Plans.</p>			
4.3.4 Minimize Soil Compaction	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> No infiltration BMPs are proposed for the site. Compaction will be minimized in landscaped areas to the maximum extent feasible during construction.</p>			
4.3.5 Impervious Area Dispersion	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> The proposed buildings will discharge to adjacent landscaped areas via roof drains.</p>			
4.3.6 Runoff Collection	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Retention BMPs are not feasible for the project due to low infiltration rates.</p>			
4.3.7 Landscaping with Native or Drought Tolerant Species	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p><i>Discussion / justification:</i> Landscaping will be comprised of native/drought tolerant plant species per City and Specific Plan guidelines. Refer to Landscape Plans for more information.</p>			

4.3.8 Harvesting and Using Precipitation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification:</i> Harvest and Use BMPs cannot be proposed for the eastern building due to the unknown future operations. The carwash cannot use harvest and use BMPs since they are proposing to use recycled water from carwash activities.			

Step 3: Construction Stormwater BMP Checklist

Minimum Required Standard Construction Stormwater BMPs		
<p>If you answer "Yes" to any of the questions below, your project is subject to Table 1 on the following page (Minimum Required Standard Construction Stormwater BMPs). As noted in Table 1, please select at least the minimum number of required BMPs¹, or as many as are feasible for your project. If no BMP is selected, an explanation must be given in the box provided. The following questions are intended to aid in determining construction BMP requirements for your project.</p> <p>Note: All selected BMPs below must be included on the BMP plan incorporated into the construction plan sets.</p>		
1. Will there be soil disturbing activities that will result in exposed soil areas? (This includes minor grading and trenching.) Reference Table 1 Items A, B, D, and E Note: Soil disturbances NOT considered significant include, but are not limited to, change in use, mechanical/electrical/plumbing activities, signs, temporary trailers, interior remodeling, and minor tenant improvement.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. Will there be asphalt paving, including patching? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Will there be slurries from mortar mixing, coring, or concrete saw cutting? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
4. Will there be solid wastes from concrete demolition and removal, wall construction, or form work? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5. Will there be stockpiling (soil, compost, asphalt, concrete, solid waste) for over 24 hours? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
6. Will there be dewatering operations? Reference Table 1 Items C and D	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Will there be temporary on-site storage of construction materials, including mortar mix, raw landscaping and soil stabilization materials, treated lumber, rebar, and plated metal fencing materials? Reference Table 1 Items E and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8. Will trash or solid waste product be generated from this project? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
9. Will construction equipment be stored on site (e.g.: fuels, oils, trucks, etc.)? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
10. Will Portable Sanitary Services ("Porta-potty") be used on the site? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

¹ Minimum required BMPs are those necessary to comply with the City of Temecula Erosion and Sediment Control Ordinance (Chapter 18.18 et seq.) and the City of Temecula Engineering and Construction Manual (Chapter 18).

Table 1. Construction Stormwater BMP Checklist

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook ² Detail	✓ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
A. Select Erosion Control Method for Disturbed Slopes (choose at least one for the appropriate season)			
Vegetation Stabilization Planting ³ (Summer)	SS-2, SS-4	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Hydraulic Stabilization Hydroseeding ² (Summer)	SS-4	<input type="checkbox"/>	
Bonded Fiber Matrix or Stabilized Fiber Matrix ⁴ (Winter)	SS-3	<input type="checkbox"/>	
Physical Stabilization Erosion Control Blanket ³ (Winter)	SS-7	<input type="checkbox"/>	
B. Select erosion control method for disturbed flat areas (slope < 5%) (choose at least one)			
Will use erosion control measures from Item A on flat areas also	SS-3, 4, 7	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Sediment Desilting Basin (must treat all site runoff)	SC-2	<input type="checkbox"/>	
Mulch, straw, wood chips, soil application	SS-6, SS-8	<input type="checkbox"/>	

² State of California Department of Transportation (Caltrans). 2003. Storm Water Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual. March. Available online at: <http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>.

³ If Vegetation Stabilization (Planting or Hydroseeding) is proposed for erosion control it may be installed between May 1st and August 15th. Slope irrigation is in place and needs to be operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. The owner must implement a contingency physical BMP by August 15th if vegetation establishment does not occur by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation must have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.

⁴ All slopes over three feet must have established vegetative cover prior to final permit approval.

Table 1. Construction Stormwater BMP Checklist (continued)

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook Detail	✓ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
C. If runoff or dewatering operation is concentrated, velocity must be controlled using an energy dissipater			
Energy Dissipater Outlet Protection ⁵	SS-10	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
D. Select sediment control method for all disturbed areas (choose at least one)			
Silt Fence	SC-1	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Fiber Rolls (Straw Wattles)	SC-5	<input type="checkbox"/>	
Gravel & Sand Bags	SC-6 & 8	<input checked="" type="checkbox"/>	
Dewatering Filtration	NS-2	<input type="checkbox"/>	
Storm Drain Inlet Protection	SC-10	<input checked="" type="checkbox"/>	
Engineered Desilting Basin (sized for 10-year flow)	SC-2	<input type="checkbox"/>	
E. Select method for preventing offsite tracking of sediment (choose at least one)			
Stabilized Construction Entrance	TC-1	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Construction Road Stabilization	TC-2	<input type="checkbox"/>	
Entrance/Exit Tire Wash	TC-3	<input checked="" type="checkbox"/>	
Entrance/Exit Inspection & Cleaning Facility	TC-1	<input checked="" type="checkbox"/>	
Street Sweeping and Vacuuming	SC-7	<input checked="" type="checkbox"/>	
F. Select the general site management BMPs			
F.1 Materials Management			
Material Delivery & Storage	WM-1	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Spill Prevention and Control	WM-4	<input checked="" type="checkbox"/>	
F.2 Waste Management⁶			
Waste Management Concrete Waste Management	WM-8	<input checked="" type="checkbox"/>	Erosion Control Plan to be provided during final design.
Solid Waste Management	WM-5	<input checked="" type="checkbox"/>	
Sanitary Waste Management	WM-9	<input checked="" type="checkbox"/>	
Hazardous Waste Management	WM-6	<input checked="" type="checkbox"/>	

Note: The Construction General Permit (Order No. 2009-0009-DWQ) also requires all projects not subject to the BMP Design Manual to comply with runoff reduction requirements through the implementation of post-construction BMPs as described in Section XIII of the order.

⁵ Regional Standard Drawing D-40 – Rip Rap Energy Dissipater is also acceptable for velocity reduction.

⁶ Not all projects will have every waste identified. The applicant is responsible for identifying wastes that will be onsite and applying the appropriate BMP. For example, if concrete will be used, BMP WM-8 must be selected.

Step 4: Project type determination (Standard or Priority Development Project)

Is the project part of another Priority Development Project (PDP)?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If so, Standard and PDP requirements apply. Go to Step 4.1 and select "PDP"			
The project is (select one): <input checked="" type="checkbox"/> New Development <input type="checkbox"/> Redevelopment ⁷			
The total proposed newly created or replaced impervious area is:		52,058 ft ²	
The total existing (pre-project) impervious area is:		277 ft ²	
The total area disturbed by the project is:		81,431 ft ²	
If the total area disturbed by the project is 1 acre (43,560 sq. ft.) or more OR the project is part of a larger common plan of development disturbing 1 acre or more, a Waste Discharger Identification (WDID) number must be obtained from the State Water Resources Control Board.			
WDID: _____ (Will be provided during final design)			
Is the project in any of the following categories, (a) through (f)? ⁸			
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(a)	New development projects that create 10,000 square feet or more of impervious surfaces ⁹ (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

⁷ Redevelopment is defined as: The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways; new sidewalks construction; pedestrian ramps; or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

⁸ Applicants should note that any development project that will create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project site) is considered a new development.

Project type determination (continued)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(d)	<p>New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).</p> <p><i>Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See BMP Design Manual Chapter 1.4.2 for additional guidance.</i></p>
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(e)	<p>New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses:</p> <ul style="list-style-type: none"> (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(f)	<p>New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.</p> <p><i>Note: See BMP Design Manual Chapter 1.4.2 for additional guidance.</i></p>

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

- No – the project is not a Priority Development Project (Standard Project).
- Yes – the project is a Priority Development Project (PDP).

Further guidance may be found in Chapter 1 and Table 1-2 of the BMP Design Manual.

The following is for **redevelopment PDPs only**:

The area of existing (pre-project) impervious area at the project site is: _____ ft² (A)

The total proposed newly created or replaced impervious area is _____ ft² (B)

Percent impervious surface created or replaced (B/A)*100: _____ %

The percent impervious surface created or replaced is (select one based on the above calculation):

- less than or equal to fifty percent (50%) – **only newly created or replaced impervious areas are considered a PDP and subject to stormwater requirements**

OR

- greater than fifty percent (50%) – **the entire project site is considered a PDP and subject to stormwater requirements**

Step 4.1: Water Quality Management Plan requirements

Step	Answer	Progression
Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions?	<input type="checkbox"/> Standard Project	<u>Standard Project</u> requirements apply, STOP, you have satisfied stormwater requirements.
To answer this item, complete Step 4 Project Type Determination Checklist, and see PDP exemption information below. For further guidance, see Chapter 1.4 of the BMP Design Manual <i>in its entirety</i> .	<input checked="" type="checkbox"/> PDP	Standard and PDP requirements apply. Complete <u>Exhibit A “PDP Requirements.”</u> http://temeculaca.gov/wqmpa2
	<input type="checkbox"/> PDP Exemption	Go to Step 4.2 below.

Step 4.2: Exemption to PDP definitions

<p>Is the project exempt from PDP definitions based on either of the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Projects that are only new or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria: <ul style="list-style-type: none"> (i) Designed and constructed to direct stormwater runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR (ii) Designed and constructed to be hydraulically disconnected from paved streets or roads [i.e., runoff from the new improvement does not drain directly onto paved streets or roads]; OR (iii) Designed and constructed with permeable pavements or surfaces in accordance with City of Temecula Guidance on Green Infrastructure; <input type="checkbox"/> Projects that are only retrofitting or redeveloping existing paved alleys, streets or roads that are designed and constructed in accordance with the City of Temecula Guidance on Green Infrastructure. 	<p>If so:</p> <p><u>Standard Project</u> requirements apply, AND <u>any additional requirements specific to the type of project.</u> <u>City concurrence</u> with the exemption is required. <i>Provide discussion and list any additional requirements below in this form.</i> STOP, you have satisfied stormwater requirements.</p> <p>Complete <u>Exhibit A “PDP Requirements.”</u> Select Green Streets Exemptions where applicable.</p>
<p><i>Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:</i></p>	

Exhibit A
City of Temecula
PRIORITY DEVELOPMENT PROJECT REQUIREMENTS

Preparer's Certification Page**Project Name: Bedford Court – Temecula, CA****Permit Application Number:** _____**PREPARER'S CERTIFICATION**

I hereby declare that I am the Engineer in Responsible Charge of design of Stormwater best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the City of Temecula BMP Design Manual, which is a design manual for compliance with local City of Temecula Stormwater and Urban Runoff Management and Discharge Controls Ordinance (Chapter 8.28 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for stormwater management.

I have read and understand that the City of Temecula has adopted minimum requirements for managing urban runoff, including stormwater, from land development activities, as described in the BMP Design Manual. I certify that this PDP WQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP WQMP by City staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of stormwater BMPs for this project, of my responsibilities for project design.

_____, RCE 94675, June 30, 2025

Engineer of Work's Signature, PE Number & Expiration Date

Leticia Alvarez, P.E.

Print Name

Kimley-Horn & Associates Inc., 951-543-9868

Company & Phone No.

April 4, 2024

Date

Engineer's Seal:



Step 1: Site Information Checklist

Description of Existing Site Condition and Drainage Patterns

<p><u>Project Watershed</u> (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier; e.g., 902.52 Santa Margarita HU, Pechanga HA, Wolf HSA)</p>	<p>902.52 Santa Margarita HU, Pechanga HA, Wolf HSA</p>
<p>Current Status of the Site (select all that apply):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Existing development <input type="checkbox"/> Previously graded but not built out <input type="checkbox"/> Demolition completed without new construction <input type="checkbox"/> Agricultural or other non-impervious use <input checked="" type="checkbox"/> Vacant, undeveloped/natural 	
<p><i>Description / Additional Information:</i></p>	
<p>Existing Land Cover Includes (select all that apply and provide each area on site):</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Pervious Area 1.87 Acres (81,629 Square Feet) <input checked="" type="checkbox"/> Impervious Areas 0.01 Acres (277 Square Feet) 	
<p><i>Description / Additional Information:</i></p> <p>The project site currently exists on a vegetated vacant lot. 99% of the site within the property boundary is currently pervious. The site consists of two drainage areas (A and B). Refer to the Attachment 1a for the DMA exhibit.</p>	
<p>How is stormwater runoff conveyed from the site? At a minimum, this description should answer:</p> <ol style="list-style-type: none"> (1) Whether existing drainage conveyance is natural or urban; (2) Is runoff from offsite conveyed through the site? If yes, describe the offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site; (3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, stormwater treatment facilities, natural or constructed channels; and (4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations. Reference the Drainage report Attachment for detailed calculations. 	

Describe existing site drainage patterns:

Most of the site within the property boundary is current pervious, excluding the existing concrete headwall structure and miscellaneous concrete pads. The areas outside of the property boundary include impervious areas from the roads, curbs, existing adjacent buildings, gutters, and sidewalks. The site consists of two drainage areas (A and B). Drainage area A consists of most of the site and drains west. Drainage area A has various localized low points in the site and ultimately discharges to the headwall on the western side of the site. The headwall is connected to a 42" RCP storm drain line that ultimately discharges to Murrieta Creek. Drainage area B consists of a small portion of the eastern perimeter and drains to Bedford Court. There is no offsite run-on that drains onto the project site. Drainage is ultimately routed to Murrieta Creek for both portions of the site.

Description of Proposed Site Development and Drainage Patterns*Project Description / Proposed Land Use and/or Activities:*

The proposed project consists of a three-lane drive through carwash, associated parking lot, and proposed building on a vacant 1.7-acre lot located on Bedford Court, which is west of Temecula Parkway in the City of Temecula, CA. The site is bound to the north by a commercial shopping center, east by a gas station, south by residential homes, and to the west by the Interstate 15 freeway. In addition, the proposed development includes utility improvements including storm drain/BMP improvements. The site's drainage patterns will mirror the existing pattern where drainage will be discharged to the existing headwall located on the western portion of the project site.

Proposed Land Cover Includes (select all that apply and provide each area on site):

Existing to Remain

- Pervious Area _____ Acres (_____ Square Feet)
 Impervious Areas _____ Acres (_____ Square Feet)

Existing to Be Replaced

- Pervious Area 0.72 Acres (31,284 Square Feet)
 Impervious Areas 0.01 Acres (277 Square Feet)

Newly Created

- Pervious Area _____ Acres (_____ Square Feet)
 Impervious Areas _____ Acres (_____ Square Feet)

Total

- Pervious Area 0.67 Acres (29,373 Square Feet)
 Impervious Areas 1.20 Acres (52,058 Square Feet)

*Description / Additional Information:**List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):*

Impervious surfaces for the proposed on-site development include sidewalks, roadway lanes, and buildings.

List/describe proposed pervious features of the project (e.g., landscape areas)

Proposed pervious surfaces include landscaping buffers, and islands around parking areas and building.

Describe any grading or changes to site topography:

Proposed grading patterns will generally follow general existing grading patterns to the west and will introduce new local low points to collect runoff and route to the proposed BMPs an underground storm drain system.

Provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, stormwater treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

Drainage area A consists of approximately 1.17 acres on the western side of the site and consists of the proposed car wash and associated vacuum parking stalls and driveways. The water quality runoff from drainage area A will be treated in a Modular Wetland System (MWS) prior to discharging to the storm drain system. Runoff exceeding the BMP’s treatment design capacity will bypass the system via an internal weir and enter an underground detention system.

Drainage area B consists of approximately 0.70 acres on the western side of the site and consists of a proposed building and associated parking stalls and driveways. The water quality runoff from drainage B will be treated in a Modular Wetland System (MWS) flow thru BMP prior to discharging to the storm drain system. Runoff exceeding the City’s treatment design standards will bypass the system and enter the underground detention system. Both drainage areas will ultimately be discharged to an existing RCP public storm drain line that runs along the northern perimeter of the property.

The project site is listed under the potentially hydromodification exempt areas. Refer to Hydromodification Exemption Map.

Description of Receiving Water(s) and Pollutants of Concern

Describe flow path of stormwater from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable):

Discharge from the project site exits through the 42" RCP existing storm drain line and flows west and south until ultimately discharging in the southern reach of the Murrieta Creek immediately upstream of the Santa Margarita River. Runoff eventually reaches the Santa Margarita Lagoon and the Pacific Ocean. The project site is listed under the potential hydromodification exempt category.

List any 303(d) impaired water bodies¹ within the path of stormwater from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the [WQIP](#) for the impaired water bodies (see BMP Design Manual Appendix B.6.1):

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
<i>Murrieta Creek</i>	<i>Chlorpyrifos, Copper, Indicator Bacteria, Iron, Manganese, Nitrogen, Phosphorus, Toxicity, Bifenthrin, Cyhalothrin, Mercury, Dissolved Oxygen, Pyrethroids, Turbidity,</i>	<i>Nutrients</i>
<i>Santa Margarita River- Upper Portion</i>	<i>Nutrients (phosphorus); sediment toxicity</i>	<i>Nutrients</i>
<i>Santa Margarita River- Lower Portion</i>	<i>Bacteria and viruses (Enterococcus, fecal coliform); nutrients (phosphorus, nitrogen)</i>	<i>Nutrients</i>
<i>Santa Margarita Lagoon</i>	<i>Nutrients (eutrophic)</i>	<i>Nutrients and eutrophication</i>
<i>Pacific Ocean</i>	<i>None</i>	

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6.):

Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nutrients	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Heavy Metals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Organic Compounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Trash & Debris	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Oxygen Demanding Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

¹ The current list of Section 303(d) impaired water bodies can be found at http://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired

PRIORITY DEVELOPMENT PROJECT (PDP) REQUIREMENTS 7

Oil & Grease	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bacteria & Viruses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pesticides	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Site Requirements and Constraints

The following is for **redevelopment PDPs only**:

The area of existing (pre-project) impervious area at the project site is: _____ ft² (A)

The total proposed newly created or replaced impervious area is _____ ft² (B)

Percent impervious surface created or replaced (B/A)*100: _____ %

The percent impervious surface created or replaced is (select one based on the above calculation):

less than or equal to fifty percent (50%) – **only newly created or replaced impervious areas are considered a PDP and subject to stormwater requirements**

OR

greater than fifty percent (50%) – **the entire project site is considered a PDP and subject to stormwater requirements**

List applicable site requirements or constraints that will influence stormwater management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements:

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

Step 2: Strategy for Meeting PDP Performance Requirements

PDPs must implement BMPs to control pollutants in stormwater that may be discharged from a project (see Chapter 5). PDPs subject to hydromodification management requirements must implement flow control BMPs to manage hydromodification (see Chapter 6). Both stormwater pollutant control and flow control can be achieved within the same BMP(s). Projects triggering the 50% rule must address stormwater requirements for the entire site.

Structural BMPs must be verified by the City at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Chapter 1.12). Structural BMPs must be maintained into perpetuity, and the City must confirm the maintenance (see Chapter 7).

Provide a narrative description of the general strategy for pollutant control and flow control at the project site in the box below. This information must describe how the steps for selecting and designing stormwater pollutant control BMPs presented in Chapter 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate. At the end of this discussion, provide a summary of all the BMPs within the project including the type and number.

Describe the general strategy for BMP implementation at the site.

Per the Geotechnical Report completed by Earth Strata Geotechnical Services, Inc. dated November 7, 2022, infiltration was not recommended for this project site. Therefore, full infiltration/retention BMPs are infeasible. Flow thru BMPs are proposed for the site.

Both drainage area A-1 and A-2 will be treated with Contech's Modular Wetland Linear Systems (MWS). Each MWS has a pre-treatment chamber that removes sediment and hydrocarbons with a filter. Stormwater is then treated in the proprietary soil media. Both proposed MWS systems are non-vegetated (vault style). For additional information refer to the Washington State Department of Ecology GULD certification for the systems in Attachment 1.

ATTACHMENT 1

STORMWATER POLLUTANT CONTROL BMP SELECTION

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
	Special Considerations for Redevelopment Projects (50% Rule) see chapter 1.7 and Step 1.3	<input type="checkbox"/> Less than or equal to fifty percent (50%) <input checked="" type="checkbox"/> Greater than fifty percent (50%)
Refer to Figure 5-1: Stormwater Pollutant Control BMP Selection Flow Chart		
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this form. See Chapter 3.3.3 for guidance	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Entire project is designed with Self-Mitigating and De-Minimis DMAs. The project is compliant with Pollution Control BMP sizing requirements. STOP *
Attachment 1b	Figure B.1-1: 85 th Percentile 24-hour Isohyetal Map with project location	<input checked="" type="checkbox"/> Included
Attachment 1c	Worksheet B.3-1 Structural BMP Feasibility: Project-Scale BMP Feasibility Analysis	<input checked="" type="checkbox"/> Included
Attachment 1d	Worksheet B.2-1 DCV ²	<input checked="" type="checkbox"/> Included
Attachment 1e	Applicable Site Design BMP Fact Sheet(s) from Appendix E	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Entire project is designed with Self-Retaining DMAs. The project is compliant with Pollution Control BMP sizing requirements. STOP *
Attachment 1f	Structural BMP Inventory	<input checked="" type="checkbox"/> Included
Attachment 1g	Structural Pollutant Control BMP Checklist for each Structural BMP	<input checked="" type="checkbox"/> Included
Attachment 1h	Is Onsite Alternative Compliance proposed? ³	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - Include WQE worksheets
Attachment 1i	Offsite Alternative Compliance Participation Form - Pollutant Control Refer to Figure 1-3: Pathways to Participating in Offsite Alternative Compliance Program	<input checked="" type="checkbox"/> Full Compliance Onsite <input type="checkbox"/> Partial Compliance Onsite with Offsite Alternative Compliance or Full Offsite Alternative Compliance. Document onsite structural BMPs and complete <ul style="list-style-type: none"> - Pollutant Control Offsite Alternative Compliance Participation Form, and - WQE worksheets

* If this box is checked, the remainder of Attachment 1 does not need to be filled out.

² All stormwater pollutant control worksheets have been automated and are available for download at: https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/DevelopmentandConstruction/BMP_Design_Manual.html

³ Water Quality Equivalency Guidance and automated worksheets for Region 9: <http://www.projectcleanwater.org/water-quality-equivalency-guidance/>

Attachment 1a: DMA Exhibit Checklist

See Chapter 3.3.3 for guidance

- Point(s) of Compliance
- Project Site Boundary
- Project Disturbed Area Footprint
- Drainage management area (DMA) boundaries, DMA ID numbers, DMA areas (square footage or acreage), DMA land use and pollutants of concern, and DMA type (i.e., drains to structural BMP, self-retaining, self-mitigating, or de-minimis) Note on exhibit de-minimis areas and discuss reason they could not be included in Step 1.3 per section 5.2.2 of the manual. Include offsite areas receiving treatment to mitigate Onsite Water Quality Equivalency.
- Include summary table of worksheet inputs for each DMA.
- Include description of self-mitigating areas.
- Potential pollutant source areas and corresponding required source control BMPs (see Chapter 4, Appendix E.1, and Step 3.5)
- Proposed Site Design BMPs and surface treatments used to minimize imperviousness. Show sections, details, and dimensions of site design BMP's per chapter 5.2.3 (tree wells, dispersion areas, rain gardens, permeable pavement, rain barrels, green roofs, etc.)
- Proposed Harvest and Use BMPs
- Underlying hydrologic soil group (Web Soil Survey)
- Existing natural hydrologic features (watercourses, seeps, springs, wetlands, pond, lake)
- Existing topography and impervious areas
- Proposed grading and impervious areas. If the project is a subdivision or spans multiple lots show pervious and impervious totals for each lot.
- Existing and proposed site drainage network and connections to drainage offsite
- Potable water wells, onsite wastewater treatment systems (septic), underground utilities
- Structural BMPs (identify location, structural BMP ID No., type of BMP, and size/detail)
- Approximate depth to groundwater at each structural BMP
- Approximate infiltration rate and feasibility (full retention, partial retention, biofiltration) at each structural BMP
- Critical coarse sediment yield areas to be protected and or conveyed through the project site, if applicable.
- Temporary Construction BMPs. Include protection of source control, site design and structural BMPs during construction.



1290 W. Elgin Avenue, Menlo Park, CA 94025
TEL: 650.320.0065 | www.mma-arch.com

A PROJECT FOR:



CATALYST

CATALYST COMMERCIAL GROUP
3860S CALISTOGA, CA 94025
Telephone: (650) 340-5000

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
3880 ELGIN STREET, SUITE 420,
RIVERSIDE, CA 92501
PHONE: 951-543-9968
WWW.KIMLEY-HORN.COM



BEDFORD COURT
TEMECULA, CA 92592

ISSUES / REVISIONS

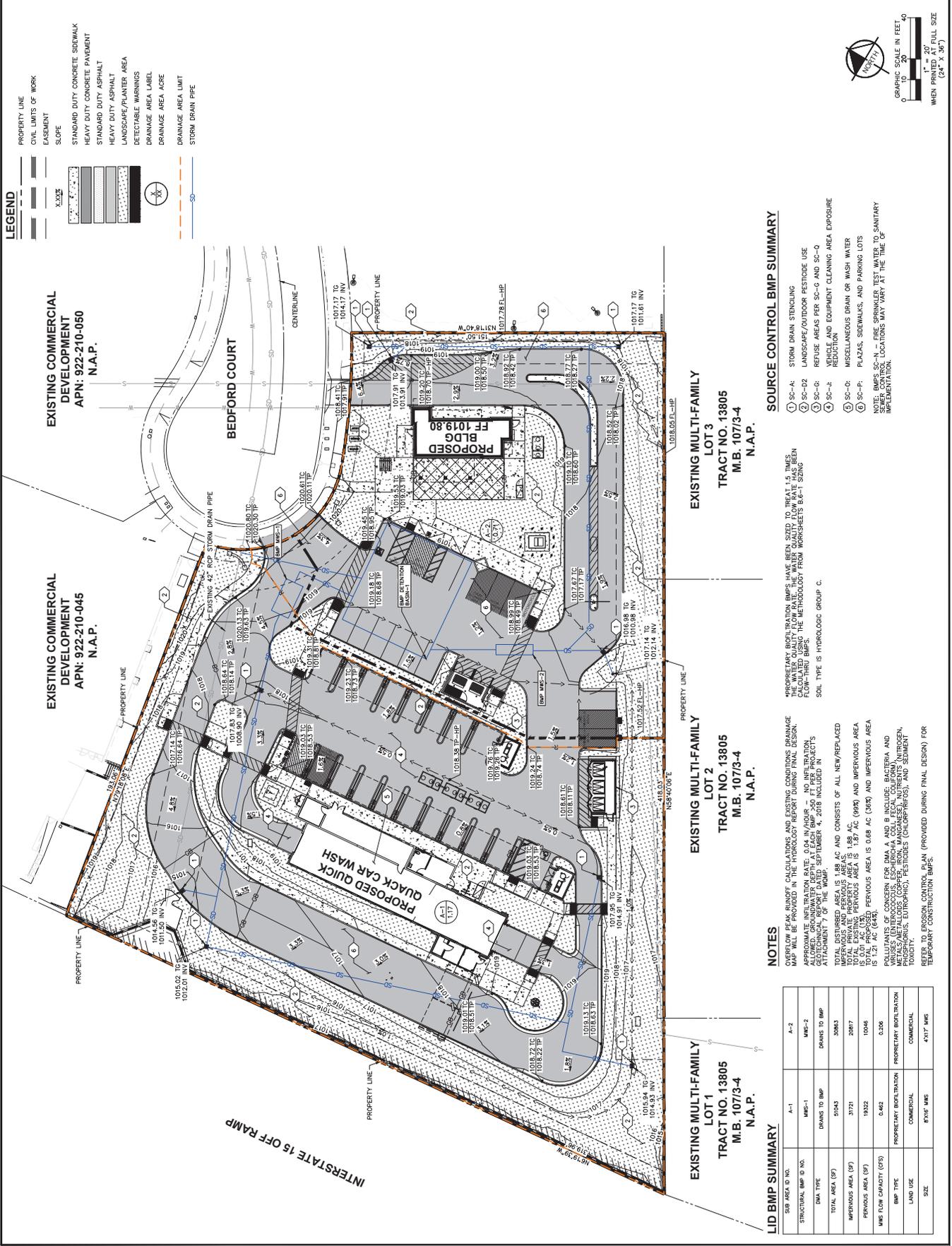
No.	DATE	DESCRIPTION
1	02/03/2023	1ST SUBMITTAL
2	11/9/2023	2ND SUBMITTAL
3	04/08/2024	3RD SUBMITTAL

AS INSTRUMENTS OF SERVICE, ALL DESIGN, DEALS, AND
REVISIONS SHALL BE THE PROPERTY OF MMA ARCHITECTURE, AND SHALL
REMAIN THE PROPERTY OF MMA ARCHITECTURE, AND SHALL NOT BE
REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR
MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION
SYSTEMS WITHOUT THE WRITTEN CONSENT OF MMA ARCHITECTURE. THE
DRAWINGS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF
ACCURACY & TRUE REPRESENTATION.

JOB NUMBER:
DRAWN BY: JY
CHECKED BY: LA
DATE: 8/15/2024
SHEET DESCRIPTION:
SHEET TITLE

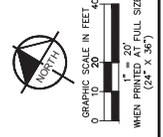
DMA EXHIBIT

SHEET NUMBER:
EX-1
BASED ON SCHEME SP-05



LEGEND

- PROPERTY LINE
- CIVIL LIMITS OF WORK
- EASEMENT
- SLOPE
- STANDARD DUTY CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE PAVEMENT
- STANDARD DUTY ASPHALT
- HEAVY DUTY ASPHALT
- LANDSCAPE/PLANTER AREA
- DETECTABLE WARNINGS
- DRAINAGE AREA LABEL
- DRAINAGE AREA ADE
- DRAINAGE AREA LIMIT
- STORM DRAIN PIPE



EXISTING COMMERCIAL DEVELOPMENT
APN: 922-210-050
N.A.P.

EXISTING COMMERCIAL DEVELOPMENT
APN: 922-210-045
N.A.P.

EXISTING MULTI-FAMILY LOT 3
TRACT NO. 13805
M.B. 10773-4
N.A.P.

EXISTING MULTI-FAMILY LOT 2
TRACT NO. 13805
M.B. 10773-4
N.A.P.

EXISTING MULTI-FAMILY LOT 1
TRACT NO. 13805
M.B. 10773-4
N.A.P.

SOURCE CONTROL BMP SUMMARY

- 1 STORM DRAIN STENCILING
- 2 LANDSCAPE/OUTDOOR PESTICIDE USE
- 3 REFUSE AREAS PER SC-G AND SC-O
- 4 VEHICLE AND EQUIPMENT CLEANING AREA EXPOSURE
- 5 MISCELLANEOUS DRAIN OR WASH WATER
- 6 PLAZAS, SIDEWALKS, AND PARKING LOTS

NOTE: BMPs SC-N - FIRE SPRINKLER TEST WATER TO SANITARY IMPLEMENTATION.

NOTES

OVERFLOW PEAK RUNOFF CALCULATIONS AND EXISTING CONDITIONS DRAINAGE MAP WILL BE PROVIDED IN THE HYDROLOGICAL REPORT DURING FINAL DESIGN.
APPROXIMATE INFILTRATION RATE: 0.04 IN/HR @ NO INFILTRATION.
GEOLOGICAL REPORT DATED SEPTEMBER 4, 2018 INCLUDED IN ATTACHMENT 7 OF THE I.D.M.A.P.
TOTAL EXISTING IMPERVIOUS AREA IS 1.97 AC (69%) AND IMPERVIOUS AREA IS 5.00 AC (15%)
TOTAL EXISTING PERVIOUS AREA IS 0.68 AC (36%) AND IMPERVIOUS AREA IS 1.21 AC (64%).
POLLUTANTS OF CONCERN FOR DMA A AND B INCLUDE: BACTERIA AND METALS/METALLOIDS (COPPER, IRON, MANGANESE), NITROGEN, PHOSPHORUS, EUTHIRPHIC, PESTICIDES (CHLOROPHOS), AND SEDIMENT TOXICITY.
REFER TO EROSION CONTROL PLAN (PROVIDED DURING FINAL DESIGN) FOR TEMPORARY CONSTRUCTION BMPs.

LID BMP SUMMARY

SR#	AREA ID NO.	STRUCTURAL BMP @ NO.	DMA TYPE	TOTAL AREA (SF)	IMPERVIOUS AREA (SF)	PERVIOUS AREA (SF)	WBS FLOW CAPACITY (CF3)	BMP TYPE	LAND USE	SEE
A-1	WBS-1	DRAINS TO BMP	51045	31721	19322	0.62	PROPRIETARY INFILTRATION	COMMERCIAL	8'X17' MWS	4'X17' MWS
A-2	WBS-2	DRAINS TO BMP	30865	20817	10046	0.208	PROPRIETARY INFILTRATION	COMMERCIAL	4'X17' MWS	4'X17' MWS

SITE SPECIFIC DATA	
PROJECT NUMBER	
PROJECT NAME	
PROJECT LOCATION	
STRUCTURE ID	
TREATMENT REQUIRED	
FLOW BASED (CFS)	0.206
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	
PIPE DATA	OFFLINE
I.E.	MATERIAL
INLET PIPE 1	DIAMETER
INLET PIPE 2	N/A
OUTLET PIPE	N/A
PRETREATMENT	BIOFILTRATION
RIM ELEVATION	DISCHARGE
SURFACE LOAD	DIRECT TRAFFIC
NOTES:	

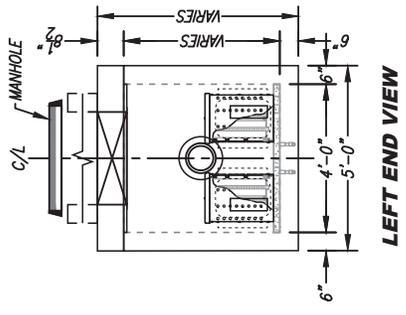
* PRELIMINARY NOT FOR CONSTRUCTION

INSTALLATION NOTES

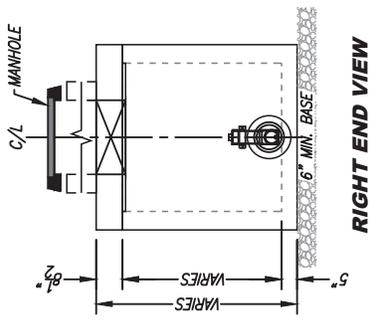
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

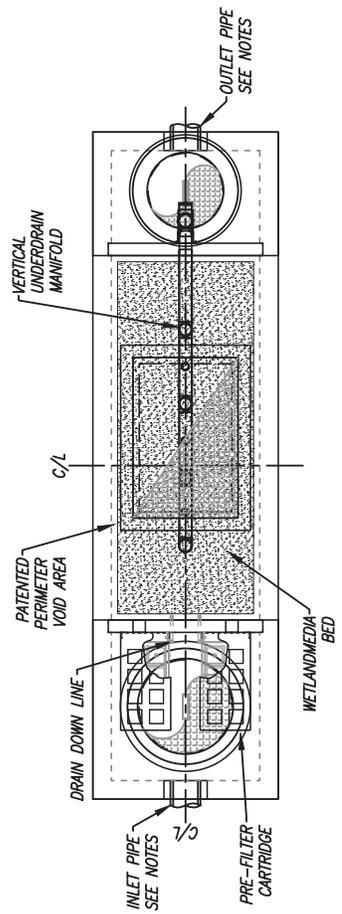
- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.



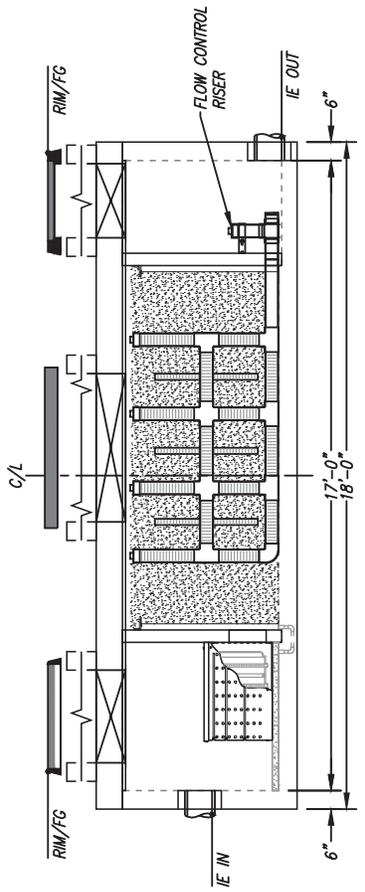
LEFT END VIEW



RIGHT END VIEW



PLAN VIEW



ELEVATION VIEW

TREATMENT FLOW (CFS)	0.206
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	1.8
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MWS-L-4-17-V-UG
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL



SITE SPECIFIC DATA	
PROJECT NUMBER	
PROJECT NAME	
PROJECT LOCATION	
STRUCTURE ID	
TREATMENT REQUIRED	
FLOW BASED (CFS)	0.462
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE
PIPE DATA	I.E. MATERIAL DIAMETER
INLET PIPE 1	N/A N/A N/A
INLET PIPE 2	N/A N/A N/A
OUTLET PIPE	PRETREATMENT BIOFILTRATION DISCHARGE
RIM ELEVATION	
SURFACE LOAD	DIRECT TRAFFIC
NOTES:	

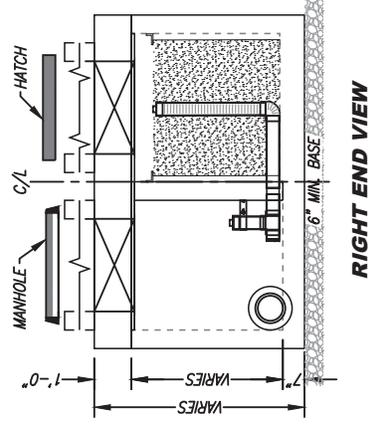
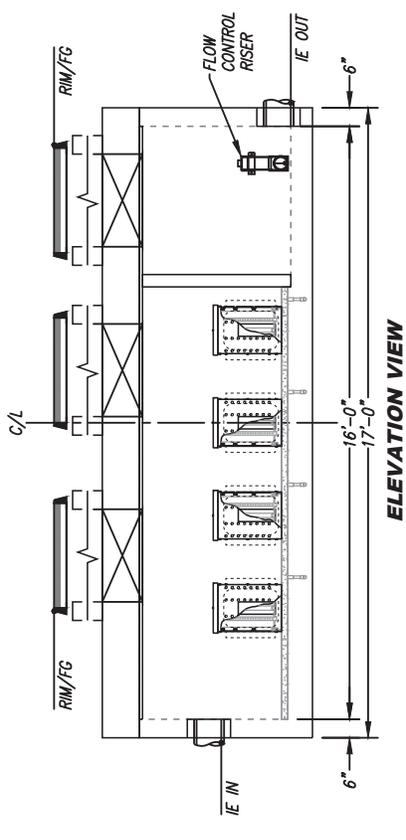
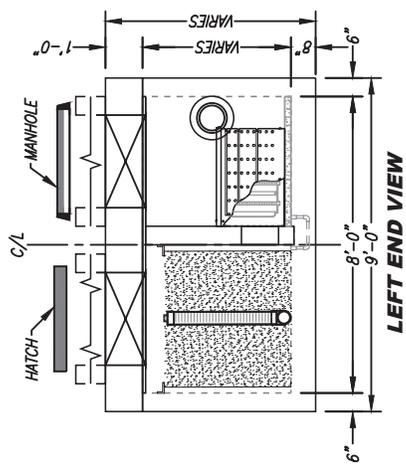
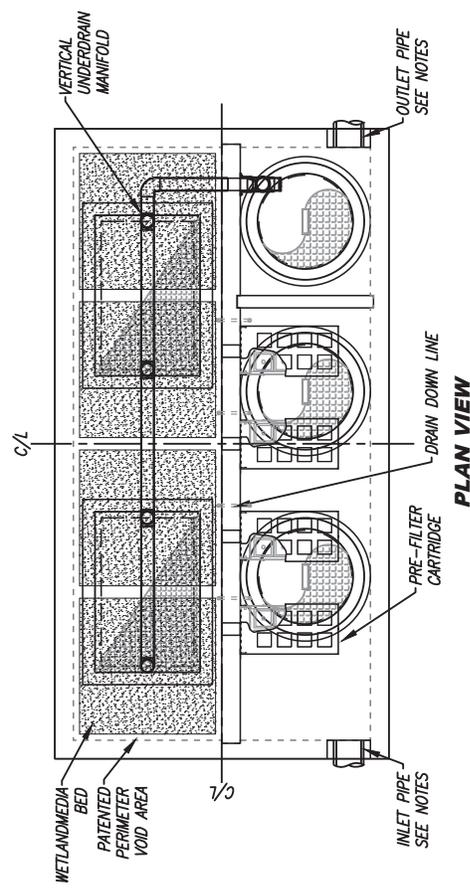
* PRELIMINARY NOT FOR CONSTRUCTION

INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.

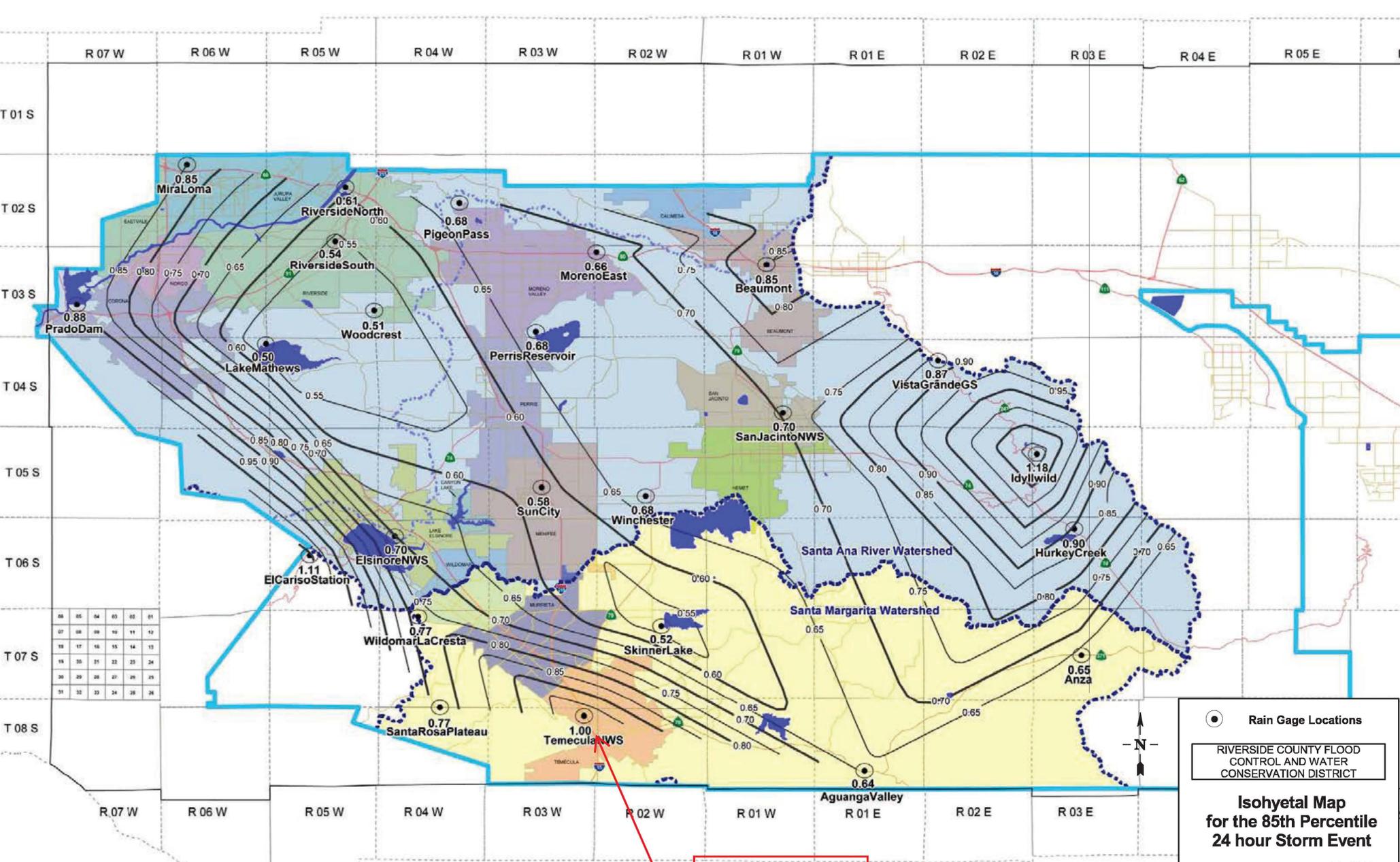


TREATMENT FLOW (CFS)	0.462
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com

WETLANDS
FOR PATENTED IRRIGATION, GO TO
www.contechES.com/PI

MWS-L-8-16-V-UG
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL



 **Rain Gage Locations**
 RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map for the 85th Percentile 24 hour Storm Event
 July 2011

Project Location

Attachment 1g: Structural Pollutant Control BMP Checklist

<p>Provide the following items for each Structural BMP selected</p> <p>Refer to Figure 5-2: Stormwater Pollutant Control Structural BMP Selection Flow Chart</p>			
<input type="checkbox"/> Not included because the entire project is designed with Self-Mitigating, De-Minimis, or Self-Retaining DMAs. The project is compliant with Pollution Control BMP sizing requirements.			
DMA ID No.	A	Structural BMP ID No.	MWS-1
Construction Plan Sheet No.	C1		
<p>Geotechnical/ Soils Engineering Recommendations:</p> <p>Worksheet C.4-1: Categorization of Infiltration Feasibility Condition</p> <input type="checkbox"/> Full Infiltration <input type="checkbox"/> Partial Infiltration <input checked="" type="checkbox"/> No Infiltration <p>Worksheet D.5-1: Factor of Safety and Design Infiltration Rate Design Infiltration rate 0.04 (in/hr)</p>			
<p>Structural BMP Selection and Design (Chapter 5.5) complete and include the applicable worksheet(s) found in appendix B (color coded Green below) and design criteria checklists from the associated fact sheets found in appendix E (color coded Orange below) for selected Structural BMP(s):</p> <input type="checkbox"/> Worksheet B.6-1 - Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) <input type="checkbox"/> Retention by harvest and use (HU-1) <input type="checkbox"/> Continuous simulation Model <input type="checkbox"/> Worksheet B.4-1 <input type="checkbox"/> Infiltration basin (INF-1) <input type="checkbox"/> Bioretention (INF-2) <input type="checkbox"/> Permeable pavement (INF-3) <input type="checkbox"/> Worksheet B.5-1 <input type="checkbox"/> Biofiltration with partial retention (PR-1) <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Biofiltration with Nutrient Sensitive Media Design (BF-2) <input checked="" type="checkbox"/> Proprietary Biofiltration (BF-3) <input checked="" type="checkbox"/> Appendix F checklist <input type="checkbox"/> Worksheet B.5-3 Minimum Footprint <input type="checkbox"/> Worksheet B.5-4 Biofiltration + Storage <input checked="" type="checkbox"/> Selected BMPs have been designed to address the entire DCV. The DMA is compliant with Pollution Control BMP sizing requirements. STOP * <input type="checkbox"/> Other (describe in discussion section below)			

<input type="checkbox"/> Worksheet B.6-1 - Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) <ul style="list-style-type: none"> <input type="checkbox"/> Describe in discussion section below why the remaining BMP size could not fit on site. <input type="checkbox"/> Selection of Flow-Thru Treatment Control BMPs with high or medium effectiveness <ul style="list-style-type: none"> <input type="checkbox"/> Vegetated swales (FT-1) <input type="checkbox"/> Media Filters (FT-2) <input type="checkbox"/> Sand Filters (FT-3) <input type="checkbox"/> Dry Extended Detention Basin (FT-4) <input type="checkbox"/> Proprietary flow-thru treatment control (FT-5) <input type="checkbox"/> Water Quality Equivalency Worksheets²⁰ 	
Purpose: <ul style="list-style-type: none"> <input type="checkbox"/> Pre-treatment/forebay for another structural BMP <input type="checkbox"/> Pollutant control only <input type="checkbox"/> Combined pollutant control and hydromodification control (see Attachment 2) <input type="checkbox"/> Other (describe in discussion section below) 	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Chapter 1.12 of the BMP Design Manual)	Leticia Alvarez, P.E. Kimley-Horn & Associates 951-543-9873 Leticia.Alvarez@Kimley-Horn.com
Who will be the final owner of this BMP?	<input type="checkbox"/> HOA <input checked="" type="checkbox"/> Property Owner <input type="checkbox"/> City <input type="checkbox"/> Other (describe)
Who will maintain this BMP into perpetuity?	<input type="checkbox"/> HOA <input type="checkbox"/> Property Owner <input type="checkbox"/> City <input checked="" type="checkbox"/> Other (describe)

Discussion (as needed):

MWS-1 is an underground Modular Wetland System (MWS) located on the north side of the site at the exit drive aisle of the proposed car wash. Runoff entering the MWS is pre-treated via a filter cartridge before being treated in the proprietary wetland media bed which is in an underground vault. Treated runoff is collected in perforated vertical underdrains which then discharge to the proposed detention system and storm drain system which eventually discharges to the existing RCP pipe along the north side of the property.

The system has a pre-treatment chamber that removes sediment and hydrocarbons with a filter. Stormwater is then treated in the proprietary soil media. The MWS systems are vegetated (planter style) and non-vegetated (vault style). Biological activity in the systems is supported by plants (only in vegetated MWS), and schmutzdecke. For additional information refer to the Washington State Department of Ecology GULD certification for the systems at the end of Attachment 1.

The tenant, Quick Quack, is responsible for maintenance (if needed) of the proposed BMPs storm drain system within the parcel.

* If this box is checked, Worksheet B.6-1 does not need to be filled out.

Attachment 1i: Offsite Alternative Compliance Participation Form - Pollutant Control

Refer to Chapter 1.8

Onsite Project Information			
Record ID:			
Assessor's Parcel Number(s) [APN(s)]			
Quantity of Pollutant Control Debits or Credits (cubic feet)			
<input type="checkbox"/> Debits <input type="checkbox"/> Credits			
*See Attachment 1 of the PDP WQMP			
Land Use Designation			
Agriculture		Rural Residential	
Commercial		Single Family Residential	
Education		Transportation	
Industrial		Vacant / Open Space	

PRIORITY DEVELOPMENT PROJECT (PDP) REQUIREMENTS

Multi Family Residential		Water			
Orchard		Total			
Offsite Project Information – Projects providing or receiving credits (add rows as needed)					
	Record ID:	APN(s)	Project Owner/Address	Credit/Debit	Quantity (cubic feet)
1.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
2.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
3.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
Total sum of Credits and Debits (\sumCredits - \sumDebits) (cubic feet)					
Additional Information					
Are offsite project(s) in the same credit trading area as the onsite project?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Will projects providing credits be completed prior to completion of projects receiving credits?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Are all deficits accounted for? If No, onsite and offsite projects must be redesigned to account for all deficits.					<input type="checkbox"/> Yes <input type="checkbox"/> No

Provide Alternative Compliance In-Lieu Fee Agreement and supporting WQE calculations as part of this attachment.

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
<p><u>Part 1 - Full Infiltration Feasibility Screening Criteria</u></p> <p>Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?</p> <p>Note that it is not necessary to investigate each and every criterion in the worksheet if infiltration is precluded. Instead a letter of justification from a geotechnical professional familiar with the local conditions substantiating any geotechnical issues will be required.</p>			
Criteria	Screening Question	Yes	No
1	<p>Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.</p>		X
<p>Provide basis:</p> <p style="margin-left: 40px;">Per the Geotechnical Report completed by Earth Strata Geotechnical Services, Inc. dated November 7, 2022, infiltration rates are below 0.5 in/hr and was not recommended for this project site. Therefore, full infiltration/retention BMPs are infeasible. Flow thru BMPs are proposed for the site.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
2	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2.</p>		X
<p>Provide basis:</p> <p style="margin-left: 40px;">Per the Geotechnical Report, infiltration rates at the site are below 0.5 inches per hour. It was also indicated that the site is not located in a liquefaction zone. Although groundwater was not encountered during the field exploration, variations in groundwater levels may be identified during construction.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	X	
<p>Provide basis:</p> <p style="text-align: center; margin-top: 20px;">Groundwater was not encountered during geotechnical explorations. However, the Geotechnical Report notes that higher groundwater levels may be present at the site due to the limited number of exploratory boring locations.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
4	<p>Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>		X
<p>Provide basis:</p> <p style="text-align: center; margin-top: 20px;">No water balance issues were identified in the Geotechnical Report. However, infiltration rates below 0.5 in/hr are expected at the site.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
Part 1 Result*	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>		

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the Regional MS4 Permit. Additional testing and/or studies may be required by City staff to substantiate findings.

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 3 of 4

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X

Provide basis:

Per the Geotechnical Report completed by Earth Strata Geotechnical Services, Inc. dated November 7, 2022, infiltration rates are below 0.5 in/hr and was not recommended for this project site. Therefore, infiltration/retention BMPs are infeasible.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
---	--	--	----------

Provide basis:

Per the Geotechnical Report completed by Earth Strata Geotechnical Services, Inc. dated November 7, 2022, infiltration rates are below 0.5 in/hr and was not recommended for this project site. Therefore, infiltration/retention BMPs are infeasible.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	<p>Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>		X
<p>Provide basis:</p> <p style="margin-left: 40px;">Groundwater was not encountered during geotechnical explorations. However, the Geotechnical Report notes that higher groundwater levels may be present at the site due to the limited number of exploratory boring locations.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
8	<p>Can infiltration be allowed without violating downstream water rights? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	X	
<p>Provide basis:</p> <p style="margin-left: 40px;">No water balance issues were identified in the Geotechnical Report.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
Part 2 Result*	<p>If all answers from row 5-8 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.</p> <p>If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</p>		

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the Regional MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings.

Impervious Calculations

Project Name: Bedford Court - Temecula, CA

Completed by: BY

Reviewed by: LA

Date: 3-Feb-23

Updated: 15-Aug-24

City: Temecula

Proposed Conditions

Drainage Area	Area (sf)	Area (ac)	Pervious Area (sf)	Pervious Area (ac)	Impervious Area (sf)	Impervious Area (ac)	Impervious (%)
A-1	50,774	1.17	19423	0.45	31351	0.72	61.7
A-2	30,657	0.70	9950	0.23	20707	0.48	67.5
Total	81,431	1.87	29,373	0.67	52058	1.20	63.9

Existing Conditions

Drainage Area	Area (sf)	Area (ac)	Pervious Area (sf)	Pervious Area (ac)	Impervious Area (sf)	Impervious Area (ac)	Impervious (%)
A	81,431	1.87	81154.26	1.86	276.74	0.01	0.34

Automated Worksheet B.6-1: Sizing Flow-Thru BMPs (V1.3)

Category	#	Description	i	ii	iii	iv	v	vi	vii	viii	ix	x	Units
Flow-Thru BMP Inputs	0	Drainage Basin ID or Name	A-1	A-2	-	-	-	-	-	-	-	-	unitless
	1	Final Effective Tributary Area	30,241	18,748	-	-	-	-	-	-	-	-	sq-ft
	2	Final Adjusted Runoff Factor	0.58	0.63	-	-	-	-	-	-	-	-	unitless
	3	Final Design Capture Volume Tributary to BMP	2,520	1,562	-	-	-	-	-	-	-	-	cubic-feet
	4	Volume Effectively Retained and/or Biofiltered	0	0	-	-	-	-	-	-	-	-	cubic-feet
Flow Rate Calculations	5	Deficit of Effectively Treated Stormwater Requiring Flow-Thru Treatment	-2,520	-1,562	-	-	-	-	-	-	-	-	cubic-feet
	6	Maximum Rated Water Quality Flow Rate of Proposed BMP	0.462	0.206	-	-	-	-	-	-	-	-	CFS
	7	Adjustment Factor	1.00	1.00	-	-	-	-	-	-	-	-	unitless
	8	Design Rainfall Intensity for Flow-Thru BMPs	0.20	0.20	-	-	-	-	-	-	-	-	in/hr
	9	Water Quality Flow Rate Requiring Flow-Thru Treatment	0.139	0.086	-	-	-	-	-	-	-	-	CFS
Result	10	Is Flow-Thru BMP Adequately Sized?	Yes	Yes	-	-	-	-	-	-	-	-	unitless

Worksheet B.6-1 General Notes:

A. Applicants may use this worksheet to size flow-thru BMPs (FT-1 through FT-5) for up to 10 basins. Note that applicants proposing flow-thru BMPs must provide supplemental documentation to support the maximum water quality flow rate referenced above, demonstrate medium to high pollutant removal efficiency for project's most significant pollutants of concern, and must also implement an offsite alternative compliance project to offset the deficit of effectively treated stormwater volume. User input must be provided for yellow shaded cells, values for blue cells are automatically populated based on user inputs from previous worksheets, errors/notifications will be highlighted in red/orange and summarized below.

MWS Flow Rate Sizing Calculations

Project Name: Bedford Court - Temecula, CA

Completed by: BY

Reviewed by: LA

Date: 3-Feb-23

Updated: 15-Aug-24

City: Temecula

Drainage Area	Effective Tributary Area (sf)	Design Storm Intensity (in/hr)	Water Quality Flow Rate (cfs)	Biofiltration Flow Rate (cfs)	BMP ID (sf)	MWS Size (ac)	MWS Capacity (%)
A-1	50,774	0.20	0.233	0.35	MWS-1	8'X16'	0.462
A-2	30,657	0.20	0.141	0.21	MWS-2	4'X17'	0.206

ATTACHMENT 2

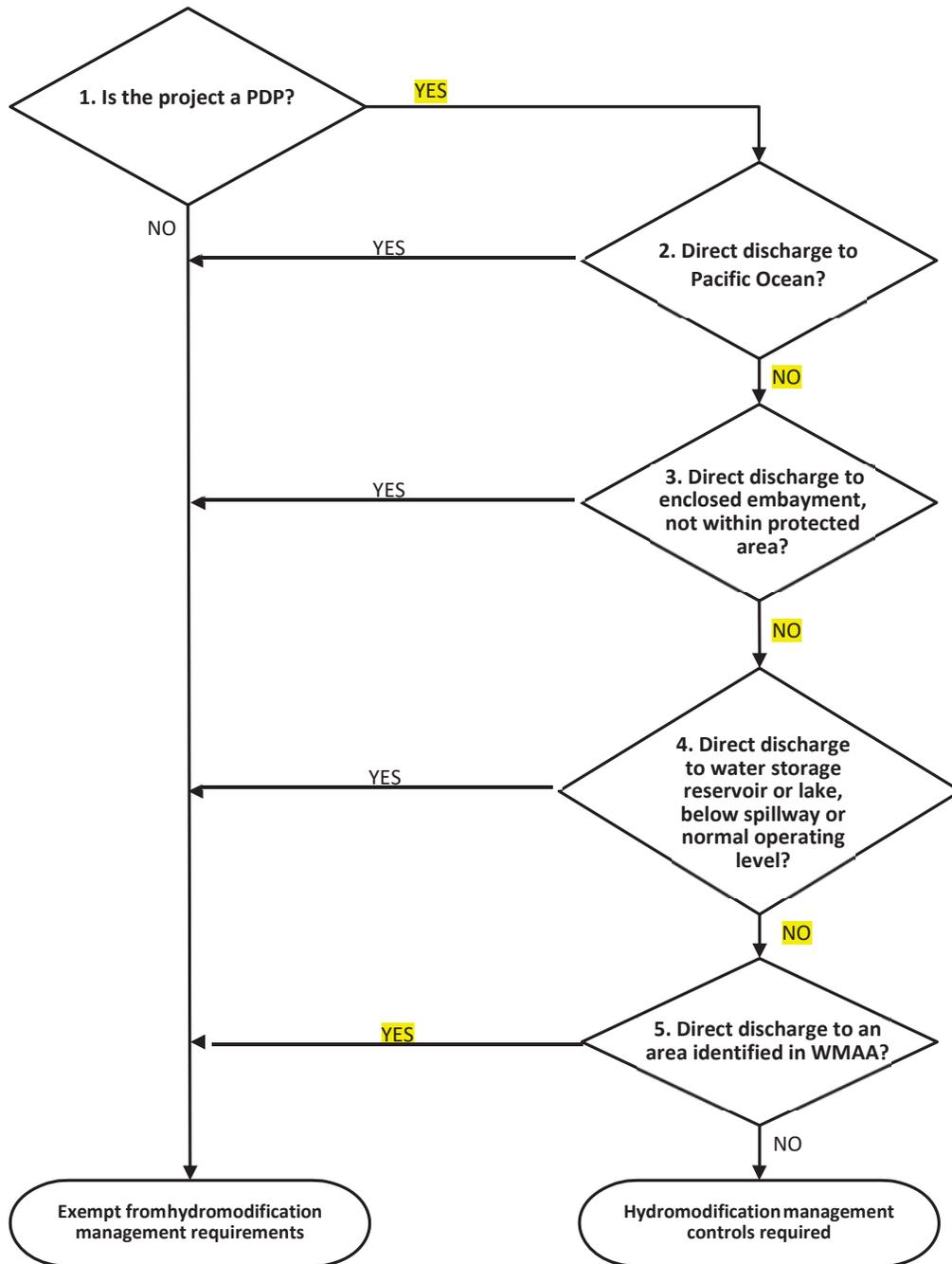
HYDROMODIFICATION CONTROL MEASURES

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 2a	Do Hydromodification Management Requirements apply? See Chapter 1.6 and Figure 1-2.	<input type="checkbox"/> Green Streets Project (Exempt from hydromodification management requirements) STOP * <input checked="" type="checkbox"/> Exempt from hydromodification management requirements. Include Figure 1-2 and document any "YES" answer STOP * <input type="checkbox"/> Hydromodification management controls required.
Attachment 2b	HMP Exhibits (Required) See Checklist on the back of this Attachment cover sheet. see <i>Chapter 6.3.1</i>	<input type="checkbox"/> Combined with DMA Exhibit <input type="checkbox"/> Included
Attachment 2c	Management of Critical Coarse Sediment Yield Areas See Chapter 6.2 and Appendix H of the BMP Design Manual.	<input type="checkbox"/> Exhibit depicting onsite/upstream CCSYAs (Figure H.1-1) AND, documentation that project avoids CCSYA per Appendix H.1. OR <input type="checkbox"/> Sediment Supply BMPs implemented.
Attachment 2d	Structural BMP Design Calculations, Drawdown Calculations, & Overflow Design. See Chapter 6 & Appendix G of the BMP Design Manual	<input type="checkbox"/> Included <input type="checkbox"/> Project is designed entirely with De-Minimus, Self-Mitigating, and/or qualifying Self-Retaining Areas. STOP *
Attachment 2e	Geomorphic Assessment of Receiving Channels. See Chapter 6.3.4 of the BMP Design Manual.	<input type="checkbox"/> low flow threshold is 0.1Q2 <input type="checkbox"/> low flow threshold is 0.3Q2 <input type="checkbox"/> low flow threshold is 0.5Q2
Attachment 2f	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	<input type="checkbox"/> Included <input type="checkbox"/> Not required because BMPs will drain in less than 96 hours
Attachment 2g	Hydromodification Offsite Alternative Compliance form. Refer to Figure 1-3: Pathways to Participating in Offsite Alternative Compliance Program	<input type="checkbox"/> Full Compliance Onsite <input type="checkbox"/> Offsite ACP. Document onsite structural BMPs and complete <u>Hydromodification Offsite Alternative Compliance Participation Form</u> , and <u>WQE worksheets</u>

* If this box is checked, the remainder of Attachment 2 does not need to be filled out.

Attachment 2a: Applicability of Hydromodification Management BMP Requirements



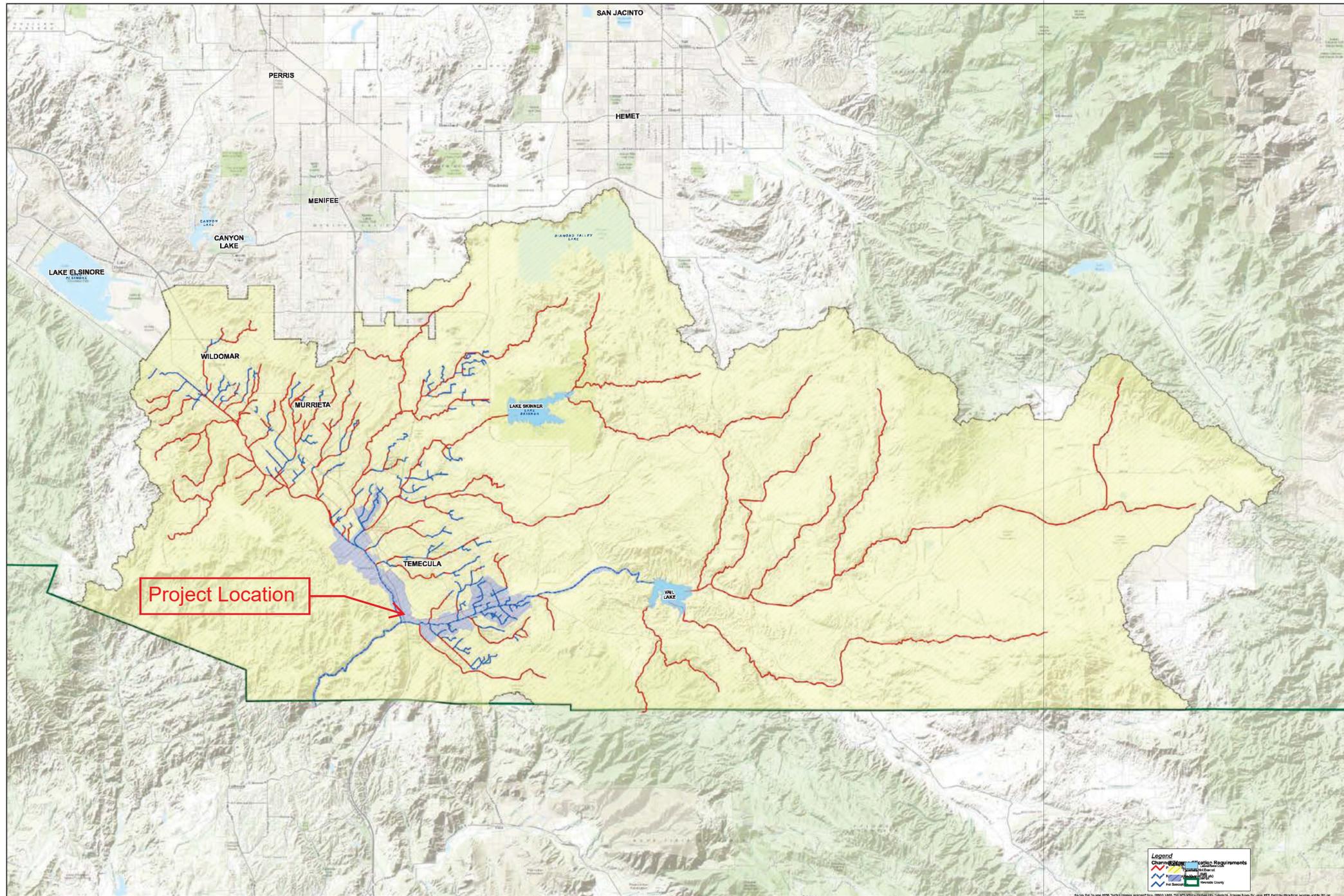
Attachment 2b: DMA Exhibit Checklist

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

- Point(s) of Compliance with name or number
- Project Site Boundary
- Project Disturbed Area Footprint
- Drainage management area (DMA) boundaries, DMA ID numbers, DMA areas (square footage or acreage), and DMA type (i.e., drains to structural BMP, self-retaining, self-mitigating, or de-minimis) Note on exhibit De-minimis areas and reason they could not be included. Include offsite areas receiving treatment to mitigate Onsite Water Quality Equivalency.
- Potential pollutant source areas and corresponding required source control BMPs (see Chapter 4, Appendix E.1, and Step 3.5)
- Proposed Site Design BMPs and surface treatments used to minimize imperviousness. Show sections, details, and dimensions of site design BMP's (tree wells, dispersion areas, rain gardens, permeable pavement, rain barrels, green roofs, etc.)
- Proposed Harvest and Use BMPs
- Underlying hydrologic soil group (Web Soil Survey)
- Existing natural hydrologic features (watercourses, seeps, springs, wetlands, pond, lake)
- Existing topography and impervious areas
- Proposed grading and impervious areas. If the project is a subdivision or spans multiple lots show pervious and impervious totals for each lot.
- Existing and proposed site drainage network and connections to drainage offsite
- Potable water wells, onsite wastewater treatment systems (septic), underground utilities
- Structural BMPs (identify location, structural BMP ID No., type of BMP, and size/detail)
- Approximate depth to groundwater at each structural BMP
- Approximate infiltration rate and feasibility (full retention, partial retention, biofiltration) at each structural BMP
- Critical coarse sediment yield areas to be protected and or conveyed through the project site.
- Temporary Construction BMPs. Include protection of source control, site design and structural BMPs during construction.

- Onsite and Offsite Critical coarse sediment yield areas to be protected
- Proposed design features and surface treatments used to minimize imperviousness
- Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

The Santa Margarita Region Hydromodification Management Plan (SMR HMP), 2014, has identified that large rivers are exempt from hydromodification requirements due to their wide floodplain areas when in natural conditions or are stabilized when in the engineered conditions. All exempt rivers have a drainage area larger than 100 square miles and a 100-year design flow higher than 20,000 cfs. Both Murrieta Creek and Santa Margarita River are included as exempt rivers. The project proposes to discharge to Murrieta Creek via underground stormdrain pipes and therefore falls in this exemption category.



Project Location

Legend

- Channel Susceptibility
- Areas Exempt from Hydromodification Requirements
- Santa Margarita River Watershed
- San Diego County



Map 2 - Channel Susceptibility & Areas Exempt from Hydromodification Requirements
 Hydromodification Susceptibility Documentation Report and Mapping - Santa Margarita Region Hydromodification Management Plan
 SMR Cooperatives

Attachment 2c: Management of Critical Coarse Sediment Yield Areas

Document the findings of Site-specific Critical Coarse Sediment Analysis below. Include any calculations, and additional documentation completed as part of the analysis. Refer to Chapter 6.2 and Appendix H of the City of Temecula BMP Design Manual for additional guidance.

The project effectively manages Critical Coarse Sediment Yield Areas (CCSYAs) using the following methodology:

- Step A.** A Site-Specific Critical Coarse Sediment Yield Analysis was performed:
 - Step A.1.** Determine whether the project site is a significant source of critical coarse sediment to the channel receiving runoff (refer to CCSYA mapping in Appendix H):
 - The project site is a significant source of Bed Sediment Supply. All channels on the project site are preserved or bypassed within the site plan. *(Complete Step A.2, below)*
 - The project site is a source of Bed Sediment Supply. Channels identified as verified critical coarse sediment yield areas are preserved. *(Complete Step A.2, below)*
 - The Project site is not a significant source of Bed Sediment Supply. **(STOP, supporting information provided with this checklist)**
 - Impacts to verified CCSYAs cannot be avoided. *(Complete Step B, below)*
 - Step A.2.** Project site design avoids CCSYAs and maintains sediment supply pathways, documentation is provided following this checklist. **(STOP, include supporting documentation with this checklist)**
- Step B.** Sediment Supply BMPs are implemented onsite to mitigate impacts of development in CCSYAs, documentation is provided following this checklist. **(STOP, include supporting documentation with this checklist)**

Hydromodification Offsite Alternative Compliance Participation Form

Refer to Chapter 1.8

Onsite Project Information					
Record ID:					
Assessor's Parcel Number(s) [APN(s)]					
Quantity of Hydromodification Debits or Credits (DCIA)					
<input type="checkbox"/> Debits <input type="checkbox"/> Credits					
*See Attachment 1 of the PDP WQMP					
Offsite Project Information – Projects providing or receiving credits (add rows as needed)					
	Record ID:	APN(s)	Project Owner/Address	Credit/Debit	Quantity (DCIA)
1.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
2.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
3.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
4.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
5.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
6.				<input type="checkbox"/> Credit <input type="checkbox"/> Debit	
Total sum of Credits and Debits (\sumCredits - \sumDebits) (DCIA)					
Additional Information					
Are offsite projects in the same credit trading area as the onsite project?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Do offsite projects discharge directly to the same susceptible stream reach as the onsite project? (required for certain hydromodification scenarios)					<input type="checkbox"/> Yes <input type="checkbox"/> No
Will projects providing credits be completed prior to completion of projects receiving credits?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Are all deficits accounted for? If No, onsite and offsite projects must be redesigned to account for all deficits.					<input type="checkbox"/> Yes <input type="checkbox"/> No

Provide supporting WQE calculations as part of this attachment.

CHECKLIST 1

Checklist of Items to Include on Plan Sheets Showing Permanent Stormwater BMPs, Source Control, and Site Design

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

- Structural BMP(s) with ID numbers
- The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- Improvements within City Public Right-of-Way have been designed in accordance with Appendix K: Guidance on Green Infrastructure.
- Details and specifications for construction of structural BMP(s).
- Manufacturer and part number for proprietary parts of structural BMP(s) when applicable.
- Signage indicating the location and boundary of source control, site design, and structural BMP(s) as required by City staff.
- How to access the structural BMP(s) to inspect and perform maintenance.
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, benchmarks or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- Include landscaping plan sheets showing vegetation and amended soil requirements for vegetated structural BMP(s), amended soil areas, dispersion areas, tree-wells, and self-mitigating areas
- All BMPs must be fully dimensioned on the plans
- Include all Construction stormwater, source control, and site design measures described in the WQMP. Can be included as separate plan sheets as necessary.
- When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number must be provided. Photocopies of general brochures are not acceptable.

CHECKLIST 2

Checklist for Hydrology/Hydraulic Analysis

Use this checklist to ensure the required information has been included on the Hydrology/Hydraulic Analysis :

- The project is subject to the requirements of City of Temecula Construction, Grading, and Encroachment Ordinance Section 18.06.020 and requires a grading permit and Hydrology Hydraulic Analysis. **Prepare Hydrology/Hydraulic Analysis and include all elements of checklist below.**
- The project is exempt from grading permit requirements of City of Temecula Construction, Grading, and Encroachment Ordinance per Section 18.06.060. Document the project exempt category and justification and **STOP**.

Grading Exemption Category (A-O): _____
 Discussion/Justification of Exemption:

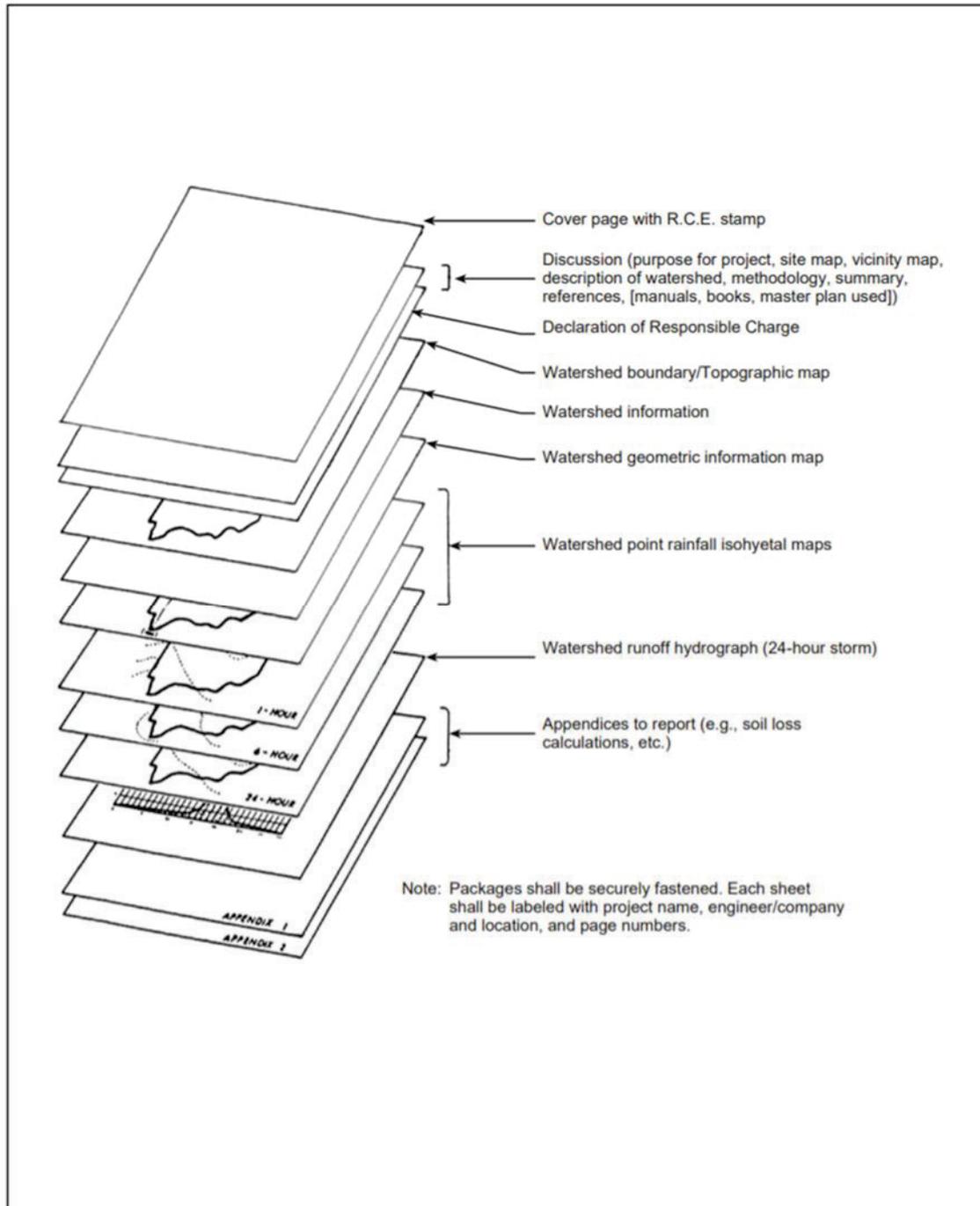
Hydrology/Hydraulic Analysis. The engineer of record shall prepare and submit studies and data regarding hydrology/hydraulic analysis and calculations for ten (10) and one hundred (100) year storm events per Riverside County Flood Control & Water Conservation District Hydrology Manual. Drainage area maps shall also be submitted to determine the quantity of runoff generated by or tributary to the site, and its effects on the site or upon upstream or downstream properties.

the study shall include the following but not limited to:

- In the narrative of the report please provide a summary table of pre- and post- development C, Tc, I, A, V100, Q100 without mitigation and Q100 with mitigation for each area (or point) where drainage discharges from the project. Peak runoff rates (cfs), velocities (fps) and identification of all erosive velocities (at all points of discharge) calculations for pre-development and post-development. The comparisons should be made about the same discharge points for each drainage basin affecting the site and adjacent properties.
- Summary/Conclusion: Please discuss whether the proposed project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? Provide reasons and mitigations proposed. Provide existing and proposed Hydrology Maps for each phase. The maps shall show existing and proposed culverts, discharge point with A & Q, flow path direction for each drainage basin. Show existing FEMA floodplain/floodway which flow through the property. A minimum map size is 11"x17".
- Provide Hydrologic Soil Group Map.
- Provide Rainfall Isopluvials for 100 Year Rainfall Event - 6 Hours and 24 Hours Maps.
- The report should have numbered pages and a corresponding Table of Contents.
- Improvements within City Public Right-of-Way have been designed in accordance with Appendix K: Guidance on Green Infrastructure.
- BMP's have been designed to safely convey the 100-year flood
- Limits of Inundation. Said limits on the property, during specified storm frequencies, shall be delineated on the plans; supporting calculations shall also be required.

- Flood Protection. The engineer of record responsible for plan preparation shall ensure:

- a. That the building pads to be created through any proposed grading are free from inundation from runoff from specified storms; and
- b. That floodplain/floodway elevations and widths, sheet flow depths and any other data required by the City Engineer (or by any applicable County, State or Federal flood protection insurance program/requirements) are delineated on the plans.



CHECKLIST 3

Checklist for Geotechnical and Groundwater Investigation Report

The report must address the following key elements, and where appropriate, mitigation recommendations must be provided.

Identify areas of the project site where infiltration is likely to be feasible and provide justifications for selection of those areas based on soil types, slopes, proximity to existing features, etc. Include completed and signed Worksheet C.4-1.

Investigate, evaluate and estimate the vertical infiltration rates and capacities in accordance with the guidance provided in Appendix D which describes infiltration testing and appropriate factor of safety to be applied for infiltration testing results. The site may be broken into sub-basins, each of which has different infiltration rates or capacities.

Describe the infiltration/ percolation test results and correlation with published infiltration/ percolation rates based on soil parameters or classification. Recommend providing design infiltration/percolation rate(s) at the sub-basins. Include completed and signed Worksheet D.5-1.

Investigate the subsurface geological conditions and geotechnical conditions that would affect infiltration or migration of water toward structures, slopes, utilities, or other features. Describe the anticipated flow path of infiltrated water. Indicate if the water will flow into pavement sections, utility trench bedding, wall drains, foundation drains, or other permeable improvements.

Investigate depth to groundwater and the nature of the groundwater. Include an estimate of the high seasonal groundwater elevations.

Evaluate proposed use of the site (industrial use, residential use, etc.), soil and groundwater data and provide a concluding opinion whether proposed storm water infiltration could cause adverse impacts to groundwater quality and if it does cause impacts whether the impacts could be reasonably mitigated or not.

Estimate the maximum allowable infiltration rates and volumes that could occur at the site that would avoid damage to existing and proposed structures, utilities, slopes, or other features. In addition the report must indicate if the recommended infiltration rate is appropriate based on the conditions exposed during construction.

Provide a concluding opinion regarding whether or not the proposed onsite storm water infiltration/percolation BMP will result in soil piping, daylight water seepage, slope instability, or ground settlement.

Recommend measures to substantially mitigate or avoid any potentially detrimental effects of the storm water infiltration BMPs or associated soil response on existing or proposed improvements or structures, utilities, slopes or other features within and adjacent to the site. For example, minimize soil compaction.

Provide guidance for the selection and location of infiltration BMPs, including the minimum separations between such infiltration BMPs and structures, streets, utilities, manufactured and existing slopes, engineered fills, utilities or other features. Include guidance for measures that could be used to reduce the minimum separations or to mitigate the potential impacts of infiltration BMPs.

APPENDIX A
REFERENCES

APPENDIX A

References

California Building Standards Commission, 2019, *2019 California Building Code, California Code of Regulations Title 24, Part 2, Volume 2 of 2*, Based on 2018 International Building Code.

California Corrosion Guidelines

DeLorme, 2004, (www.delorme.com) *Topo USA*®.

Hart, Earl W. and Bryant, William A., 1997, *Fault Rupture Hazard Zones in California, CDMG Special Publication 42*, revised 2003.

Jenkins, Olaf P., 1978, *Geologic Map of California, Santa Ana Sheet*; CDMG, Scale 1:250,000.

Kennedy, M.P., 2000, Nelson, B., and R. Hauser, *Geologic Map of the Pechanga 7.5 Minute Quadrangle, Riverside and San Diego Counties, California, Version 1.0*: U.S. Geological Survey, CDMG.

Kennedy, M.P., 1977, *Regency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California*, California Division of Mines and Geology Special Report 131.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Southern California, Version 2.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M., Hauser, Rachel M., and Ruppert, Kelly R., 2004, *Preliminary Digital Geologic Map of the Murrieta 7.5 Minute Quadrangle, Southern California, Version 1.0*: U.S. Geological Survey Open-File Report 99-0172.

Morton, D.M. (compiler), and Fred K. Miller (compiler), 2006, *Geologic Map of the San Bernardino and Santa Ana 30' x 60' Quadrangles, California*: U.S. Geological Survey, Version 1, California.

National Association of Corrosion Engineers, 1984, *Corrosion Basics An Introduction*, page 191.

Per A.B. Chance® Recommendations, 2003

Southern California Earthquake Center (SCEC), 1999, *Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California*, March.

APPENDIX B
EXPLORATORY LOGS

Geotechnical Boring Log B-1

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					ML	Sandy SILT; brown, slightly moist, medium dense, fine sand
	24	2.5'	116.4	12.6		
5						Porous at 5 feet
	34	5'	115.4	14.7		Becomes dense below 5 feet
						Dark brown, fine gravel at 7.5 feet
	35	7.5'	123.3	9.7		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
					SM	Silty SAND; dark brown, slightly moist, very dense, fine to medium sand and gravel, poor recovery
	50/6"	10'	-	-		
15						No recovery and Practical Refusal 16 feet
						End of Boring: 16 feet
						No Groundwater
20						
25						
30						

Geotechnical Boring Log B-2

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0		0-5'				Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, fine to medium sand
	32	2.5'	122.8	9.4		
						Medium to coarse sand, porous at 5 feet
5						
	31	5'	112.0	13.4		
						Practical Refusal at 6.5 feet
						End of Boring: 6.5 feet
						No Groundwater
10						
15						
20						
25						
30						

42184 Remington Avenue, Temecula, CA 92590

Earth Strata Geotechnical Services, Inc.
 Geotechnical, Environmental and Materials Testing Consultants
www.ESGSINC.com (951) 397-8315

Geotechnical Boring Log B-3

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, medium to coarse sand, fine gravel, porous
	29	2.5'	123.7	7.1		
						With cobbles, becomes dense at 5 feet
5						
	36	5'	132.2	4.9		
	65	7.5'	114.5	5.4		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to medium sand
					SM	Silty SAND; reddish brown, slightly moist, very dense, fine gravel
10						
	80/11"	10'	111.3	5.0	SP	Poorly-graded SAND; light brown, slightly moist, very dense, fine to coarse sand
						Practical refusal at 11 feet
						End of Boring: 11.5 feet
						No Groundwater
15						
20						
25						
30						

Geotechnical Boring Log B-4

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, dense, medium to coarse sand, fine gravel
	31	2.5'	120.0	7.0		
						Dark brown, medium dense, fine sand, porous below 5 feet
5	26	5'	120.7	9.6		
	30	7.5'	124.3	11.3	ML	Sandy SILT; reddish brown, slightly moist, hard, fine to medium sand
10	68/11"	10'	122.0	6.6		Quaternary Young Alluvial Valley Deposits (Qyv)
					SP	Poorly-graded SAND; white to light brown, slightly moist, very dense, fine to medium sand
15	50/6"	15'	109.4	7.1	SM	Silty SAND; white to brown, slightly moist, very dense, fine to coarse sand with cobble
						Practical refusal at 16 feet
						End of Boring: 16 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-5

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, very dense, fine to medium sand with fine gravel
	39	2.5'	122.0	5.9		
5						
	25	5'	125.9	4.4	SP	Poorly-graded SAND; brown, moist, medium dense, fine to medium sand, medium to coarse gravel
	50	7.5'	117.7	16.2	ML	Sandy SILT; brown, slightly moist, dense, fine grained sand
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	63	10'	120.3	6.1	SM	Silty SAND; white to brown, moist, very dense, medium to coarse sand, fine gravel
						Practical refusal at 13.5 feet
15						End of Boring: 13.5 feet No Groundwater
20						
25						
30						

Geotechnical Boring Log B-6

Date: October 24, 2022	Project Name: Bedford Court	Page: 1 of 1
Project Number: 224450-10A	Logged By: SEZ	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Artificial Fill, Compacted (Afc):
					SM	Silty SAND; brown, slightly moist, medium dense, fine to medium grained sand
	20	2.5'	121.2	5.6		
5						
	19	5'	116.4	18.6		
	11	7.5'	114.7	14.0		
10						Quaternary Young Alluvial Valley Deposits (Qyv)
	68	10'	120.1	7.0	SP	Poorly-graded SAND; white to brown, slightly moist, very dense, medium to coarse sand, fine gravel
15						
	50/5"	15'	106.9	6.7		
						End of Boring: 16 feet No Groundwater
20						
25						
30						

APPENDIX C

LABORATORY PROCEDURES AND TEST RESULTS

APPENDIX C

Laboratory Procedures and Test Results

Laboratory testing provided quantitative and qualitative data involving the relevant engineering properties of the representative earth materials selected for testing. The representative samples were tested in general accordance with American Society for Testing and Materials (ASTM) procedures and/or California Test Methods (CTM).

Soil Classification: Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions were reconciled to reflect laboratory test results with regard to ASTM D 2487.

Moisture and Density Tests: For select samples moisture content was determined using the guidelines of ASTM D 2216 and dry density determinations were made using the guidelines of ASTM D 2937. These tests were performed on relatively undisturbed samples and the test results are presented on the exploratory logs.

Maximum Density Tests: The maximum dry density and optimum moisture content of representative samples were determined using the guidelines of ASTM D 1557. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)
B-2 @ 0-5 feet	Clayey SAND	133.0	8.0

Expansion Index: The expansion potential of representative samples was evaluated using the guidelines of ASTM D 4829. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	EXPANSION INDEX	EXPANSION POTENTIAL
B-2 @ 0-5 feet	Clayey SAND	9	Very Low

Minimum Resistivity and pH Tests: Minimum resistivity and pH Tests of select samples were performed using the guidelines of CTM 643. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	pH	MINIMUM RESISTIVITY (ohm-cm)
B-2 @ 0-5 feet	Clayey SAND	7.5	1,400

Soluble Sulfate: The soluble sulfate content of select samples was determined using the guidelines of CTM 417. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	SULFATE CONTENT (% by weight)	SULFATE EXPOSURE
B-2 @ 0-5 feet	Clayey SAND	0.001	Negligible

Chloride Content: Chloride content of select samples was determined using the guidelines of CTM 422. The test results are presented in the table below.

SAMPLE LOCATION	MATERIAL DESCRIPTION	CHLORIDE CONTENT (ppm)
B-2 @ 0-5 feet	Clayey SAND	50

APPENDIX D
SEISMICITY



ARS Online V3.0.2

Using the tool: Specify latitude and longitude in decimal degrees in the input boxes below. Alternatively, **Google Maps** can be used to find the site location. Specify the time-averaged shear-wave velocity in the upper 30m (Vs30) in the input box. After submitting the data, the USGS 2014 hazard data for a 975-year return period will be reported along with adjustment factors required by Caltrans Seismic Design Criteria (SDC) V2.0.

Latitude:
Longitude:
Vs30 (m/s):

Caltrans Design Spectrum (5% damping)

Period(s)	Sa ₂₀₀₈ (g)	Sa ₂₀₁₄ (g)	Basin ₂₀₀₈	Basin ₂₀₁₄	Near Fault Amp	Design Sa ₂₀₀₈ (g)	Design Sa ₂₀₁₄ (g)
PGA	0.56	0.54	1	1	1	0.56	0.54
0.10	0.93	0.92	1	1	1	0.93	0.92
0.20	1.16	1.23	1	1	1	1.16	1.23
0.30	1.18	1.34	1	1	1	1.18	1.34
0.50	1.07	1.24	1	1	1	1.07	1.24
0.75	0.91	0.98	1	1	1.1	1	1.08
1.0	0.75	0.79	1	1	1.2	0.9	0.95
2.0	0.43	0.41	1	1	1.2	0.52	0.49
3.0	0.29	0.26	1	1	1.2	0.34	0.32
4.0	0.21	0.19	1	1	1.2	0.25	0.22
5.0	0.17	0.14	1	1	1.2	0.2	0.17

Deaggregation (based on 2014 hazard)

mean magnitude (for PGA) 6.85

mean site-source distance (km, for Sa at 1s) 14.4

Option: recalculate Near Fault amplification with user specified distance

Site-source distance (km):

2008 National Seismic Hazard Maps - Source Parameters

[New Search](#)

Distance in Kilometers	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
1.25	Elsinore;GI+T+J+CM	CA	n/a	86	NE	strike slip	0	16	195
1.25	Elsinore;T	CA	5	90	V	strike slip	0	14	52
1.25	Elsinore;GI+T+J	CA	n/a	86	NE	strike slip	0	17	153
1.25	Elsinore;GI+T	CA	5	90	V	strike slip	0	14	78
1.25	Elsinore;W+GI+T+J+CM	CA	n/a	84	NE	strike slip	0	16	241
1.25	Elsinore;W+GI+T+J	CA	n/a	84	NE	strike slip	0	16	199
1.25	Elsinore;W+GI+T	CA	n/a	84	NE	strike slip	0	14	124
1.25	Elsinore;T+J+CM	CA	n/a	85	NE	strike slip	0	16	169
1.25	Elsinore;T+J	CA	n/a	86	NE	strike slip	0	17	127
19.43	Elsinore;J	CA	3	84	NE	strike slip	0	19	75
19.43	Elsinore;J+CM	CA	3	84	NE	strike slip	0	17	118
20.77	Elsinore;GI	CA	5	90	V	strike slip	0	13	37
20.77	Elsinore;W+GI	CA	n/a	81	NE	strike slip	0	14	83
35.28	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
35.28	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
35.28	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118
35.28	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178

35.28	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
35.35	San Jacinto;SBV+SJV+A+CC	CA	n/a	90	V	strike slip	0	16	181
35.35	San Jacinto;SBV+SJV+A	CA	n/a	90	V	strike slip	0	16	134
35.35	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
35.35	San Jacinto;SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
35.35	San Jacinto;SJV+A+CC	CA	n/a	90	V	strike slip	0	16	136
35.35	San Jacinto;SJV+A+C	CA	n/a	90	V	strike slip	0	17	136
35.35	San Jacinto;SJV+A	CA	n/a	90	V	strike slip	0	17	89
35.35	San Jacinto;SBV+SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	215
35.35	San Jacinto;SBV+SJV+A+C	CA	n/a	90	V	strike slip	0	17	181
35.35	San Jacinto;SBV+SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
37.69	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
37.69	San Jacinto;SBV+SJV	CA	n/a	90	V	strike slip	0	16	88
43.61	Newport Inglewood Connected alt 1	CA	1.3	89		strike slip	0	11	208
43.61	Newport Inglewood Connected alt 2	CA	1.3	90	V	strike slip	0	11	208
43.61	Newport-Inglewood (Offshore)	CA	1.5	90	V	strike slip	0	10	66
47.58	Rose Canyon	CA	1.5	90	V	strike slip	0	8	70
51.53	San Joaquin Hills	CA	0.5	23	SW	thrust	2	13	27
55.21	Chino, alt 2	CA	1	65	SW	strike slip	0	14	29
55.28	San Jacinto;CC+B	CA	n/a	90	V	strike slip	0.2	14	77
55.28	San Jacinto;CC	CA	4	90	V	strike slip	0	16	43
55.28	San Jacinto;CC+B+SM	CA	n/a	90	V	strike slip	0.2	14	103

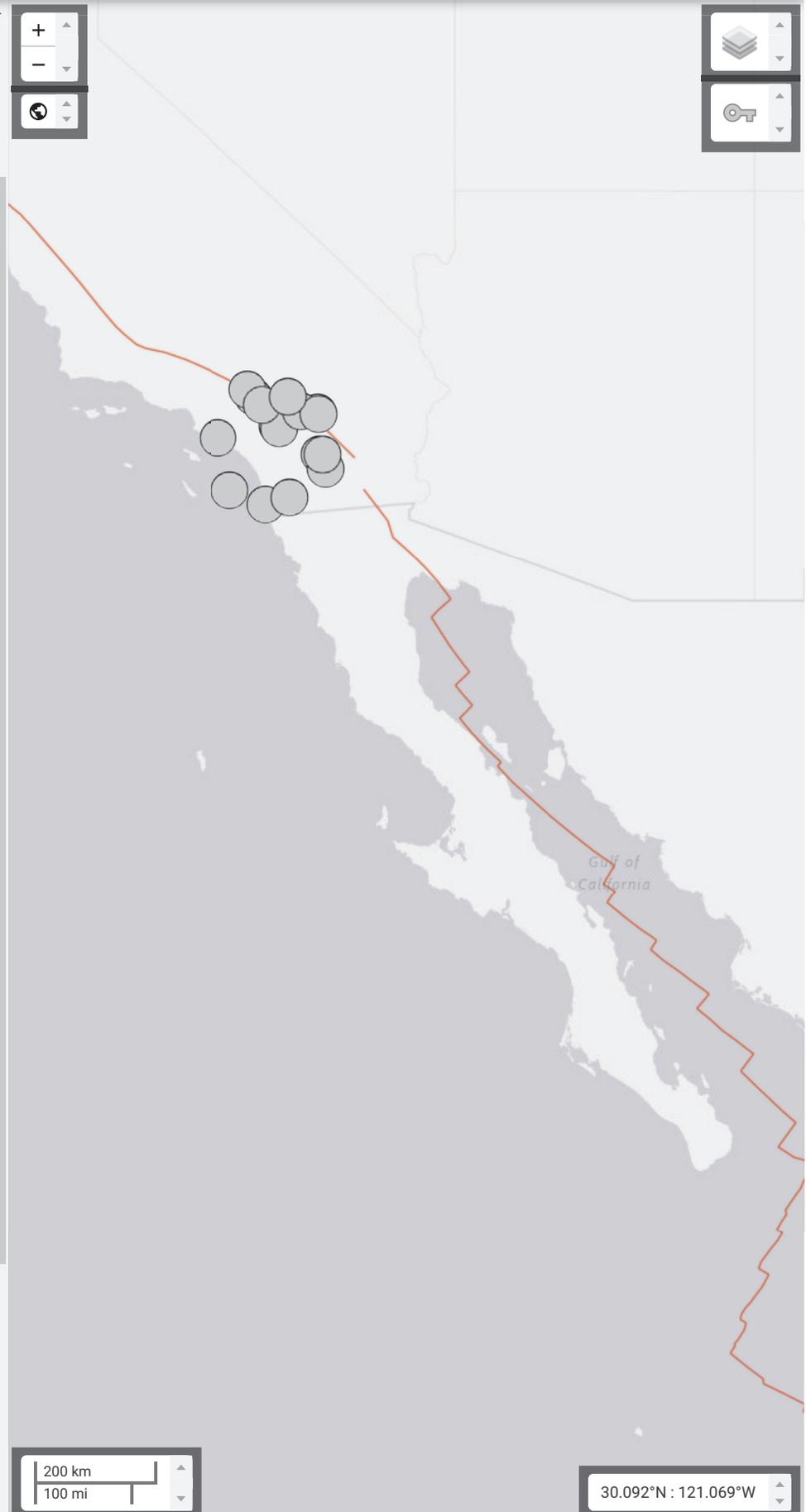
57.21	Elsinore;W	CA	2.5	75	NE	strike slip	0	14	46
58.04	San Jacinto;C	CA	14	90	V	strike slip	0	17	47
59.43	Chino, alt 1	CA	1	50	SW	strike slip	0	9	24
60.46	San Jacinto;SBV	CA	6	90	V	strike slip	0	16	45
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	548
60.85	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0.1	13	479
60.85	S. San Andreas;NSB+SSB+BG	CA	n/a	75		strike slip	0	14	136
60.85	S. San Andreas;NM+SM+NSB+SSB+BG+CO	CA	n/a	84		strike slip	0.1	13	340
60.85	S. San Andreas;NM+SM+NSB+SSB+BG	CA	n/a	83		strike slip	0	14	271
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0	14	442
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	449
60.85	S. San Andreas;BG+CO	CA	n/a	72		strike slip	0.3	12	125
60.85	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	85		strike slip	0	14	380
60.85	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	512
60.85	S. San Andreas;SSB+BG	CA	n/a	71		strike slip	0	13	101
60.85	S. San Andreas;NSB+SSB+BG+CO	CA	n/a	79		strike slip	0.2	12	206
60.85	S. San Andreas;BG	CA	n/a	58		strike slip	0	13	56
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	85		strike slip	0.1	13	390
60.85	S. San Andreas;BB+NM+SM+NSB+SSB+BG	CA	n/a	84		strike slip	0	14	321
60.85	S. San Andreas;SSB+BG+CO	CA	n/a	77		strike slip	0.2	12	170
60.85	S. San Andreas;SM+NSB+SSB+BG+CO	CA	n/a	83		strike slip	0.1	13	303

60.85	S. San Andreas;SM+NSB+SSB+BG	CA	n/a	81		strike slip	0	13	234
60.93	S. San Andreas;SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	176
60.93	S. San Andreas;CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	322
60.93	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	384
60.93	S. San Andreas;NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	213
60.93	S. San Andreas;NSB+SSB	CA	n/a	90	V	strike slip	0	13	79
60.93	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0.1	13	421
60.93	S. San Andreas;SSB	CA	16	90	V	strike slip	0	13	43
60.93	S. San Andreas;BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	263
61.08	Earthquake Valley	CA	2	90	V	strike slip	0	19	20
71.40	Coronado Bank	CA	3	90	V	strike slip	0	9	186
71.40	Palos Verdes Connected	CA	3	90	V	strike slip	0	10	285
74.72	Pinto Mtn	CA	2.5	90	V	strike slip	0	16	74
74.92	S. San Andreas;CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	279
74.92	S. San Andreas;CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	341
74.92	S. San Andreas;NM+SM+NSB	CA	n/a	90	V	strike slip	0	13	170
74.92	S. San Andreas;NSB	CA	22	90	V	strike slip	0	13	35
74.92	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0.1	13	377
74.92	S. San Andreas;BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	220
74.92	S. San Andreas;SM+NSB	CA	n/a	90	V	strike slip	0	13	133
75.44	Newport-Inglewood, alt 1	CA	1	88		strike slip	0	15	65
75.78	Palos Verdes	CA	3	90	V	strike	0	14	99

						slip			
82.10	Puente Hills (Coyote Hills)	CA	0.7	26	N	thrust	2.8	15	17
82.48	Cucamonga	CA	5	45	N	thrust	0	8	28
85.80	Burnt Mtn	CA	0.6	67	W	strike slip	0	16	21
86.83	San Jose	CA	0.5	74	NW	strike slip	0	15	20
89.00	Cleghorn	CA	3	90	V	strike slip	0	16	25
89.57	S. San Andreas;CO	CA	20	90	V	strike slip	0.6	11	69
90.69	Sierra Madre Connected	CA	2	51		reverse	0	14	76
90.69	Sierra Madre	CA	2	53	N	reverse	0	14	57
91.12	Eureka Peak	CA	0.6	90	V	strike slip	0	15	19
91.90	San Jacinto;B+SM	CA	n/a	90	V	strike slip	0.4	12	61
91.90	San Jacinto;B	CA	4	90	V	strike slip	0.7	13	34
93.24	Elsinore;CM	CA	3	82	NE	strike slip	0	13	39
93.82	North Frontal (West)	CA	1	49	S	reverse	0	16	50
95.81	Puente Hills (Santa Fe Springs)	CA	0.7	29	N	thrust	2.8	15	11
98.53	Helendale-So Lockhart	CA	0.6	90	V	strike slip	0	13	114



Format	Sort
Magnitude	Newest First
6.3	The 1992 Big Bear Earthquak...
	1992-06-28 15:05:30 (UTC) 3.6 km
6.1	The 1992 Joshua Tree Earth...
	1992-04-23 04:50:23 (UTC) 11.6 km
6.0	6km SSW of Morongo Valley, ...
	1986-07-08 09:20:44 (UTC) 9.5 km
6.0	16km E of Desert Hot Spring...
	1948-12-04 23:43:16 (UTC) 6.0 km
6.0	16km WSW of Oasis, CA
	1937-03-25 16:49:02 (UTC) 6.0 km
6.4	Long Beach, California Earth...
	1933-03-11 01:54:09 (UTC) 6.0 km
6.2	3 km SE of San Bernardino, C...
	1923-07-23 07:30:23 (UTC) 5.0 km
6.7	1 km N of Hemet, California
	1918-04-21 22:32:30 (UTC) 10.0 km
6.7	Near San Jacinto, California
	1899-12-25 12:25:00 (UTC)
6.4	Cajon Pass area, northwest o...
	1899-07-22 20:32:00 (UTC)
6.1	East of San Diego, California
	1894-10-23 23:03:00 (UTC)
6.5	Near Borrego Springs, Calif...
	1892-05-28 11:15:00 (UTC)
6.8	Northeastern San Diego Cou...
	1890-02-09 12:06:00 (UTC)
6.2	Greater San Diego area, Calif...
	1862-05-27 20:00:00 (UTC)
6.0	Near San Bernardino, Califor...
	1858-12-16 10:00:00 (UTC)
6.3	Gulf of Santa Catalina, Calif...
	1888-11-22 00:00:00 (UTC)



 This is a beta release of the new ATC Hazards by Location website. Please [contact us](#) with feedback.

 The ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

ATC Hazards by Location

Search Information

Coordinates: 33.478368, -117.138550
Elevation: 1017 ft
Timestamp: 2022-10-24T18:02:14.197Z
Hazard Type: Seismic
Reference Document: ASCE7-16
Risk Category: II
Site Class: D-default



Basic Parameters

Name	Value	Description
S _S	1.574	MCE _R ground motion (period=0.2s)
S ₁	0.584	MCE _R ground motion (period=1.0s)
S _{MS}	1.889	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.259	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F _a	1.2	Site amplification factor at 0.2s
F _v	* null	Site amplification factor at 1.0s
CR _S	0.891	Coefficient of risk (0.2s)
CR ₁	0.897	Coefficient of risk (1.0s)
PGA	0.707	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	0.849	Site modified peak ground acceleration
T _L	8	Long-period transition period (s)
SsRT	1.574	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.767	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.436	Factored deterministic acceleration value (0.2s)
S1RT	0.584	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.651	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.668	Factored deterministic acceleration value (1.0s)

SD	0.908	Factored deterministic acceleration value (SD)
PGAd	1.026	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

APPENDIX E
GENERAL EARTHWORK AND GRADING
SPECIFICATIONS

EARTH-STRATA

General Earthwork and Grading Specifications

General

Intent: These General Earthwork and Grading Specifications are intended to be the minimum requirements for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These General Earthwork and Grading Specifications should be considered a part of the recommendations contained in the geotechnical report(s) and if they are in conflict with the geotechnical report(s), the specific recommendations in the geotechnical report shall supersede these more general specifications. Observations made during earthwork operations by the project Geotechnical Consultant may result in new or revised recommendations that may supersede these specifications and/or the recommendations in the geotechnical report(s).

The Geotechnical Consultant of Record: The Owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant), prior to commencement of grading or construction. 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 or construction.

Prior to commencement of grading or construction, the Owner shall coordinate with the Geotechnical Consultant, and Earthwork Contractor (Contractor) to schedule sufficient personnel for the appropriate level of observation, mapping, and compaction testing.

During earthwork and grading operations, the Geotechnical Consultant shall observe, map, and document the subsurface conditions to confirm assumptions made during the geotechnical design phase of the project. Should the observed conditions differ significantly from the interpretive assumptions made during the design phase, the Geotechnical Consultant shall recommend appropriate changes to accommodate the observed conditions, and notify the reviewing agency where required.

The Geotechnical Consultant shall observe the moisture conditioning and processing of the excavations and fill materials. The Geotechnical Consultant should perform periodic relative density testing of fill materials to verify that the attained level of compaction is being accomplished as specified.

The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of earth materials to receive compacted fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall be provided with the approved grading plans and geotechnical report(s) for his review and acceptance of responsibilities, prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the approved grading plans and geotechnical report(s). Prior to commencement of grading, 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. The Contractor shall inform the Owner and the Geotechnical Consultant of work schedule changes and revisions to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. No assumptions shall be made by the Contractor with regard to whether the Geotechnical Consultant is aware of all grading operations.

It is the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the earthwork operations 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). At the sole discretion of the Geotechnical Consultant, any unsatisfactory conditions, such as unsuitable earth materials, improper moisture conditioning, inadequate compaction, insufficient buttress keyway size, adverse weather conditions, etc., resulting in a quality of work less than required in the approved grading plans and geotechnical report(s), the Geotechnical Consultant shall reject the work and may recommend to the Owner that grading be stopped until conditions are corrected.

Preparation of Areas for Compacted Fill

Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed in a method acceptable to the Owner, Geotechnical Consultant, and governing agencies.

The Geotechnical Consultant shall evaluate the extent of these removals on a site by site basis. Earth materials to be placed as compacted fill shall not contain more than 1 percent organic materials (by volume). No compacted fill lift shall contain more than 10 percent organic matter.

Should potentially hazardous materials be encountered, the Contractor shall stop work in the affected area, and a hazardous materials specialist shall immediately be consulted to evaluate the potentially hazardous materials, prior to continuing to work in that area.

It is our understanding that the State of California defines most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) as hazardous waste. As such, indiscriminate dumping or spillage of these fluids may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall be prohibited. The contractor is responsible for all hazardous waste related to his operations. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Owner should contract the services of a qualified environmental assessor.

Processing: Exposed earth materials that have been observed to be satisfactory for support of compacted fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Exposed earth materials that are not observed to be satisfactory shall be removed or alternative recommendations may be provided by the Geotechnical Consultant. Scarification shall continue until the exposed earth materials are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction. The earth materials should be moistened or air dried to near optimum moisture content, prior to compaction.

Overexcavation: The Cut Lot Typical Detail and Cut/Fill Transition Lot Typical Detail, included herein provides a graphic illustration that depicts typical overexcavation recommendations made in the approved geotechnical report(s) and/or grading plan(s).

Keyways and Benching: Where fills are to be placed on slopes steeper than 5:1 (horizontal to vertical units), the ground shall be thoroughly benched as compacted fill is placed. Please see the three Keyway and Benching Typical Details with subtitles Cut Over Fill Slope, Fill Over Cut Slope, and Fill Slope for a graphic illustration. The lowest bench or smallest keyway shall be a minimum of 10 feet wide (or ½ the proposed slope height) and at least 2 feet into competent earth materials as advised by the Geotechnical Consultant. Typical benches shall be excavated a minimum height of 4 feet into competent earth materials or as recommended by the Geotechnical Consultant. Fill placed on slopes steeper than 5:1 should be thoroughly benched or otherwise excavated to provide a flat subgrade for the compacted fill.

Evaluation/Acceptance of Bottom Excavations: All areas to receive compacted fill (bottom excavations), including removal excavations, processed areas, keyways, and benching, shall be observed, mapped, general elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive compacted fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to placing compacted fill. A licensed surveyor shall provide the survey control for determining elevations of bottom excavations, processed areas, keyways, and

benching. The Geotechnical Consultant is not responsible for erroneously located, fills, subdrain systems, or excavations.

Fill Materials

General: Earth material to be used as compacted fill should to a large extent be free of organic matter and other deleterious substances as evaluated and accepted by the Geotechnical Consultant.

Oversize: Oversize material is rock that does not break down into smaller pieces and has a maximum diameter greater than 12 inches. Oversize rock shall not be included within compacted fill unless specific methods and guidelines acceptable to the Geotechnical Consultant are followed. For examples of methods and guidelines of oversize rock placement see the enclosed Oversize Rock Disposal Detail. The inclusion of oversize materials in the compacted fill shall only be acceptable if the oversize material is completely surrounded by compacted fill or thoroughly jetted granular materials. No oversize material shall be placed within 10 vertical feet of finish grade or within 2 feet of proposed utilities or underground improvements.

Import: Should imported earth materials be required, the proposed import materials shall meet the requirements of the Geotechnical Consultant. Well graded, very low expansion potential earth materials free of organic matter and other deleterious substances are usually sought after as import materials. However, it is generally in the Owners best interest that potential import earth materials are provided to the Geotechnical Consultant to determine their suitability for the intended purpose. At least 48 hours should be allotted for the appropriate laboratory testing to be performed, prior to starting the import operations.

Fill Placement and Compaction Procedures

Fill Layers: Fill materials shall be placed in areas prepared to receive fill in nearly horizontal layers not exceeding 8 inches in loose thickness. Thicker layers may be accepted by the Geotechnical Consultant, provided field density testing indicates that the grading procedures can adequately compact the thicker layers. Each layer of fill shall be spread evenly and thoroughly mixed to obtain uniformity within the earth materials and consistent moisture throughout the fill.

Moisture Conditioning of Fill: Earth materials to be placed as compacted fill shall be watered, dried, blended, and/or mixed, as needed to obtain relatively uniform moisture contents that are at or slightly above optimum. The maximum density and optimum moisture content tests should be performed in accordance with the American Society of Testing and Materials (ASTM test method D1557-00).

Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it should be uniformly compacted to a minimum of 90 percent of maximum dry density as determined by ASTM test method D1557-00. Compaction equipment shall be adequately sized and be either specifically designed for compaction of earth materials or be proven to consistently achieve the required level of compaction.

Compaction of Fill Slopes: In addition to normal compaction procedures specified above, additional effort to obtain compaction on slopes is needed. This may be accomplished by backrolling of slopes with sheepsfoot rollers as the fill is being placed, by overbuilding the fill slopes, or by other methods producing results that are satisfactory to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill and the slope face shall be a minimum of 90 percent of maximum density per ASTM test method D1557-00.

Compaction Testing of Fill: Field tests for moisture content and relative density of the compacted fill earth materials shall be periodically performed by the Geotechnical Consultant. The location and frequency of tests shall be at the Geotechnical Consultant's discretion based on field observations. Compaction test locations will not necessarily be random. The test locations may or may not be selected to verify minimum compaction requirements in areas that are typically prone to inadequate compaction, such as close to slope faces and near benching.

Frequency of Compaction Testing: Compaction tests shall be taken at minimum intervals of every 2 vertical feet and/or per 1,000 cubic yards of compacted materials placed. Additionally, as a guideline, at least one (1) test shall be taken on slope faces for each 5,000 square feet of slope face and/or for each 10 vertical feet of slope. The Contractor shall assure that fill placement is such that the testing schedule described herein can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork operations to a safe level so that these minimum standards can be obtained.

Compaction Test Locations: The approximate elevation and horizontal coordinates of each test location shall be documented by the Geotechnical Consultant. The Contractor shall coordinate with the Surveyor to assure that sufficient grade stakes are established. This will provide the Geotechnical Consultant with sufficient accuracy to determine the approximate test locations and elevations. The Geotechnical Consultant can not be responsible for staking erroneously located by the Surveyor or Contractor. A minimum of two grade stakes should be provided at a maximum horizontal distance of 100 feet and vertical difference of less than 5 feet.

Subdrain System Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the approved grading plan, and the typical details provided herein. The Geotechnical Consultant may recommend additional subdrain systems and/or changes to the subdrain systems described herein, with regard to the extent, location, grade, or material depending on conditions encountered during grading or other factors. All subdrain systems shall be surveyed by a licensed land surveyor (except for retaining wall subdrain systems) to verify line and grade after installation and prior to burial. Adequate time should be allowed by the Contractor to complete these surveys.

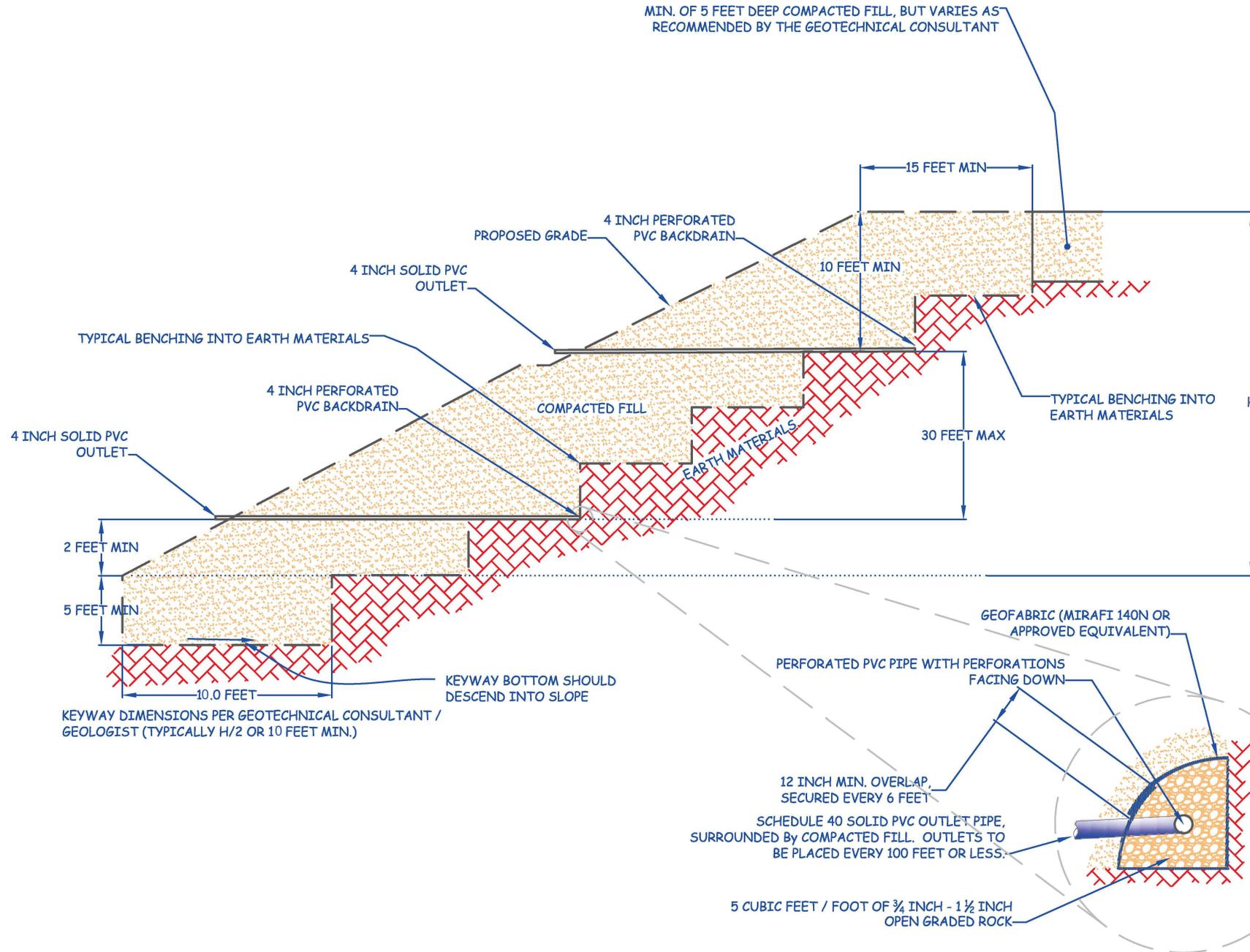
Excavation

All excavations and over-excavations for remedial purposes shall be evaluated by the Geotechnical Consultant during grading operations. Remedial removal depths indicated on the geotechnical plans are estimates only. The actual removal depths and extent shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading operations. Where fill over cut slopes are planned, the cut portion of the slope shall be excavated, evaluated, and accepted by the Geotechnical Consultant prior to placement of the fill portion of the proposed slope, unless specifically addressed by the Geotechnical Consultant. Typical details for cut over fill slopes and fill over cut slopes are provided herein.

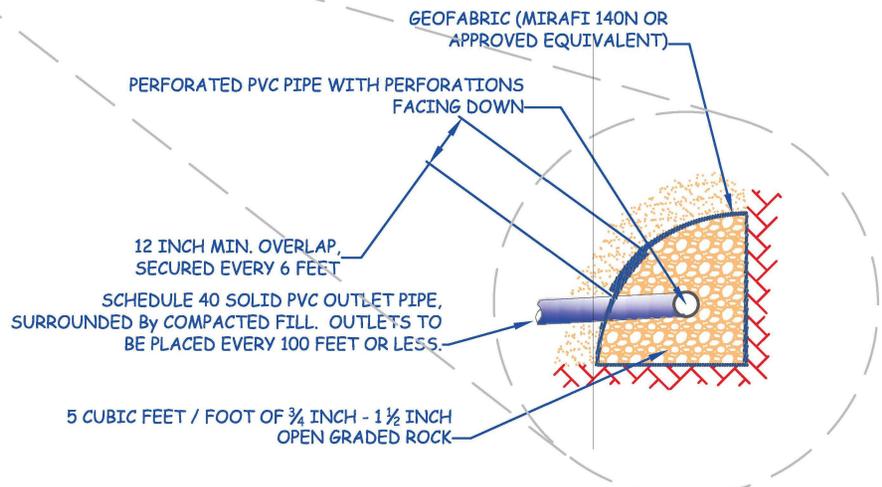
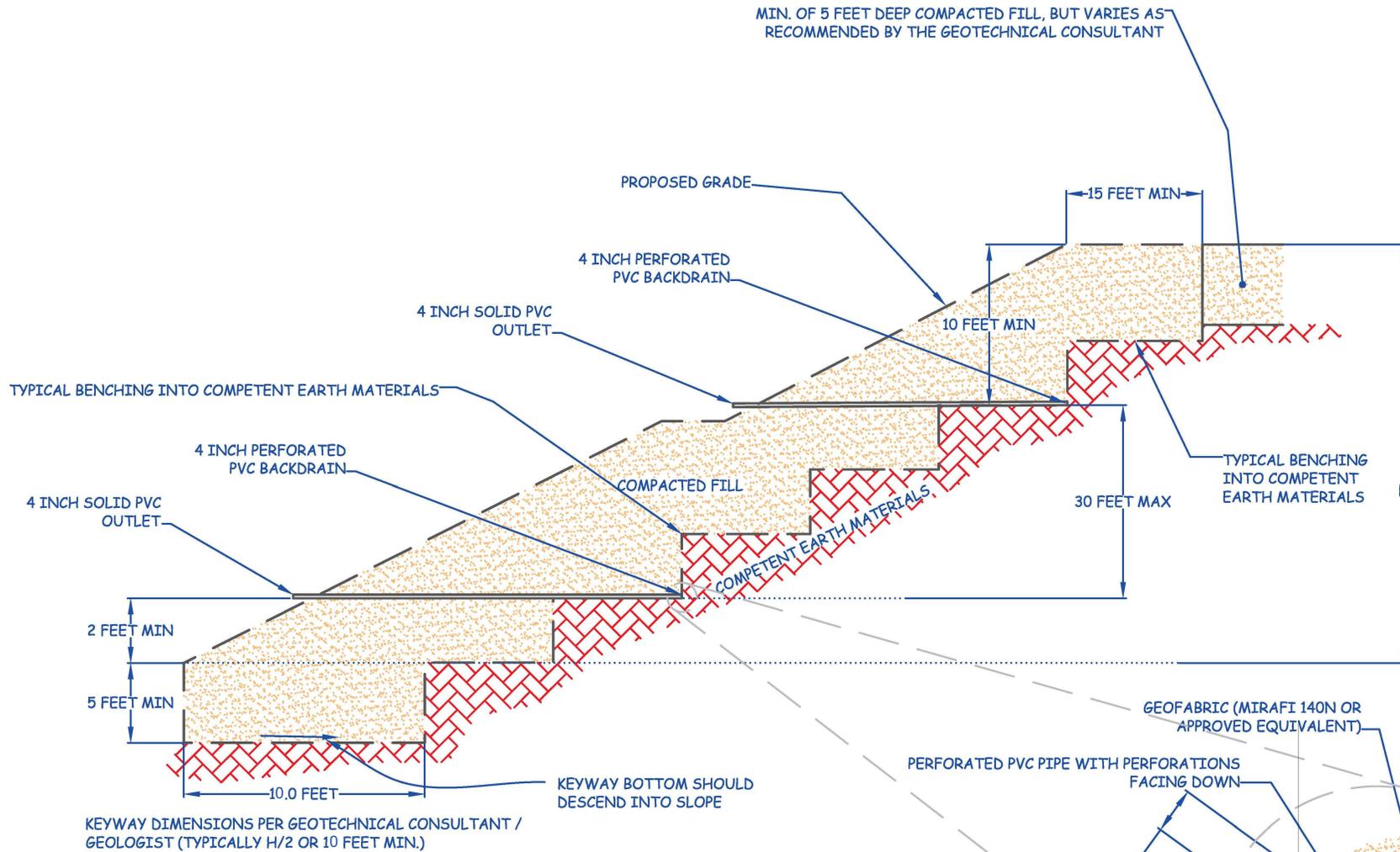
Trench Backfill

- 1) The Contractor shall follow all OSHA and Cal/OSHA requirements for trench excavation safety.
- 2) Bedding and backfill of utility trenches shall be done in accordance with the applicable provisions in the Standard Specifications of Public Works Construction. Bedding materials shall have a Sand Equivalency more than 30 (SE>30). The bedding shall be placed to 1 foot over the conduit and thoroughly jetting to provide densification. Backfill should be compacted to a minimum of 90 percent of maximum dry density, from 1 foot above the top of the conduit to the surface.
- 3) Jetting of the bedding materials around the conduits shall be observed by the Geotechnical Consultant.
- 4) The Geotechnical Consultant shall test trench backfill for the minimum compaction requirements recommended herein. At least one test should be conducted for every 300 linear feet of trench and for each 2 vertical feet of backfill.
- 5) For trench backfill the lift thicknesses 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 or method.

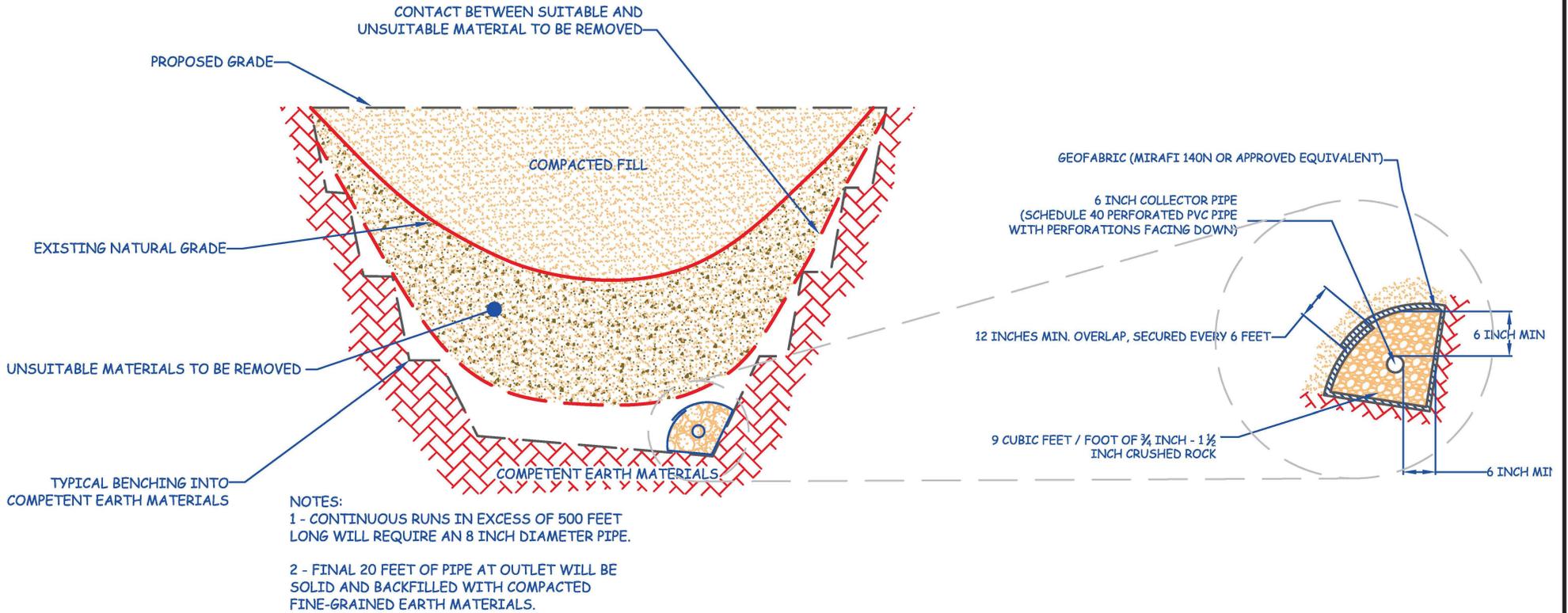
STABILIZATION FILL TYPICAL DETAIL



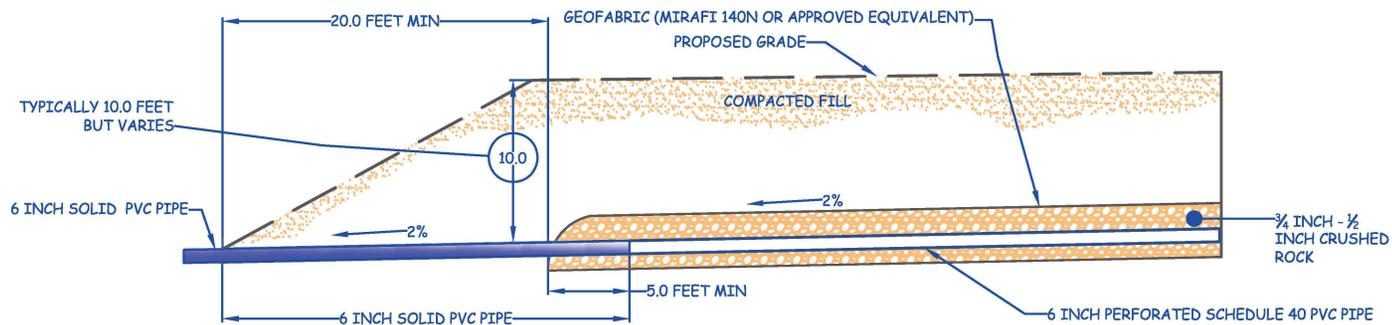
BUTTRESS TYPICAL DETAIL



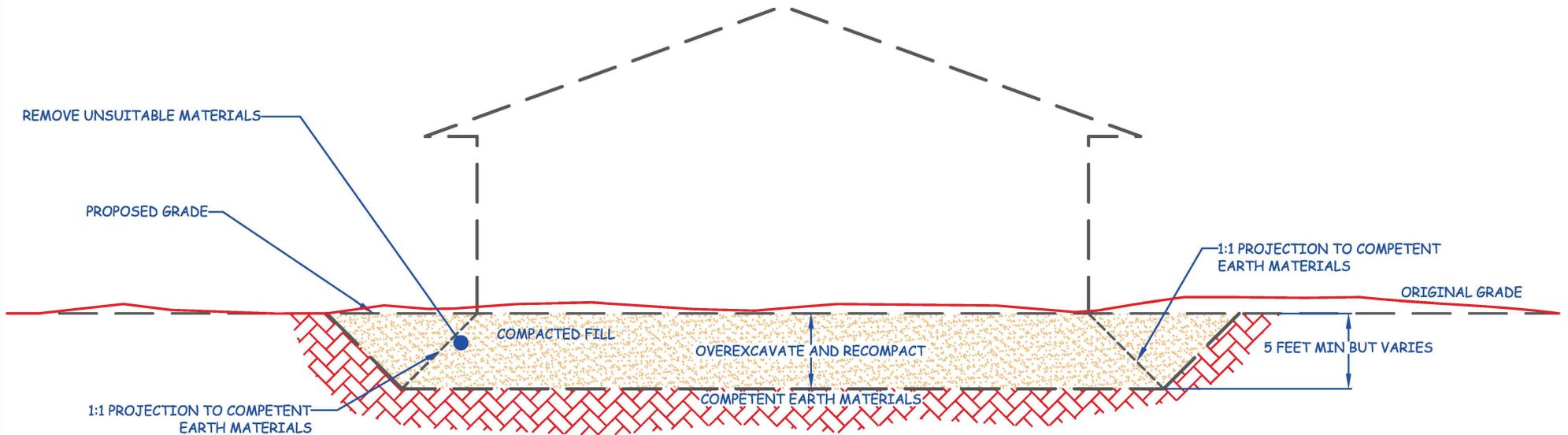
CANYON SUBDRAIN SYSTEM TYPICAL DETAIL



CANYON SUBDRAIN TYPICAL OUTLET



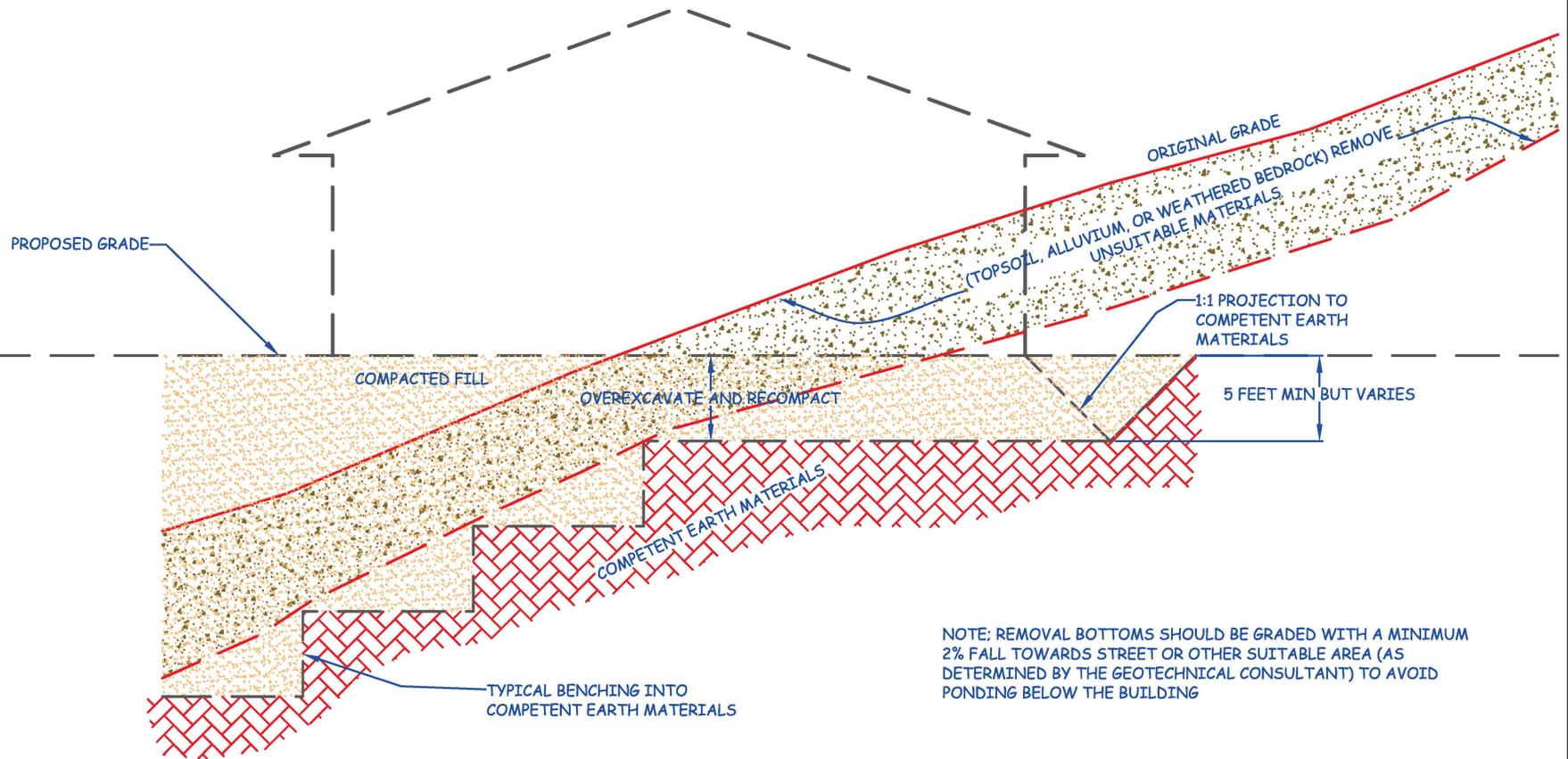
CUT LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

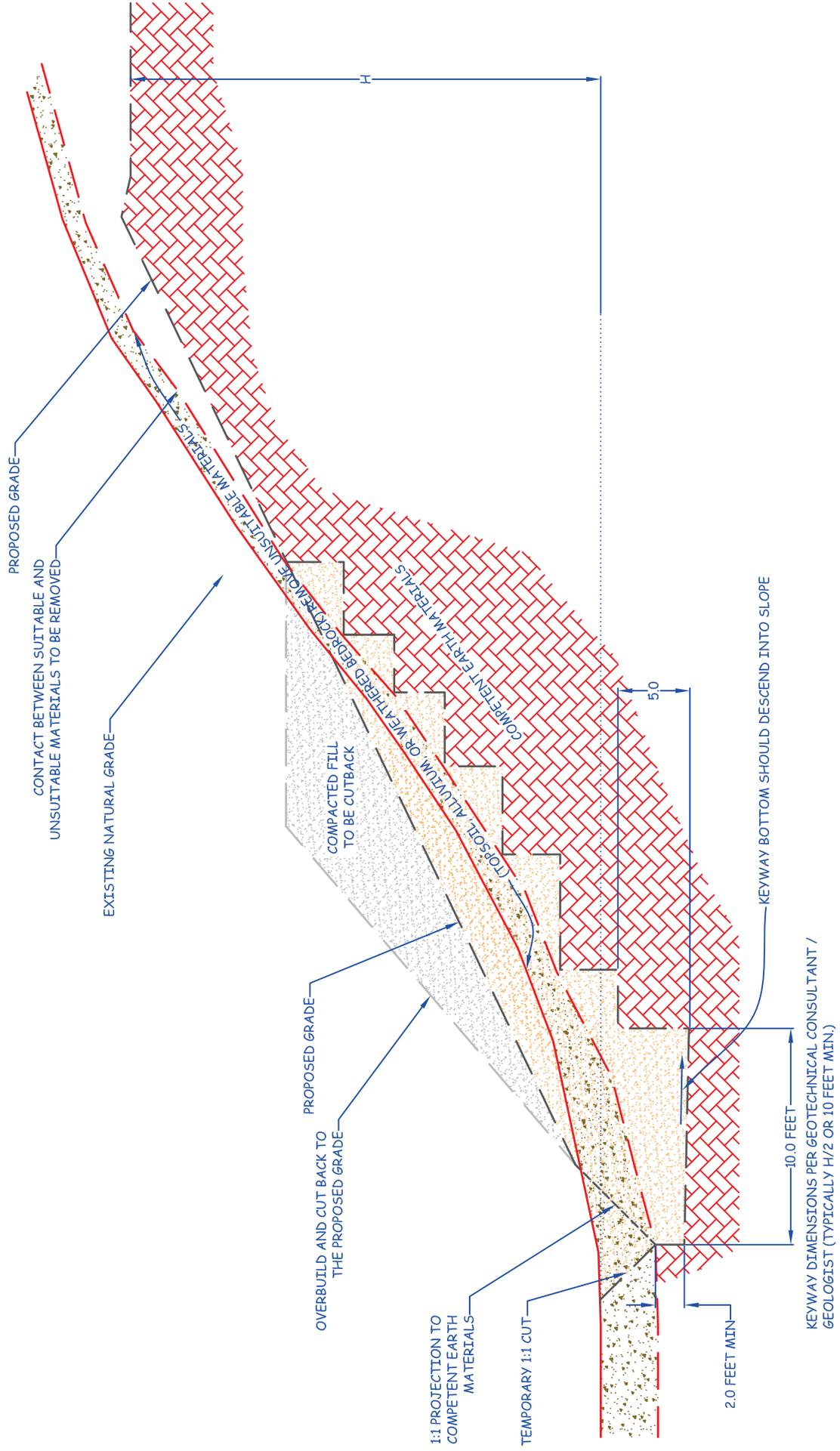
CUT / FILL TRANSITION LOT TYPICAL DETAIL



NOTE: REMOVAL BOTTOMS SHOULD BE GRADED WITH A MINIMUM 2% FALL TOWARDS STREET OR OTHER SUITABLE AREA (AS DETERMINED BY THE GEOTECHNICAL CONSULTANT) TO AVOID PONDING BELOW THE BUILDING

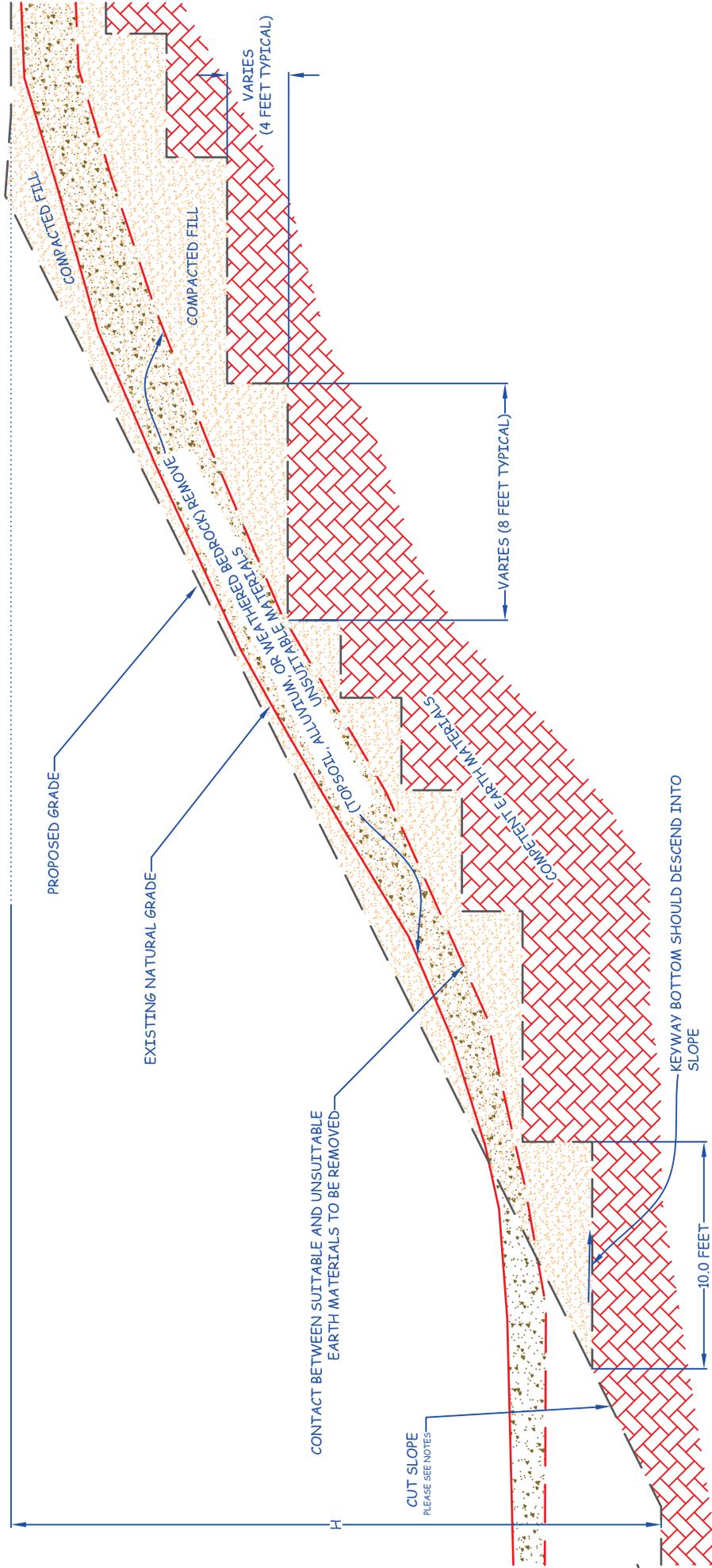
NOTE: WHERE DESIGN CUT LOTS ARE EXCAVATED ENTIRELY INTO COMPETENT EARTH MATERIALS, OVEREXCAVATION MAY STILL BE NEEDED FOR HARD-ROCK CONDITIONS OR MATERIALS WITH VARIABLE EXPANSION POTENTIALS

KEYWAY & BENCHING TYPICAL DETAILS CUT OVER FILL SLOPE



NOTE:
NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE
BENCHED INTO COMPETENT EARTH MATERIALS

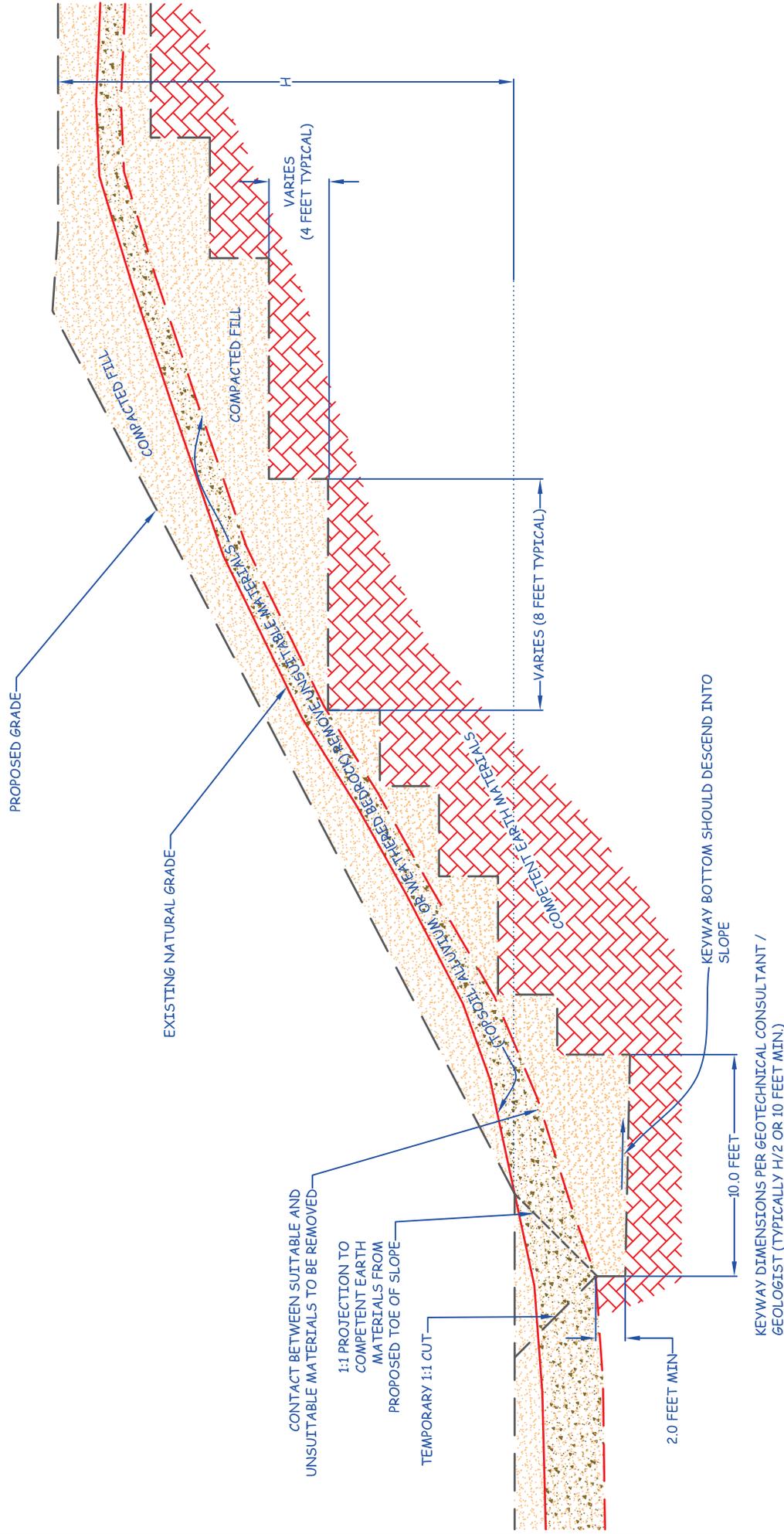
KEYWAY & BENCHING TYPICAL DETAILS FILL OVER CUT SLOPE



NOTES:
 NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE BENCHING INTO COMPETENT EARTH MATERIALS
 THE CUT SLOPE MUST BE CONSTRUCTED FIRST

KEYWAY DIMENSIONS PER GEOTECHNICAL CONSULTANT / GEOLOGIST (TYPICALLY H/2 OR 10 FEET MIN.)

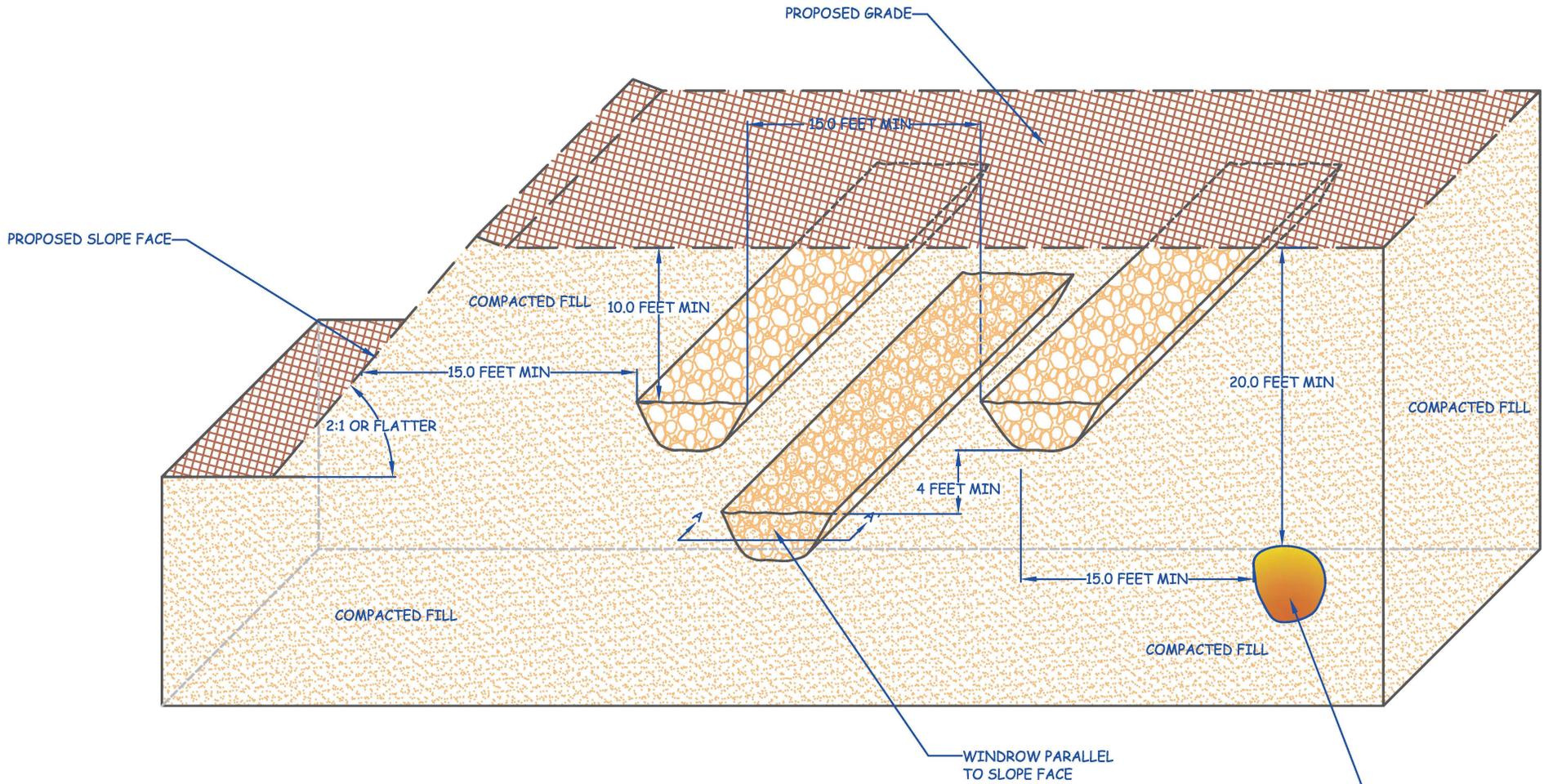
KEYWAY & BENCHING TYPICAL DETAILS FILL SLOPE



NOTES:

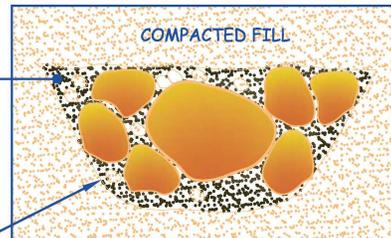
NATURAL SLOPES STEEPER THAN 5:1 (H:V) MUST BE BENCHING INTO COMPETENT EARTH MATERIALS

OVERSIZE ROCK TYPICAL DETAIL



CROSS SECTION A-A'

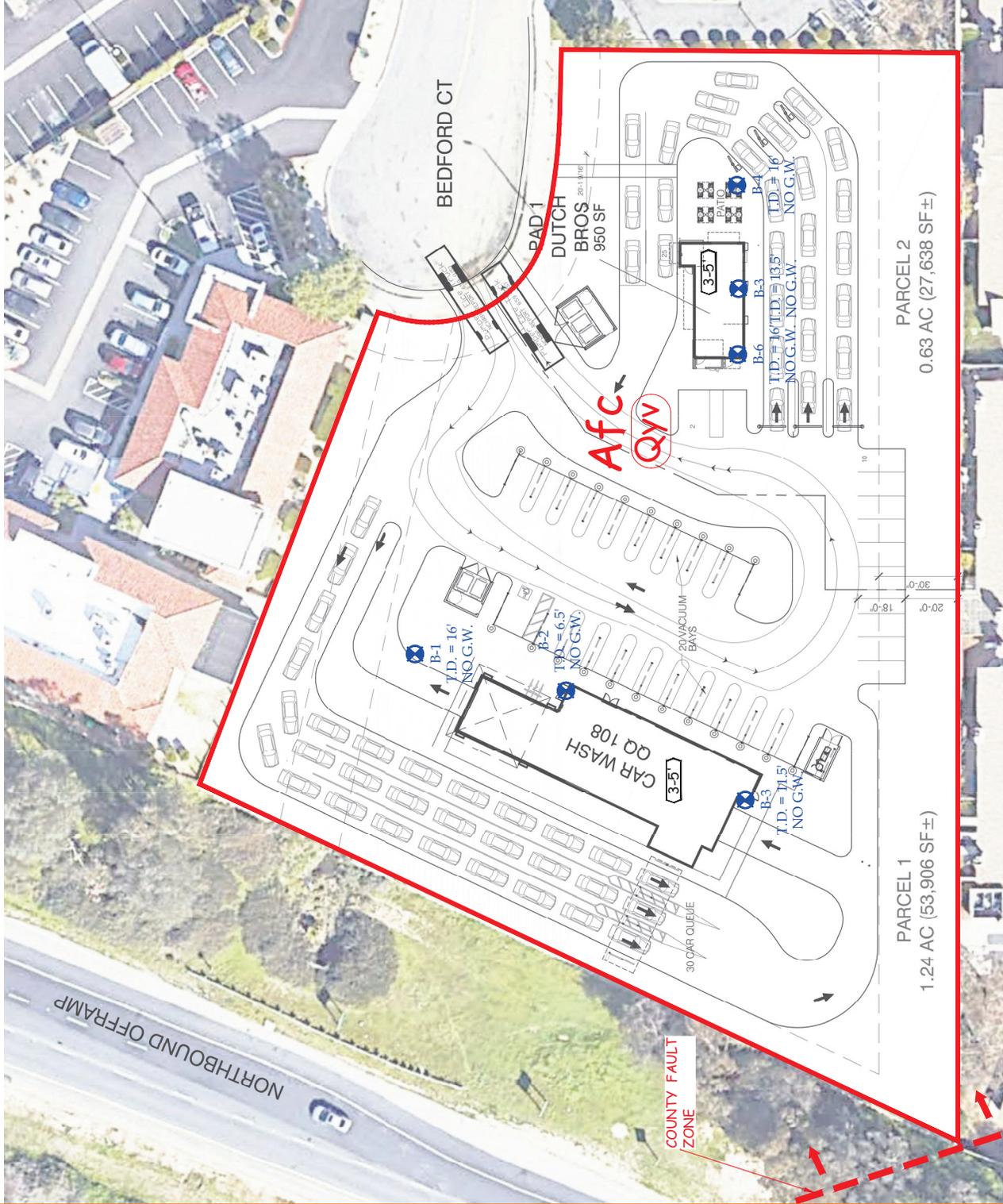
JETTING OF APPROVED GRANULAR MATERIAL



NOTES:

OVERSIZE ROCK IS LARGER THAN 8 INCHES IN MAX DIAMETER

EXCAVATED TRENCH OR DOZER V-CUT



LEGEND
Locations are Approximate

Geologic Units

- Afc - Artificial Fill, Compacted
- Qyv - Quaternary Young Alluvial Valley Deposits (Circled Where Buried)

Symbols

- Limits of Report
- Boring Location including Total Depth and Depth to Groundwater
- 3-5 Recommended Removal Depths



GEOTECHNICAL MAP

LOCATED ON BEDFORD COURT
CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA
APN 922-210-042

PROJECT	PROPOSED DRIVE-THRU COFFEE SHOP
CLIENT	MR. BRANDON HUMANN
PROJECT NO.	224450-10A
DATE	OCTOBER 2022
SCALE	1" = 50'
DIWG XREFS	
REVISION	
DRAWN BY	JDG
PLATE	1 OF 1

Earth Strata Geotechnical Services, Inc.
Geotechnical, Environmental and Materials Testing Consultants
www.ESGSINC.com (951) 397-8315

The following equation was used in order to convert the percolation rates to infiltration rates.

$$I_i = \frac{\Delta H (60) r}{\Delta t (r + 2H_{avg})}$$

TEST NUMBER	PERCOLATION HOLE DIAMETER (inches)	HOLE DEPTH (ft.)	PERCOLATION RATE (mpi)	INFILTRATION RATE (in/hour)	DESCRIPTION
P-1	8	5	24	0.15	Silty SAND
P-2	8	5	30	0.12	Silty SAND
P-3	8	5	20	0.17	Silty SAND
P-4	8	5	20	0.18	Silty SAND
P-5	8	5	24	0.15	Silty SAND
P-6	8	5	20	0.18	Silty SAND

The infiltration test rates ranged from 0.12 to 0.18 inches per hour. A factor of safety of 3 should be applied to the measured infiltration rates.

Appendix I
Noise Study

Bedford Court Mixed Use Project

Noise Impact Study

City of Temecula, CA

Prepared for:

Catalyst Commercial Group

Mark Cooper
38605 Calistoga Dr. Ste 150
Murrieta, CA 92563

Prepared by:

MD Acoustics, LLC

Rachel Edelman
1197 Los Angeles Avenue, Ste 256
Simi Valley, CA 93065

Date: 6/14/2024



Noise Study Reports | Vibration Studies | Air Quality | Greenhouse Gas | Health Risk Assessments

P) AZ - 602.774.1950

P) CA - 805.426.4477

www.mdacoustics.com
info@mdacoustics.com

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Introduction	2
2.1	Purpose of Analysis and Study Objectives	2
2.2	Site Location and Study Area	2
2.3	Proposed Project Description	2
3.0	Fundamentals of Noise	5
3.1	Sound, Noise, and Acoustics	5
3.2	Frequency and Hertz	5
3.3	Sound Pressure Levels and Decibels	5
3.4	Addition of Decibels	5
3.5	Human Response to Changes in Noise Levels	6
3.6	Noise Descriptors	6
3.7	Traffic Noise Prediction	7
3.8	Sound Propagation	7
4.0	Ground-Borne Vibration Fundamentals	9
4.1	Vibration Descriptors	9
4.2	Vibration Perception	9
4.3	Vibration Propagation	9
5.0	Regulatory Setting.....	11
5.1	Federal Regulations	11
5.2	State Regulations	11
5.3	City of Temecula Noise Regulations	12
5.4	CEQA Guidelines	16
6.0	Study Method and Procedure.....	17
6.1	Noise Measurement Procedure and Criteria	17
6.2	Short-Term Noise Measurement Locations	17
6.3	Stationary Noise Modeling	17
7.0	Existing Noise Environment	21
7.1	Short-Term Noise Measurement Results	21
8.0	Future Noise Environment Impacts	22
8.1	Future Exterior Noise	22
8.1.1	Noise Impacts to Off-Site Receptors Due to Stationary Sources	22
8.1.2	Noise Impacts to Off-Site Receptors Due to Traffic	23
9.0	Construction Noise Impact	25
9.1	Construction Noise	25
9.2	Construction Vibration	27
10.0	CEQA Analysis	29

11.0 References 31

LIST OF APPENDICES

Appendix A: Photographs and Field Measurement Data 1
Appendix B: SoundPLAN Input/Outputs 2
Appendix C: Manufacturer’s and Referenced Noise Data 3
Appendix D: Construction Modeling Output 4

LIST OF EXHIBITS

Exhibit A: Location Map 3
Exhibit B: Site Plan 4
Exhibit C: Typical A-Weighted Noise Levels 5
Exhibit D: Land Use Compatibility Guidelines 14
Exhibit E: Measurement Locations 20
Exhibit F: Operational Noise Levels dBA, Leq 24

LIST OF TABLES

Table 1: Sound Level Standards 15
Table 2: SoundPLAN Modeling Assumptions 18
Table 3: Short-Term Noise Measurement Data (dBA)¹ 21
Table 4: Worst-Case Predicted Operational Leq Noise Levels (dBA) 23
Table 5: Typical Construction Noise Levels 25
Table 6: Construction Noise Level by Phase (dBA, Leq) 26
Table 7: Guideline Vibration Damage Potential Threshold Criteria 27
Table 8: Vibration Source Levels for Construction Equipment¹ 28

1.0 Executive Summary

This report has been prepared to provide the calculated noise projections from the proposed Bedford Court Mixed Use Project located on Bedford Court in the city of Temecula, CA. All calculations are compared to the City of Temecula's noise ordinance as well as the existing ambient condition. The project proposes to construct an express car wash with a 108-foot covered tunnel and 20 vacuum bays, and a 950 square foot drive-thru coffee shop with two lanes. The car wash uses a silenced Sonny's system. Uses surrounding the project are commercial to the north and east, residential to the south, and the I-15 freeway to the west.

1.1 Findings and Conclusions

Two (2) short-term baseline ambient measurements were performed at the project site to determine the ambient noise condition within the project vicinity. Ambient noise data taken indicates that daytime levels are 60 to 65 dBA Leq. The predominant sources of noise impacting the existing uses is traffic noise propagating from the I-15 and existing commercial uses.

This study compares the Project's operational noise levels to the ambient conditions. Project plus ambient operational noise levels are anticipated to range from 61 to 70 dBA Leq at the adjacent residential and commercial uses.

The following outlines the project design features/conditions of approval:

1. The project will use 12 Sonny's blower system with the silencer package installed or equivalent. The reference equipment sound level data is provided in Appendix C.
2. Absorptive material (Acoustiblok perforated metal panels or equivalent) will line the last 15' of the exit on the walls and ceiling (see Appendix C).

2.0 Introduction

2.1 Purpose of Analysis and Study Objectives

The purpose of this noise impact study is to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set forth by the Federal, State, and Local agencies. Consistent with the California Environmental Quality Act (CEQA) and CEQA Guidelines, a significant impact related to noise would occur if a proposed project is determined to 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?
- Generation of excessive groundborne vibration or groundborne noise levels?
- 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?

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- A description of the local noise guidelines and standards
- An evaluation of the existing ambient noise environment
- An analysis of stationary noise impacts from the project site to adjacent land uses
- Construction noise and vibration evaluation

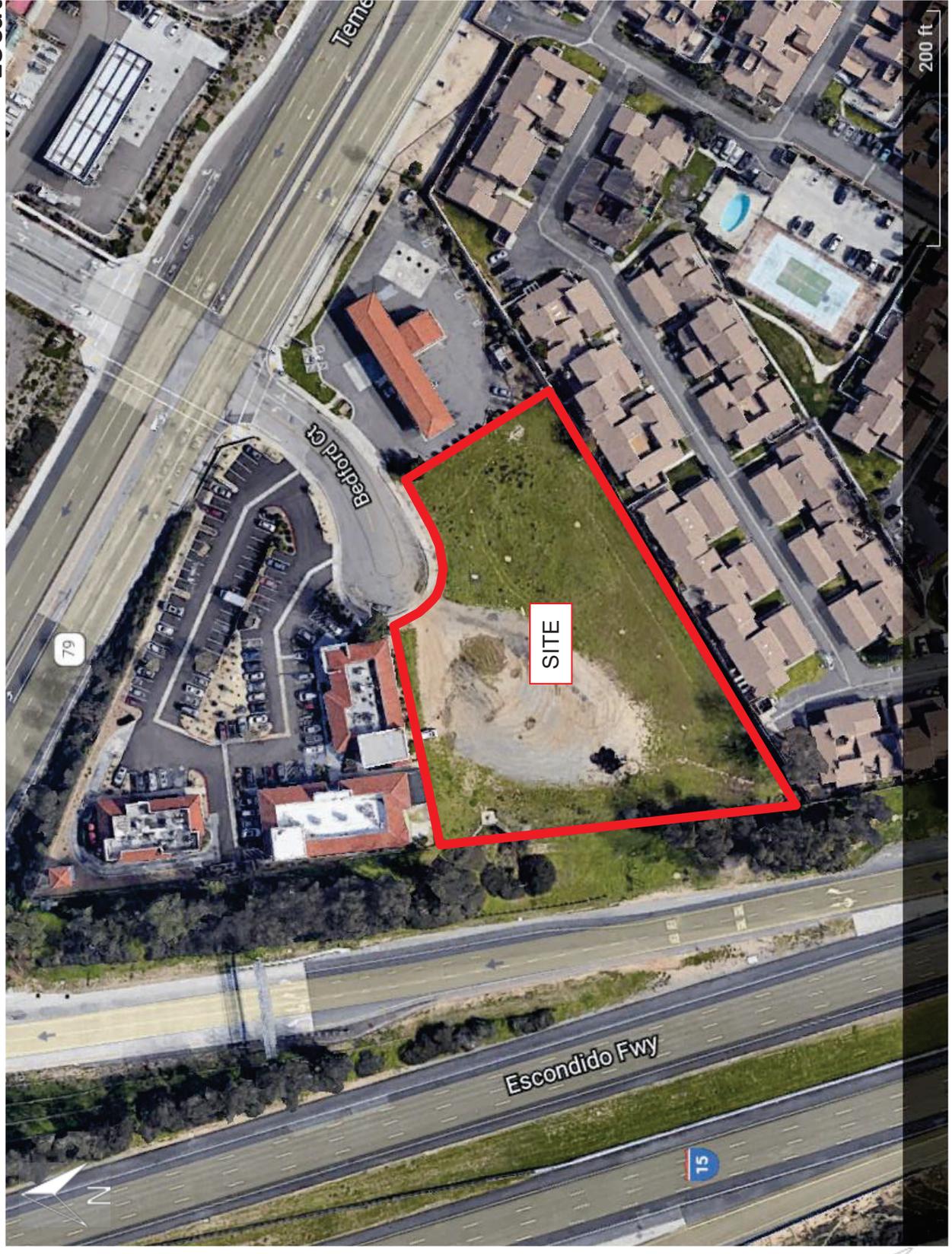
2.2 Site Location and Study Area

The Project is located on Bedford Court in the City of Temecula, CA as shown in Exhibit A. The land uses directly surrounding the project include Highway/Tourist Commercial uses to the north and east, High Density Residential to the south, and the I-15 freeway (Escondido Freeway) to the west. Across from Temecula Parkway is zoned as Professional Office and Very Low Density Residential. Across from the I-15 is zoned as Highway/Tourist Commercial to the west and Open Space Conservation to the southwest.

2.3 Proposed Project Description

The project proposes to develop a 3,596 square foot express car wash and a 950 square foot drive-thru coffee shop. The site plan used for this is illustrated in Exhibit B.

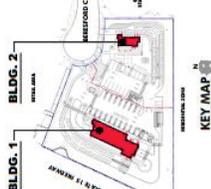
Exhibit A Location Map



Introduction
 Exhibit B
 Site Plan



PROJECT FOR:
CATALYST
 CATALYST COMMERCIAL GROUP
 14555 CATALYST COURT
 TEMECULA, CA 92592
 TEL: 951.251.1455



BLDG. 1
 10,000 S.F.

BLDG. 2
 10,000 S.F.

KEY MAP

BEDFORD COURT
 TEMECULA, CA 92592

ISSUES / REVISIONS

No.	DATE	DESCRIPTION
1	02.07.2024	DEVELOPMENT REVIEW & CLUT.
2	11.13.2023	PA23-0197 & PA23-0198 RESUBMITTAL SET
3	04.09.2024	PA23-0197 & PA23-0198 RESUBMITTAL SET

DATE: 02.07.2024
 DRAWN BY: _____
 CHECKED BY: _____
 SHEET DESCRIPTION:
 JOB NUMBER: 22210MMA

- KEY NOTES**
- 1 EXISTING PROPERTY LINE
 - 2 NEW STRIPING
 - 3 NEW PAINTED DISABLED SIGN
 - 4 NEW DISABLED SIGN
 - 5 NEW PLANTER
 - 6 NEW GUTTER
 - 7 NEW CURB
 - 8 NEW SHORT TERM BIKE RACKS (4 BICYCLES)
 - 9 NEW BIKE RACKS (2 BIKE RACKS)
 - 10 PROVIDED 2 BICYCLE (10 SINGLE LOCKERS)
 - 11 NEW CONCRETE PAVING, 4000 HSBT FRESH SAW CUT FINISH
 - 12 COLOR: NATURAL GRAY
 - 13 NEW PUMP WITH TRIANGULATED DOME
 - 14 NEW ACCESSIBLE PARKING STALLS
 - 15 NEW DIRECTIONAL SIGN (SIGN OR OTHERS)
 - 16 NEW WAIT & GO SIGN
 - 17 NEW CURB OUT
 - 18 NEW BOLLARD
 - 19 NEW METAL CANOPY
 - 20 CONDUIT FOR FUTURE CHARGING STATION
 - 21 FUTURE ELECTRIC VEHICLE STALL (E)
 - 22 ELECTRIC VEHICLE CHARGING STALL (E)
 - 23 NEW TRANSFORMER
 - 24 NEW TRAMP ENCLASURE WITH ROOF
 - 25 NEW DRIVE-THRU WINDOW
 - 26 NEW DOUBLE OVERHEAD CLEARANCE BAR
 - 27 NEW MEN BOARD AND SPEAKER
 - 28 PROPOSED FLAG POLE LOCATION
 - 29 EXISTING PERSONAL TO SIGNA
 - 30 EXISTING CONCRETE
 - 31 EXISTING EASEMENT FOR SEWER AND ROAD PURPOSES
 - 32 EXISTING EASEMENT FOR DRAINAGE AND INCIDENTAL PURPOSES
 - 33 EXISTING EASEMENT FOR RIGHT OF WAY FOR UNDERGROUND
 - 34 ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATION SYSTEMS
 - 35 AND FREE ACCESS AND INCIDENTAL PURPOSES
 - 36 EXISTING SCREEN WALL
 - 37 PROPOSED VACUUM ENCLOSURE
 - 38 NEW VACUUM CANOPY
 - 39 NEW MEN BOARD
 - 40 NEW STRIPING PAINT TO NOT ENTER
 - 41 NEW PAY CANOPY
 - 42 NEW UNDERGROUND DREAGE INTERCEPTOR
 - 43 NEW PAVEMENT MARKING
 - 44 NEW DISPLAY PRICE SIGN
 - 45 PROPOSED PARCEL LINE
 - 46 EXISTING SWR V.T.
 - 47 NEW MOTORCYCLE STALL
 - 48 NEW LOW MASONRY ENTRY AGENT WALLS WITH LOW
 - 49 FLOWERING GROUND COVER.
 - 50 NEW ENHANCE PAVING



3.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

3.1 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.

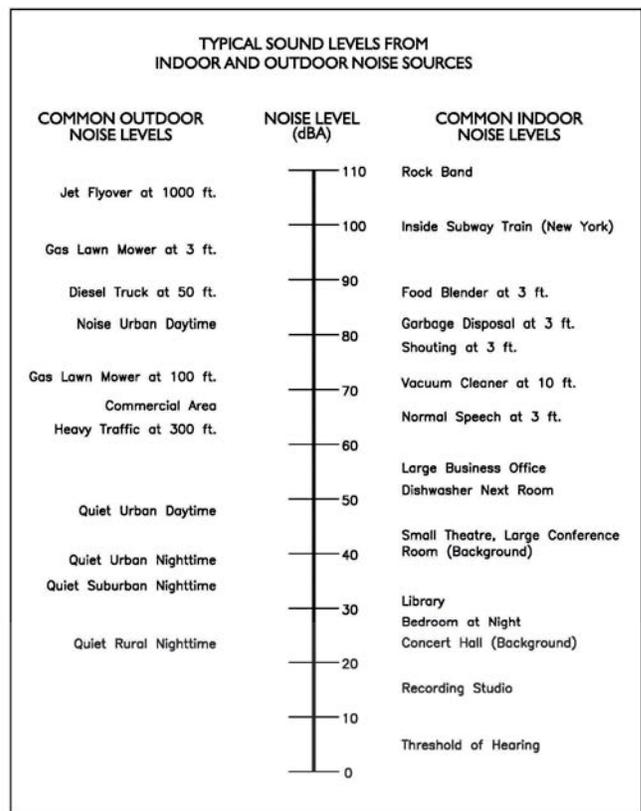
3.2 Frequency and Hertz

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 at 20 Hz to the high pitch of 20,000 Hz.

3.3 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 (0.0000000001) 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 abbreviated dB. Exhibit C illustrates references sound levels for different noise sources.

Exhibit C: Typical A-Weighted Noise Levels



3.4 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 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 sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

3.5 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 a change in the 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.

3.6 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.

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 the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the 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.

dB(A): 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 in 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 dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

3.7 Traffic Noise Prediction

Noise levels associated with traffic depends on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2 axle), and heavy truck percentage (3 axle and greater), and sound propagation. The greater the volume of traffic, the higher speeds and truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB; reasons for this are discussed in the sections above.

3.8 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 a 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 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet or more from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

4.0 Ground-Borne Vibration Fundamentals

4.1 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 and 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 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.

4.2 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. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

4.3 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.

5.0 Regulatory Setting

The proposed project is located in Temecula, California, and noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

5.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible for regulating noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible for regulating noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers. The Housing and Urban Development (HUD) is responsible for establishing noise regulations as it relates to exterior/interior noise levels for new HUD-assisted housing developments near high noise areas.

The federal government advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway or that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

5.2 State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix.” The matrix allows the local jurisdiction to clearly delineate the compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and

to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable as illustrated in Exhibit D, which presents the City of Temecula's adaptation of these guidelines.

5.3 City of Temecula Noise Regulations

The City of Temecula outlines their noise regulations and standards within the Noise Element from the General Plan and Municipal Code. For purposes of this analysis, the City's General Plan and Noise Ordinance (Chapter 9.20) is used to evaluate the stationary noise impacts from the proposed Project. The Noise Element outlines Goals and Policies and establishes Noise/Land Use Compatibility Criteria. This assessment will compare the project noise levels to the residential noise limits since the proposed Project is located directly adjacent to existing residential land uses. The project impacts were compared to the City's residential noise standards.

City of Temecula General Plan

The City has outlined goals, policies, and implementation measures to reduce potential noise impacts, which are presented below:

Goals, Policies, and Implementation Programs

Goals, policies, and implementation programs from the noise section that would mitigate potential impacts on noise include the following.

Goal 1: Separate significant noise generators from sensitive receptors.

Policy 1.1 Discourage noise sensitive land uses in noisy exterior environments unless measures can be implemented to reduce exterior and interior noise to acceptable levels. Alternatively, encourage less sensitive uses in areas adjacent to major noise generators but require sound-appropriate interior working environments.

Policy 1.2 Limit the hours of construction activity next to residential areas to reduce noise intrusion in the early morning, late evening, weekends and holidays.

Goal 2: Minimize transfer of noise impacts between adjacent land uses.

Policy 2.1 Limit the maximum permitted noise levels crossing property lines and impacting adjacent land uses.

Policy 2.3 Require that mixed use structures and areas be designed to prevent transfer of noise and vibration from commercial areas to residential areas.

Goal 3: Minimize the impact of noise levels throughout the community through land use planning.

Policy 3.1 Enforce and maintain acceptable noise limit standards.

Policy 3.3 Encourage the creative use of site and building design techniques as a means to minimize noise impacts.

Policy 3.4 Evaluate potential noise conflicts for individual sites and projects, and require mitigation of all significant noise impacts as a condition of project approval.

Goal 4: Minimize impacts from transportation noise sources.

Policy 4.1 Minimize noise conflicts between land uses and the circulation network, and mitigate sound levels where necessary or feasible to ensure the peace and quiet of the community.

Policy 4.2 Ensure the effective enforcement of City, State and federal noise standards by all City Divisions.

Implementation Programs:

N-1 Incorporate measures into all development projects to attenuate exterior and interior noise to acceptable levels. The City's noise compatibility standards for each General Plan land use designation are provided in Table N-1. These standards shall be adhered to and implemented during review of all development projects.

Review development proposals to ensure that the noise standards and compatibility criteria are met. Require mitigation measures, where necessary, to reduce noise levels to meet the noise standards and compatibility criteria.

N-2 Minimize noise in Temecula through the following measures:

- Require all non-emergency construction activity to comply with the limits (maximum noise levels, hours and days of activity) established in State and City noise regulations (Title 24 California Code of Regulations, Temecula Development Code and Chapter 8.32 of the Municipal Code).
- Require proposed industrial or commercial projects located near residential areas to demonstrate that the project, when constructed, will meet with City noise reduction requirements.

Exhibit D: Land Use Compatibility Guidelines

TABLE N-2
 NOISE/LAND USE COMPATIBILITY MATRIX

Land Use	Community Noise Exposure (Ldn or CNEL)					
	55	60	65	70	75	80
Residential ¹						
Transient Lodging - Motel, Hotel						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters ²						
Sports Arena, Outdoor Spectator Sports ²						
Playgrounds, Parks						
Golf Course, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial, and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

Source: Modified from 1998 State of California General Plan Guidelines.

1. Regarding aircraft-related noise, the maximum acceptable exposure for new residential development is 60dB CNEL.
2. No normally acceptable condition is defined for these uses. Noise studies are required prior to approval.



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.



Conditionally Acceptable: New construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the project design.



Normally Unacceptable: New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.



Clearly Unacceptable: New construction or development clearly should not be undertaken.

City of Temecula Municipal Code

The City's noise ordinance is found in Chapter 9.20 – Noise Regulation.

Section 9.20.020 – Definitions.

"Sensitive receptor" means a land use in which there is a reasonable degree of sensitivity to noise. Such uses include single-family and multifamily residential uses, schools, hospitals, churches, rest homes, cemeteries, public libraries and other sensitive uses as determined by the enforcement officer.

Section 9.20.030 – Exemptions.

Sound or noise emanating from the following sources and activities are exempt from the provisions of this title:

G. Private construction (e.g., construction, alteration or repair activities) between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday; provided, however, that all construction equipment shall be fitted with factory installed muffling devices and that all construction equipment shall be maintained in good working order.

Section 9.20.040 – General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1 (Table N-1 in the Municipal Code) and Exhibit D (Table N-2 in the Municipal Code).

Table 1: Sound Level Standards

PROPERTY RECEIVING NOISE		MAXIMUM NOISE LEVEL (dBA)	
Type of Use	Land Use Designation	Interior	Exterior
Residential	Hillside, Rural, Very Low, Low, Low Medium	45	65
	Medium	45	65/70 ¹
	High	45	70 ¹
Commercial and Office	Neighborhood, Community, Highway Tourist, Service	N/A	70
	Professional Office	50	70
Light Industrial	Industrial Park	55	75
Mixed Use	SPI or medium or high residential designation	45	70
Public/Institutional	Schools	50	65
	All others	50	70
Open Space	Vineyards/Agriculture	N/A	70
	Open Space	N/A	70/65 ²
Notes:			
¹ Maximum exterior noise levels up to 70 dBA are allowed for multiple-family housing.			
² Where quiet is a basis required for the land use.			

9.20.060 – Exceptions.

The general sound level standards set forth in Section 9.20.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating or allowing the creation of the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards. Failure to comply will constitute separate violations of this ordinance.

D. Construction. No person shall engage in or conduct construction activity, when the construction site is within one-quarter mile of an occupied residence, between the hours of six-thirty p.m. and seven a.m., Monday through Friday, and shall only engage in or conduct construction activity between the hours of seven a.m. and six-thirty p.m. on Saturday. No construction activity shall be undertaken on Sunday and nationally recognized holidays unless exempted by Section 9.20.070 of the Temecula Municipal Code. Public works projects of any federal, state or local entity or emergency work by public utilities are exempt from the provisions of this subsection. Residents working on their homes or property are exempt from the prohibition of construction activities on Sundays and holidays and shall only engage in or conduct construction activity between the hours of seven a.m. and six-thirty p.m. when working on Sundays and holidays. The city council may, by formal action, exempt projects from the provisions of this chapter.

5.4 CEQA Guidelines

According to CEQA guidelines, the project would have a potential impact if it resulted 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?
- b) Generation of excessive groundborne vibration or groundborne noise levels?
- 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?

6.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

6.1 Noise Measurement Procedure 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 first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance with Federal Highway Transportation (FHWA) and Caltrans (TeNS) technical noise specifications. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphones for sound level meters were placed 5-feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Results of the long-term noise measurements were recorded on field data sheets
- During any short-term noise measurements, any noise contaminations such as barking dogs, local traffic, lawnmowers, or aircraft fly-overs were noted
- Temperature and sky conditions were observed and documented

6.2 Short-Term Noise Measurement Locations

Noise monitoring locations were selected based on the nearest sensitive receptors relative to the proposed onsite noise sources. Two (2) short-term 15-minute noise measurements were conducted at the project site and are illustrated in Exhibit E. Appendix A includes photos, field sheet, and measured noise data.

6.3 Stationary Noise Modeling

SoundPLAN (SP) acoustical modeling software was utilized to model future worst-case stationary noise impacts to the adjacent land uses. SP is capable of evaluating multiple stationary noise source impacts at various receiver locations. SP's software utilizes algorithms (based on the inverse square law and reference equipment noise level data) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. See Appendix B for inputs and outputs.

The future worst-case noise level projections were modeled using referenced sound level data for the various stationary on-site sources (vacuums, vacuum turbines, blowers at the car wash exit, drive-thru speakers and idling cars at the coffee shop drive-thru). A maximum queue length of 9 is anticipated for the car wash and a maximum queue length of 18 is anticipated for the coffee shop, per the queuing analyses prepared by TJW Engineering, Inc. The SP model assumes a total of 20 vacuums, the dryer systems, and the drive-thru speakers are operating simultaneously (worst-case scenario) when the noise will, in reality, be intermittent and lower in noise level. The model also assumes that both drive-thrus exceed the maximum anticipated queue length, with a car idling every 6 feet in the queue. In addition, the modeling takes into account the louver, windows, and openings on the car wash tunnel based on the plan elevations. The reference sound level data for the vacuum equipment, blower system, drive-thru speakers, and idling cars are provided in Appendix C.

All other noise-producing equipment (e.g., compressors, pumps) will be housed within mechanical equipment rooms.

The following outlines the project design features:

1. The Project will incorporate 12 Sonny's blowers with the silencer package installed or equivalent.
2. Absorptive material (Acoustiblok perforated metal panels or equivalent) will line the last 15' of the exit on the walls and ceiling (see Appendix C).

Modeling assumptions are summarized in Table 2.

Table 2: SoundPLAN Modeling Assumptions

Source	Source Type	Reference Level (dBA) ¹	Descriptor
Blowers with Silencers	Point Source	102	Lp @ 5 ft
Vacuums	Point Source	70	Lp @ 3 ft
Turbine	Point Source	43	Lp @ 3 ft (in enclosure)
Drive-Thru Speakers	Point Source	62	Lp @ 3ft
Idling Cars	Line Source	59	Lp @ 3ft per car
1. Reference noise level data provided in Appendix C.			

6.4 FHWA Roadway Construction Noise Model

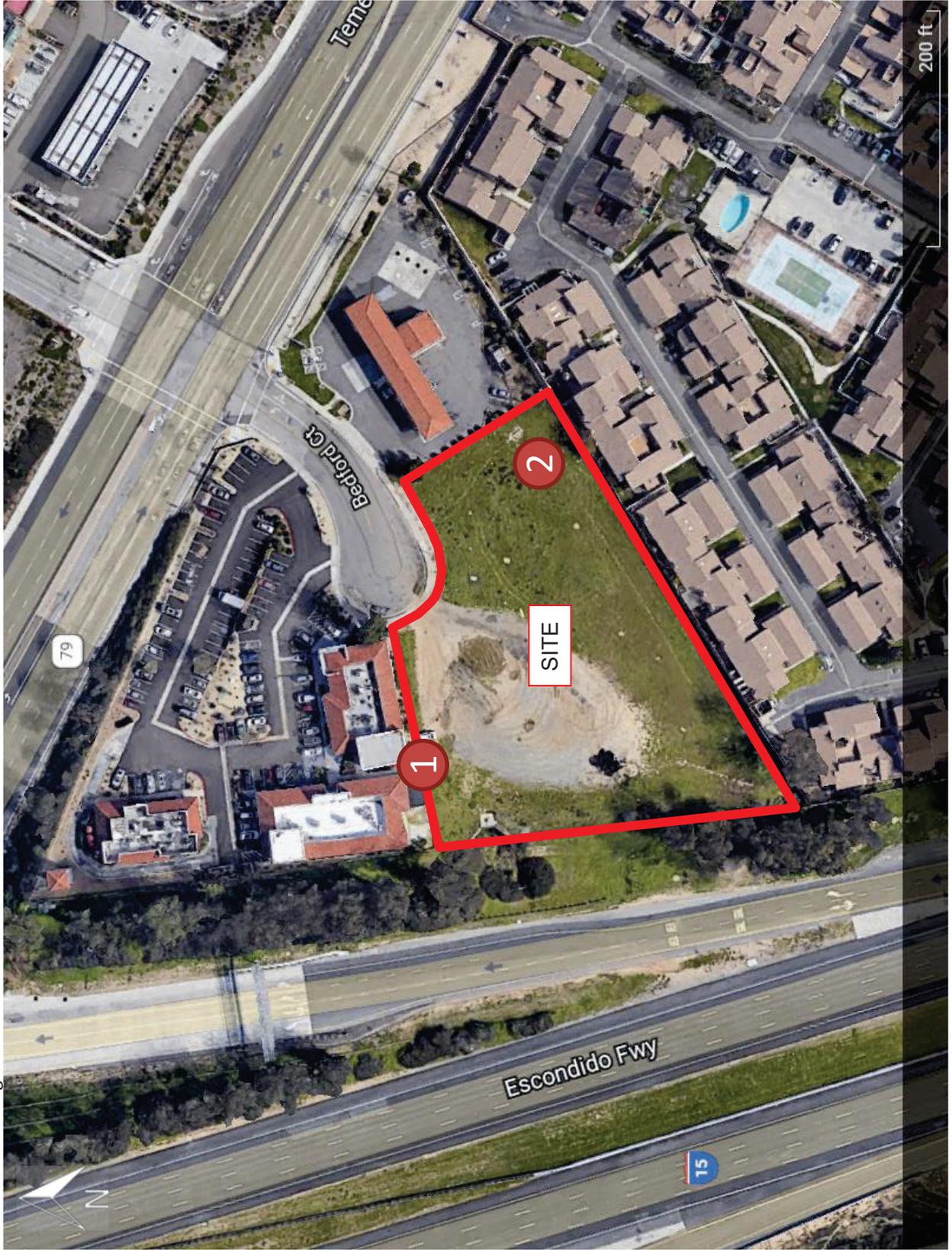
The construction noise analysis utilizes the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RNCM), together with several key construction parameters. Key inputs include distance to the sensitive receiver, equipment usage, % usage factor, and baseline parameters for the project site.

The project was analyzed based on the different construction phases. Construction noise is expected to be loudest during the grading, concrete and building phases of construction. The construction noise calculation output worksheet is located in Appendix E. The following assumptions relevant to short-term construction noise impacts were used:

It is estimated that construction will occur over a 6 to 8-month time period. Construction noise is expected to be the loudest during the site preparation, grading, and building phases.

Exhibit E Measurement Locations

 = Short-Term
Monitoring Location



7.0 Existing Noise Environment

Two (2) 15-minute ambient noise measurements were conducted at the project site. Noise measurements were taken to determine the existing ambient noise levels. Noise data indicates that traffic along Escondido Freeway and surrounding commercial uses are the primary sources of noise impacting the site and the surrounding area.

7.1 Short-Term Noise Measurement Results

The results of the short-term noise data are presented in Table 3.

Table 3: Short-Term Noise Measurement Data (dBA)¹

Location	Start Time	Stop Time	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)
NM1	4:07 PM	4:22 PM	65.2	70.7	59.1	68.2	67.1	66	65	62.8
NM2	4:25 PM	4:40 PM	60.3	70	53.3	68.1	65.3	59.2	57.5	55.3

Notes:

1. Short-term noise monitoring locations are illustrated in Exhibit E.

Noise data indicates the ambient noise level ranges between 60 dBA to 65 dBA Leq. Additional field notes and photographs are provided in Appendix A. MD has utilized the measured ambient noise levels and has compared them to the project's projected noise levels.

8.0 Future Noise Environment Impacts

This assessment analyzes future noise impacts as a result of the project. The analysis details the estimated exterior/interior noise levels. Stationary noise impacts are analyzed from the on-site noise sources such as dryers/blowers and vacuums (associated with car wash equipment).

8.1 Future Exterior Noise

The following outlines the exterior noise levels associated with the proposed project. The project site is not located within 2 miles of an airport.

8.1.1 Noise Impacts to Off-Site Receptors Due to Stationary Sources

Sensitive receptors that may be affected by project operational noise include existing residences to the south and commercial uses to the north. The worst-case stationary noise was modeled using SoundPLAN acoustical modeling software. Worst-case assumes the blowers and vacuums are always operational, when in reality the noise will be intermittent and cycle on/off depending on customer usage. The worst-case noise model also assumes that both the car wash and coffee shop drive-thrus are at the maximum queue length throughout the hour and that the drive-thru speakers are always in use.

A total of four (4) receptors were modeled to evaluate the proposed project's operational impact. A receptor is denoted by a yellow dot. All yellow dots represent either a property line or a sensitive receptor such as a building facade. Receptors 1 and 2 represent commercial uses and receptors 3 and 4 represent residential uses.

This study compares the Project's operational plus ambient noise levels to the ambient only condition.

Project-Only Levels

Exhibit F shows the "Project-Only" noise levels and contours at the nearest sensitive receptors. The project-only hourly noise levels range from 52 to 68 dBA Leq at the various sensitive receptors. These levels fall below the 70 dBA Leq high-density residential limit and 70 dBA Leq highway tourist commercial limit.

Project Plus Ambient Operational Noise Levels

Table 4 demonstrates the Project plus the ambient noise levels. Project plus ambient noise level projections are anticipated to range between 61 to 70 dBA Leq.

<Table 4, next page>

Table 4: Worst-Case Predicted Operational Leq Noise Levels (dBA)

Receptor ¹	Existing Ambient Noise Level (dBA, Leq) ²	Project Noise Level (dBA, Leq) ³	Total Combined Noise Level (dBA, Leq)	City of Temecula Non Transp. Noise Limit (dBA, Leq)	Exceeds Limit?
1	65	68	70	70	No
2	65	66	69	70	No
3	60	52	61	70	No
4	65	59	66	70	No
Notes: ¹ . Receptors 1 and 2 represent commercial uses. Receptors 3 and 4 represent residential uses. ² . See Appendix A for the ambient noise measurement. ³ . See Exhibit F for the operational noise level projections at said receptors.					

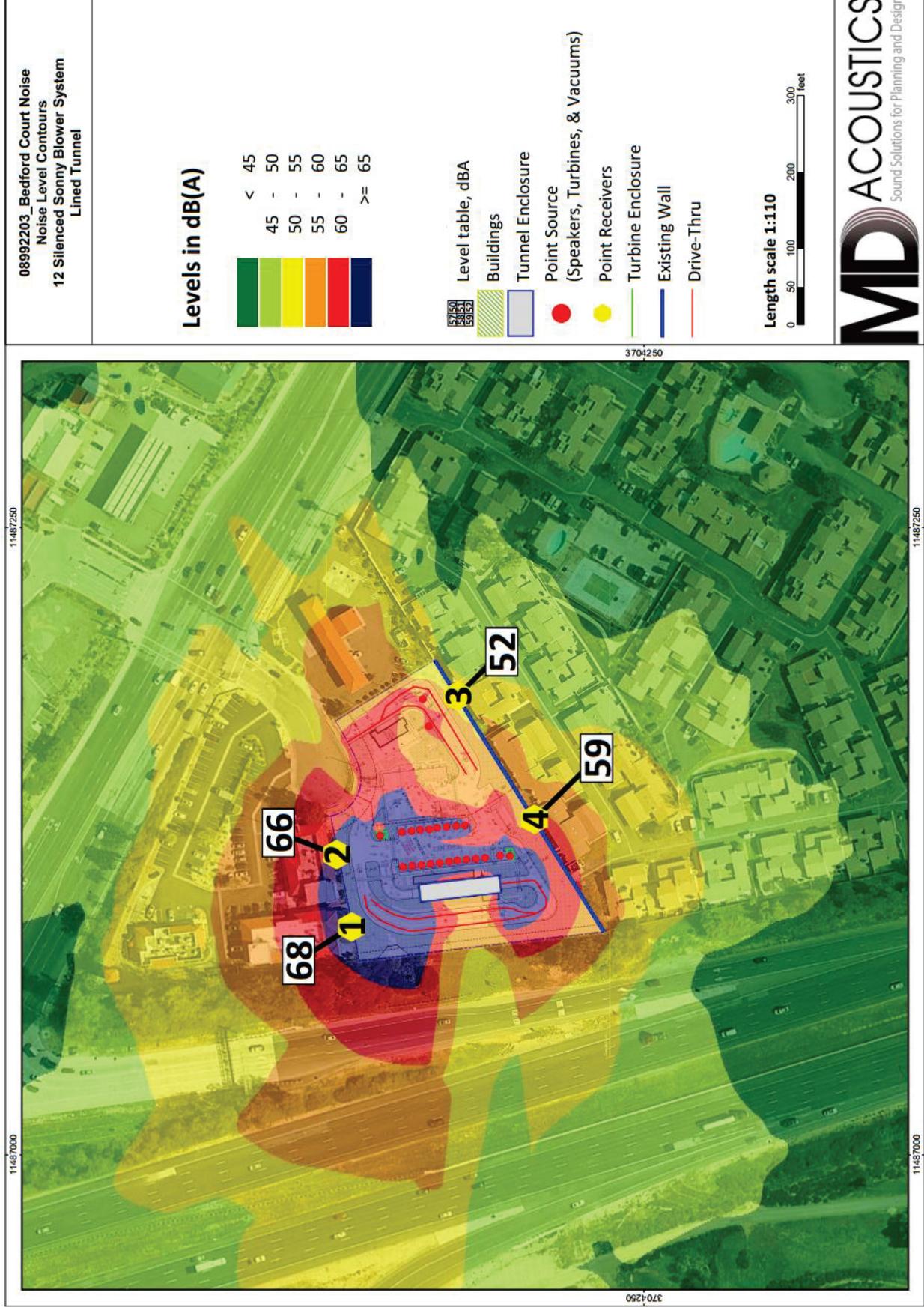
As shown in Table 4, the project plus ambient noise level will not exceed the exterior noise level limit of 70 dBA Leq for high density residential and highway tourist commercial uses.

8.1.2 Noise Impacts to Off-Site Receptors Due to Traffic

According to the Temecula Impact Analysis Guidelines, September 2020, locally serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact. Thus, this study assumes that the Project-generated traffic will be less than significant. Additionally, it takes a doubling of traffic to produce a noticeable difference in noise level. The main source of noise at and near the Project site is traffic along Temecula Valley Freeway and Temecula Parkway, and the Project is not anticipated to double the traffic volume along either highway. Thus, the noise impact due to Project generated traffic is less than significant.

Exhibit F

Operational Noise Level Contours



9.0 Construction Noise Impact

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction.

9.1 Construction Noise

The Environmental Protection Agency (EPA) has compiled data regarding the noise-generated characteristics of typical construction activities. The data is presented in Table 5.

Table 5: Typical Construction Noise Levels

EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES	
Type	Noise Levels (dBA) 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	
Type	Noise Levels (dBA) at 50 Feet
Saws	71 - 82
Vibrators	68 - 82
Notes:	
¹ Source: Figure 1, Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances, Environmental Protection Agency (EPA), Dec 1971	

Construction is considered a short-term impact and would be considered significant if construction activities are taken outside the allowable conditions described in the City’s Municipal Code Section 9.20.060(D). Construction is anticipated to occur during the permissible hours according to the City’s

Municipal Code. Construction noise will have a temporary or periodic increase in the ambient noise level above the existing within the project vicinity. Furthermore, noise reduction measures are provided to further reduce construction noise. The impact is considered less than significant, however construction noise level projections are provided in Appendix D.

The project’s CalEEMod assumptions were utilized to determine the construction equipment. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels are in Table 6. A likely worst-case construction noise scenario assumes equipment operating as close as 20 feet and an average of 135 feet from the nearest sensitive receptor (center of the site to the closest residential property line to the south). This is done by the guidance of the FTA Transit Noise and Vibration Model for the general assessment of construction noise.

Table 6: Construction Noise Level by Phase (dBA, Leq)

Activity	Noise Levels at Nearest Sensitive Receptor	
	Leq	Lmax
Site Preparation	73	95
Grading	75	96
Building Construction	72	95
Paving	68	95
Architectural Coating	65	86
Notes: Construction Modeling Worksheets are provided in Appendix C.		

As shown in Table 6, project construction noise will range between 65 to 75 dBA Leq and 86 to 96 dBA Lmax at the nearest sensitive receptor (without the implementation of mufflers and other sound attenuating devices). Construction is anticipated to occur during the permissible hours according to the City’s Municipal Code and the impact is temporary, however, the following measures may be taken to ensure that construction activities do not disrupt the adjacent land uses:

1. During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices. Equipment with a sound power level of 80 dB or higher must be equipped with mufflers.
2. The contractor shall locate equipment staging areas as far as possible, away from the sensitive receptors.
3. Idling equipment shall be turned off when not in use.
4. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

9.2 Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is likely perceptible but below any risk to architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{\text{equipment}} = PPV_{\text{ref}} (25/D_{\text{rec}})^n$$

Where: PPV_{ref} = reference PPV at 25ft.

D_{rec} = distance from equipment to receiver in ft.

$n = 1.1$ (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 7 (below) provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

Table 7: Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.
 Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 8 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

Table 8: Vibration Source Levels for Construction Equipment¹

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (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	0.21	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: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.

At a distance of 30 feet (southern residence façade to the project site), a large bulldozer would yield a worst-case 0.073 PPV (in/sec) which is likely perceptible but below any risk of damage. The impact is less than significant, and no mitigation is required.

10.0 CEQA Analysis

The California Environmental Quality Act Guidelines establishes thresholds for noise impact analysis as presented below:

(a) Would the project result in the 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 Code, or applicable standards of other agencies?

Transportation Noise Impacts

According to the Temecula Impact Analysis Guidelines, September 2020, locally serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact. Thus, this study assumes that the Project-generated traffic will be less than significant. Additionally, it takes a doubling of traffic to produce a noticeable difference in noise level. The main source of noise at and near the Project site is traffic along Temecula Valley Freeway and Temecula Parkway, and the Project is not anticipated to double the traffic volume along either highway. The impact is therefore less than significant.

Stationary Noise Sources

Stationary noise impacts would be considered significant if they result in exceedances of Section 9.20.040 of the Municipal Code. Project operational noise levels were modeled using SoundPLAN (SP) acoustical modeling software. Project-only noise levels are anticipated to range from 52 to 68 dBA Leq, and Project plus ambient noise levels are anticipated to range from 61 to 70 dBA Leq. The Project noise level will not exceed the 70 dBA Leq limit for high density residential and highway tourist commercial uses. The impact would therefore be less than significant.

Construction Noise and Vibration

Construction noise will be significant if construction activities occur outside of the permitted construction hours specified in Section 9.20.060(D) of the City of Temecula Municipal Code.

Noise due to construction will result in short-term noise impacts associated with construction activities.

The grading phases of on-site construction activities will generate the highest temporary noise levels. The loudest construction equipment on the site will be tractors, graders, excavators, and dozers. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Construction equipment should be equipped with appropriate mufflers to lower the temporary noise impact.

b) Generate excessive ground-borne vibration or ground-borne noise levels?

Construction vibration will be significant if vibration exceeds levels that would result in structural damage to existing buildings. At a distance of 30 feet, the nearest building to the project property line, a large bulldozer would yield a worst-case 0.073 PPV (in/sec), which may be perceptible but is below the threshold of any risk of damage. Therefore, the impact is less than significant.

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?

The Project is not located within 2 miles of an airport.

11.0 References

State of California General Plan Guidelines: 1998. Governor's Office of Planning and Research

City of Temecula: General Plan Noise Element.

City of Temecula: Municipal Code Chapter 9.20 Noise Regulation.

Appendix A:
Photographs and Field Measurement Data

15-Minute Continuous Noise Measurement Datasheet

Project Name: Bedford Court Noise

Project: #/Name: 0899-2022-003

Site Address/Location: Bedford Ct.

Date: 11/02/2022

Field Tech/Engineer: Jason Schuyler

Site Observations:

The afternoon sun finally beat back the clouds. Temps 64F with winds 1-3MPH from West. Site has been cleared for construction. The fences around the property are chain link. The residential properties have block or wood fences.

Sound Meter: XL2, NT1 **SN:** A2A-08562-E0

Settings: A-weighted, slow, 1-sec, 15-minute interval

Site Id: NM1, NM2



15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Bedford Court Noise

Site Address/Location: Bedford Ct.

Site Id: NM1, NM2

Figure 1: NM1



Figure 2: NM2

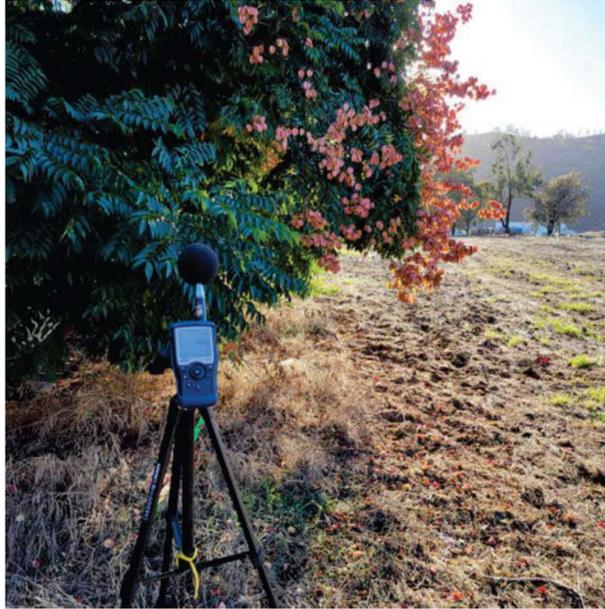
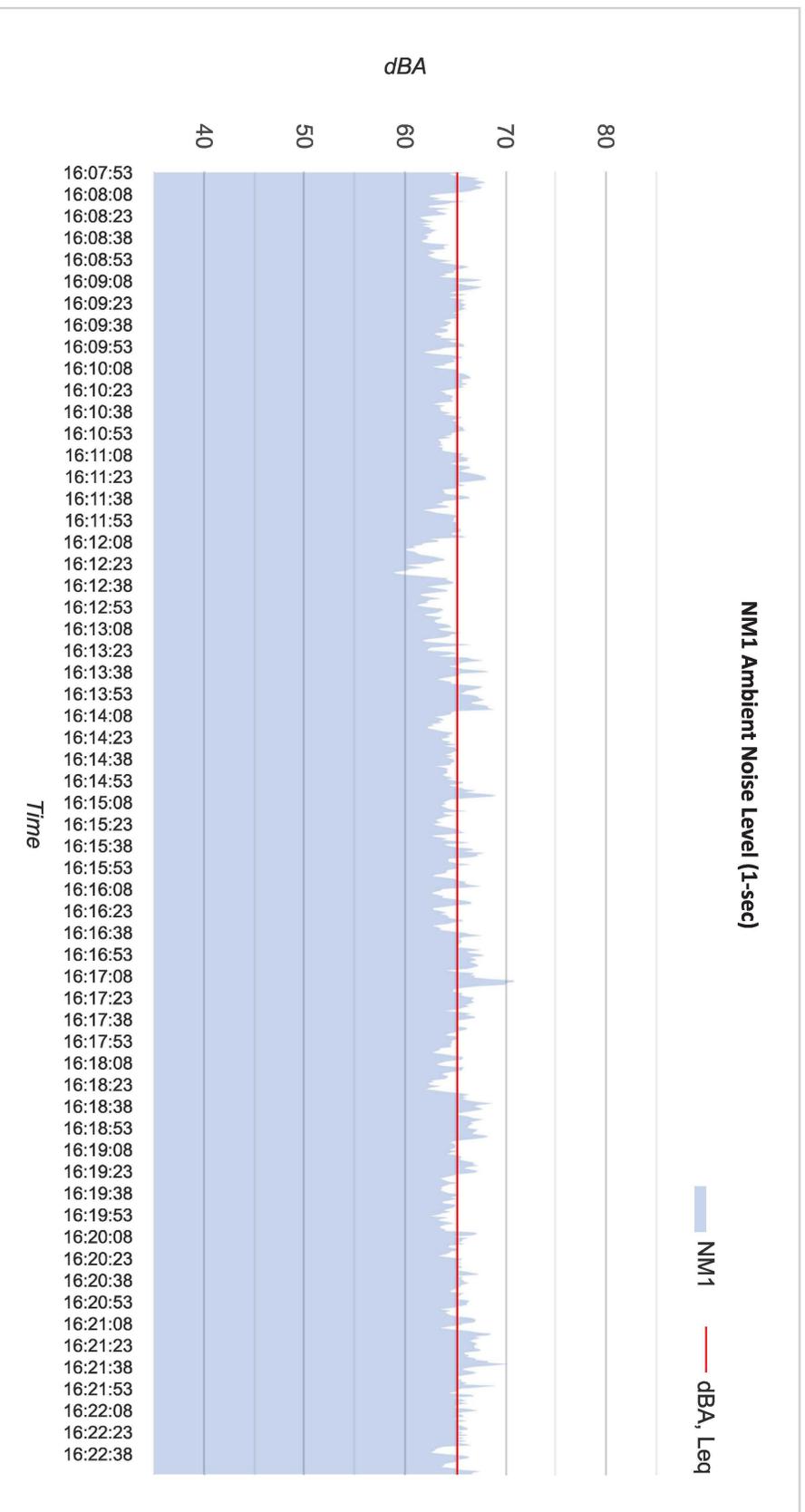


Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM1	4:07 PM	4:22 PM	65.2	70.7	59.1	68.2	67.1	66	65	62.8
NM2	4:25 PM	4:40 PM	60.3	70.0	53.3	68.1	65.3	59.2	57.5	55.3

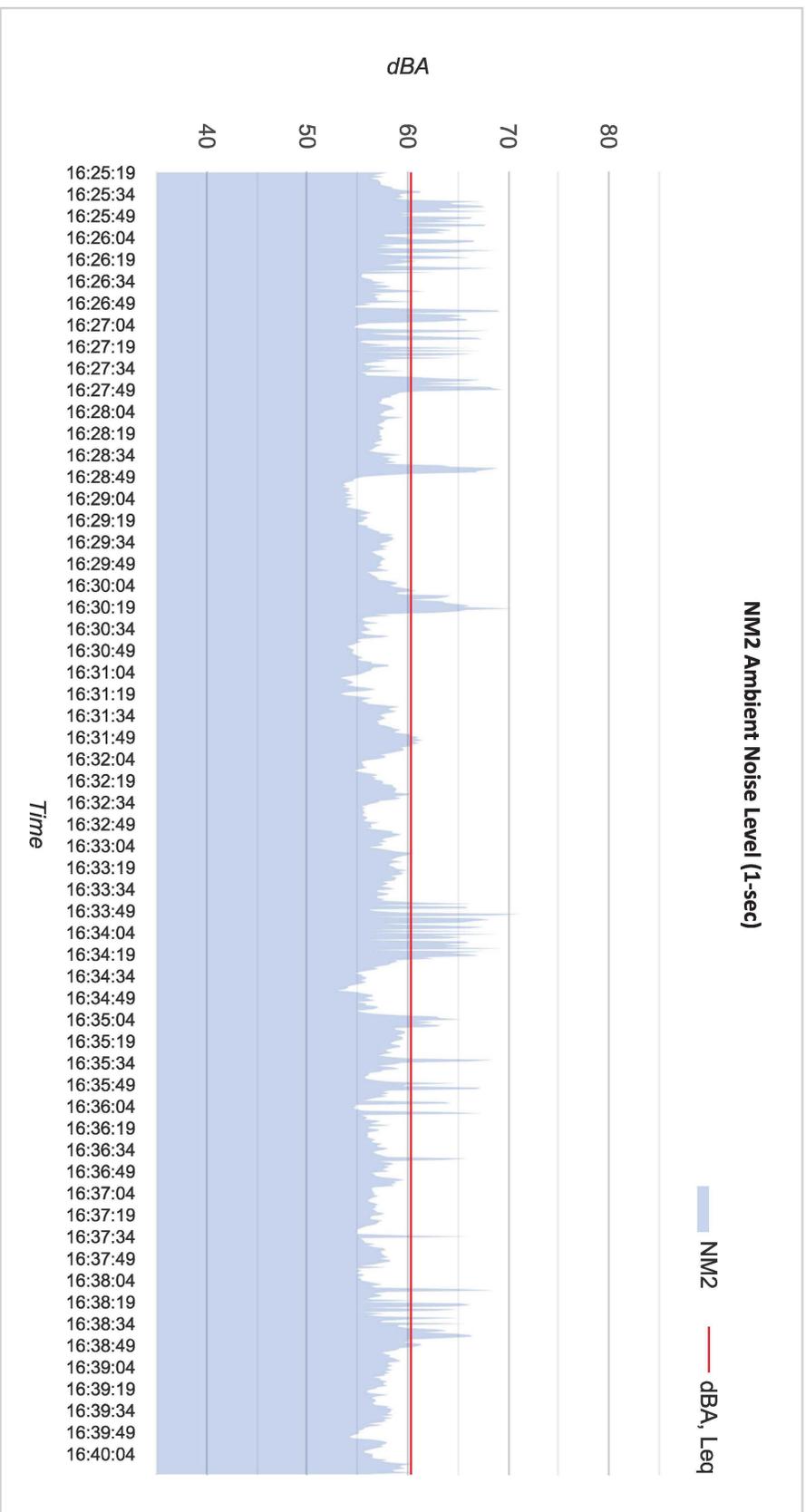
15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	Bedford Court Noise	Site Topo:	Buildings 1-2 stories tall	Noise Source(s) w/ Distance:	
Site Address/Location:	Bedford Ct.	Meteorological Cond.:	64F winds 11-13MPH		road noise and residential noise
Site Id:	NM1	Ground Type:	loose powdery dirt with piles of rock		



15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Bedford Court Noise **Site Topo:** Buildings 1-2 stories tall **Noise Source(s) w/ Distance:** road noise and residential noise
Site Address/Location: Bedford Ct. **Meteorological Cond.:** 64F winds 11-13MPH
Site Id: NM2 **Ground Type:** open soil lot, flat w/ some residential and commercial 1-2 story



Appendix B:
SoundPLAN Input/Outputs

**Bedford Court Noise
Contribution spectra - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Source	Time slice	Sum dB(A)	25Hz dB(A)	31.5Hz dB(A)	40Hz dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Leq,d	-11.0																								
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Leq,d	1.8																								
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Leq,d	15.3																								
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Leq,d	14.1																								
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Leq,d	7.1																								
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	34.4																								
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	68.0																								
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Leq,d	14.1																								
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Leq,d	5.8																								
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Leq,d	6.7																								
Car Lane	Leq,d	45.5	21.1	4.1	10.1	25.1	26.0	28.0	24.4	28.4	25.3	29.5	24.6	26.6	30.6	30.6	34.6	34.1	35.0	33.4	36.4	37.4	34.2	32.0	32.0	
Drive-Thru	Leq,d	30.8	7.9	-9.1	-3.1	11.9	12.9	14.8	10.5	14.5	11.4	12.5	7.5	9.5	13.5	13.5	17.4	19.6	19.6	19.7	22.5	23.2	19.5	16.6	16.6	
Drive-Thru	Leq,d	30.0	7.8	-9.2	-3.2	11.8	12.8	14.7	10.3	14.2	11.2	11.5	6.6	8.5	12.5	12.5	16.4	19.0	18.9	19.0	21.7	22.3	18.6	15.6	15.6	
Drive-Thru	Leq,d	42.5	18.1	1.2	7.1	22.1	23.1	25.1	21.5	25.4	22.4	26.1	21.1	23.2	27.2	27.2	31.2	31.2	32.1	30.6	33.5	34.5	31.3	29.1	29.1	
Speaker	Leq,d	21.1	-28.8	-26.5	-20.9	-18.5	-6.7	-5.9	-9.3	-3.3	-1.5	-2.7	-3.1	1.6	4.4	8.4	9.5	13.5	15.3	12.1	12.3	7.9	6.8	3.7	3.3	
Speaker	Leq,d	19.3	-29.5	-27.2	-21.7	-19.2	-7.4	-6.5	-10.1	-4.0	-2.3	-3.7	-4.2	0.6	3.3	7.2	8.1	11.9	13.5	10.1	10.2	5.5	4.3	1.0	0.5	
Turbine	Leq,d	3.5																								
Turbine	Leq,d	17.7																								
Vac	Leq,d	33.2	-4.2	-1.2	5.8	9.8	12.8	16.8	16.8	17.8	20.8	20.9	21.9	17.9	15.9	19.9	13.9	20.0	20.9	18.9	22.9	22.7	22.4	22.0	21.3	
Vac	Leq,d	35.8	-2.0	1.0	8.0	12.0	15.0	19.0	19.2	20.2	23.2	23.9	24.9	20.9	18.9	22.9	16.9	22.5	23.4	21.4	25.2	25.1	24.9	24.5	24.0	
Vac	Leq,d	35.2	-2.5	0.5	7.5	11.5	14.5	18.5	18.6	19.6	22.6	23.2	24.2	20.2	18.2	22.2	16.2	21.9	22.8	20.8	24.7	24.5	24.3	23.9	23.4	
Vac	Leq,d	28.5	-5.3	-2.5	4.3	8.1	10.9	14.7	14.6	15.3	18.1	19.2	19.8	15.4	13.0	16.5	10.0	14.9	15.4	12.9	16.3	15.5	14.7	13.6	12.4	
Vac	Leq,d	26.3	-5.9	-3.1	3.7	7.4	10.2	13.9	13.6	14.2	16.8	17.8	18.1	13.4	10.7	13.9	7.1	11.7	11.9	9.1	12.3	11.3	10.1	8.9	7.5	
Vac	Leq,d	36.5	-1.3	1.7	8.7	12.7	15.7	19.7	19.8	20.8	23.8	24.7	25.7	21.7	19.8	23.8	17.7	23.1	24.1	22.0	25.9	25.7	25.5	25.2	24.7	
Vac	Leq,d	40.3	1.5	4.5	11.5	15.5	18.4	22.4	22.7	23.7	26.7	28.4	29.4	25.4	23.4	27.4	21.4	26.1	27.1	26.1	29.9	29.8	29.6	28.4	28.9	
Vac	Leq,d	38.9	0.7	3.7	10.7	14.7	17.7	21.7	21.9	22.9	25.9	27.4	28.4	24.4	22.4	26.4	20.4	25.3	26.3	24.3	28.0	27.9	27.7	27.5	27.1	
Vac	Leq,d	38.1	0.0	3.0	10.0	14.0	17.0	21.0	21.2	22.2	25.2	26.5	27.5	23.5	21.5	25.5	19.5	24.6	25.5	23.5	27.3	27.1	27.0	26.7	26.3	
Vac	Leq,d	37.3	-0.7	2.3	9.3	13.3	16.3	20.3	20.5	21.5	24.5	25.6	26.6	22.6	20.6	24.6	18.6	23.8	24.8	22.8	26.6	26.4	26.3	26.0	25.5	
Vac	Leq,d	35.2	-2.5	0.5	7.5	11.5	14.5	18.5	18.6	19.6	22.6	23.2	24.2	20.2	18.2	22.2	16.2	21.8	22.8	20.8	24.6	24.5	24.3	23.9	23.3	
Vac	Leq,d	34.7	-2.9	0.1	7.1	11.1	14.1	18.1	18.2	19.2	22.2	22.7	23.6	19.6	17.6	21.6	15.6	21.4	22.4	20.4	24.2	24.1	23.8	23.5	22.9	
Vac	Leq,d	34.2	-3.4	-0.4	6.6	10.6	13.6	17.6	17.7	18.7	21.7	22.0	23.0	19.0	17.0	21.0	15.0	20.9	21.9	19.8	23.7	23.6	23.3	22.9	22.3	
Vac	Leq,d	33.6	-3.8	-0.8	6.2	10.2	13.2	17.2	17.2	18.2	21.2	21.4	22.4	18.4	16.4	20.4	14.4	20.4	21.4	19.3	23.3	23.1	22.8	22.4	21.8	
Vac	Leq,d	35.7	-2.1	0.9	7.9	11.9	14.9	18.9	19.1	20.0	23.0	23.8	24.7	20.7	18.7	22.7	16.7	22.3	23.3	21.2	25.1	25.0	24.7	24.4	23.9	
Vac	Leq,d	24.7	-6.4	-3.7	3.1	6.8	9.4	13.0	12.7	13.1	15.6	16.5	16.6	11.7	8.8	11.9	5.0	9.4	9.5	6.6	9.7	8.6	7.4	6.1	4.6	
Vac	Leq,d	23.2	-7.2	-4.5	2.2	5.9	8.4	12.0	11.4	11.8	14.1	14.9	14.9	9.9	8.0	11.0	4.0	7.8	7.8	4.8	7.9	6.7	5.4	4.0	2.6	

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

**Bedford Court Noise
Contribution spectra - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz			
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)		
Vac	Leq,d	36.7	-1.2	1.8	8.8	12.8	15.8	19.8	19.9	20.9	23.9	24.9	25.9	21.9	19.9	23.9	17.9	23.3	24.2	22.2	26.0	25.9	25.7	25.4	24.9	24.4		
Vac	Leq,d	36.2	-1.7	1.3	8.3	12.3	15.3	19.3	19.5	20.5	23.5	24.3	25.3	21.3	19.3	23.3	17.3	22.8	23.7	21.7	25.5	25.4	25.2	24.9	24.4	24.4		
Receiver R2 FIG Lr,lim dB(A) Leq,d 66.0 dB(A) Sigma(Leq,d) 0.0 dB(A)																												
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Leq,d	-11.1																										
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Leq,d	12.9	14.7	-2.3	3.6	18.6	19.5	21.5	17.7	21.6	18.5	21.2	16.4	18.4	22.3	22.2	26.2	27.1	27.0	28.0	26.7	29.6	30.5	27.2	24.8	24.8	24.8	24.8
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Leq,d	13.4	10.4	-6.5	-0.5	14.5	15.4	17.4	13.6	17.5	14.5	16.0	11.1	13.1	17.0	17.0	21.0	23.1	23.1	24.0	23.1	25.9	26.6	23.2	20.6	20.6	20.6	20.6
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Leq,d	-1.0	9.7	-7.3	-1.3	13.7	14.7	16.7	12.7	16.7	13.6	14.4	9.4	11.4	15.2	15.2	19.1	21.7	21.6	22.5	21.7	24.5	25.2	21.7	18.9	18.9	18.9	18.9
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Leq,d	6.8	13.3	-3.8	2.2	17.1	18.0	20.0	16.2	20.1	17.0	19.8	14.9	16.9	20.8	20.8	24.7	25.7	25.6	26.6	25.3	28.2	29.1	25.8	23.4	23.4	23.4	23.4
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	33.9	-26.1	-23.9	-18.3	-15.8	-4.0	-2.6	-5.8	0.4	2.3	0.7	0.3	5.0	7.4	11.4	12.6	17.9	19.8	16.6	17.0	12.7	11.8	11.8	8.9	9.0	9.0	9.0
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	65.8	-27.1	-24.9	-18.8	-16.8	-5.0	-3.6	-6.9	-0.7	1.2	-0.6	-1.1	3.7	6.2	10.2	11.3	16.8	18.7	15.5	15.9	11.6	10.7	10.7	7.7	7.7	7.7	7.7
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	2.5	14.6	-3.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Leq,d	12.5	14.6	-3.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Leq,d	12.5	14.6	-3.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Leq,d	5.2	14.7	-2.3	3.6	18.6	19.5	21.5	17.7	21.6	18.5	21.2	16.4	18.4	22.3	22.2	26.2	27.1	27.0	28.0	26.7	29.6	30.5	27.2	24.8	24.8	24.8	24.8
Car Lane	Leq,d	38.3	10.4	-6.5	-0.5	14.5	15.4	17.4	13.6	17.5	14.5	16.0	11.1	13.1	17.0	17.0	21.0	23.1	23.1	24.0	23.1	25.9	26.6	23.2	20.6	20.6	20.6	20.6
Drive-Thru	Leq,d	32.8	9.7	-7.3	-1.3	13.7	14.7	16.7	12.7	16.7	13.6	14.4	9.4	11.4	15.2	15.2	19.1	21.7	21.6	22.5	21.7	24.5	25.2	21.7	18.9	18.9	18.9	18.9
Drive-Thru	Leq,d	36.9	13.3	-3.8	2.2	17.1	18.0	20.0	16.2	20.1	17.0	19.8	14.9	16.9	20.8	20.8	24.7	25.7	25.6	26.6	25.3	28.2	29.1	25.8	23.4	23.4	23.4	23.4
Speaker	Leq,d	25.5	-26.1	-23.9	-18.3	-15.8	-4.0	-2.6	-5.8	0.4	2.3	0.7	0.3	5.0	7.4	11.4	12.6	17.9	19.8	16.6	17.0	12.7	11.8	11.8	8.9	9.0	9.0	9.0
Speaker	Leq,d	24.3	-27.1	-24.9	-18.8	-16.8	-5.0	-3.6	-6.9	-0.7	1.2	-0.6	-1.1	3.7	6.2	10.2	11.3	16.8	18.7	15.5	15.9	11.6	10.7	10.7	7.7	7.7	7.7	7.7
Turbine	Leq,d	14.6	14.6	-3.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
Turbine	Leq,d	25.6	14.6	-3.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
Vac	Leq,d	34.6	-3.0	0.0	7.0	11.0	14.0	18.0	18.2	19.1	22.1	22.5	23.5	19.5	17.3	21.3	15.3	21.3	22.2	20.2	20.2	24.2	24.0	23.8	23.4	22.8	22.8	22.8
Vac	Leq,d	36.5	-1.6	1.4	8.4	12.4	15.4	19.4	19.6	20.6	23.5	24.4	25.3	21.3	19.2	23.2	17.2	22.8	23.8	21.7	25.6	26.2	26.1	25.7	25.1	25.1	25.1	25.1
Vac	Leq,d	37.5	-2.2	0.8	7.8	11.8	14.8	18.8	18.9	19.9	22.9	23.5	26.6	22.6	20.4	24.4	18.4	24.2	25.2	23.1	27.1	27.6	27.4	27.0	26.3	26.3	26.3	26.3
Vac	Leq,d	36.9	-2.9	0.1	7.1	11.1	14.1	18.1	18.3	19.3	22.3	22.7	25.8	21.8	19.7	23.7	17.6	23.6	24.6	22.5	27.2	27.2	27.2	26.9	26.4	26.4	26.4	26.4
Vac	Leq,d	36.4	-3.5	-0.5	6.5	10.5	13.5	17.5	17.7	18.6	21.6	21.9	25.1	21.1	18.9	22.9	16.9	23.0	24.0	22.8	26.9	26.7	26.4	26.0	25.3	25.3	25.3	25.3
Vac	Leq,d	37.2	-0.9	2.1	9.1	13.1	16.1	20.1	20.3	21.3	24.3	25.3	26.3	23.3	20.2	24.2	18.2	23.6	24.5	22.5	26.3	26.2	26.2	26.3	25.8	25.8	25.8	25.8
Vac	Leq,d	41.3	2.8	5.8	12.8	16.8	19.8	23.8	24.1	25.1	28.1	30.2	31.1	27.1	25.1	29.1	23.1	27.6	28.6	26.5	30.2	30.1	30.0	30.0	29.8	29.5	29.5	29.5
Vac	Leq,d	40.0	1.7	4.7	11.7	15.7	18.7	22.7	23.0	24.0	27.0	28.7	29.7	25.7	23.6	27.6	21.6	26.4	27.4	25.3	29.0	28.9	28.8	28.8	28.2	28.2	28.2	28.2
Vac	Leq,d	38.9	0.8	3.8	10.8	14.8	17.8	21.8	22.0	23.0	26.0	27.5	28.5	24.5	22.4	26.4	20.3	25.4	26.3	24.3	28.0	27.9	27.8	27.5	27.1	27.1	27.1	27.1
Vac	Leq,d	38.0	-0.1	2.9	9.9	13.9	16.9	20.9	21.1	22.1	25.1	26.1	27.1	23.1	21.0	25.0	19.0	24.3	25.2	23.2	27.2	27.1	26.9	26.6	26.2	26.2	26.2	26.2
Vac	Leq,d	37.8	-0.2	2.8	9.8	13.8	16.8	20.8	21.0	21.9	24.9	26.1	27.1	23.1	21.0	25.0	19.0	24.3	25.2	23.2	27.2	27.1	26.9	26.6	26.2	26.2	26.2	26.2
Vac	Leq,d	37.0	-0.9	2.1	9.1	13.1	16.1	20.1	20.3	21.3	24.3	25.3	26.3	22.3	20.1	24.1	18.1	23.5	24.5	22.5	26.3	26.2	26.0	25.7	25.2	25.2	25.2	25.2
Vac	Leq,d	36.1	-1.7	1.3	8.3	12.3	15.3	19.3	19.5	20.5	23.5	24.2	25.2	21.2	19.1	23.1	17.1	22.7	23.7	21.6	25.5	25.4	25.2	24.9	24.3	24.3	24.3	24.3
Vac	Leq,d	35.3	-2.4	0.6	7.6	11.6	14.6	18.6	18.8	19.8	22.8	23.3	24.3	20.3	18.1	22.1	16.1	21.9	22.9	20.8	24.8	24.7	24.4	24.1	23.5	23.5	23.5	23.5
Vac	Leq,d	38.8	0.6	3.6	10.6	14.6	17.6	21.6	21.8	22.8	25.8	27.3	28.3	24.3	22.2	26.2	20.1	25.2	26.2	24.1	27.9	27.8	27.6	27.2	26.6	26.6	26.6	26.6

**Bedford Court Noise
Contribution spectra - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz		
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)		
Vac	Leq,d	35.8	-4.0	-1.0	6.0	10.0	13.0	17.0	17.1	18.1	21.1	21.2	22.1	20.3	18.2	22.2	16.2	22.5	24.5	22.5	26.5	26.3	26.0	25.6	24.8		
Vac	Leq,d	36.1	-4.8	-1.8	5.2	9.2	12.1	16.1	16.2	17.2	20.2	20.1	21.0	20.7	19.4	23.4	17.6	23.9	24.9	22.8	26.8	26.6	26.3	25.8	25.0		
Vac	Leq,d	38.3	2.6	5.6	12.6	16.6	19.6	23.6	23.9	23.3	26.1	28.6	29.3	25.1	22.8	26.5	20.2	24.0	24.7	22.5	26.0	25.7	25.4	24.9	24.9		
Vac	Leq,d	39.8	1.5	4.5	11.5	15.5	18.5	22.5	22.7	23.7	26.7	28.4	29.4	25.4	23.3	27.3	21.3	26.1	27.1	25.1	28.8	28.7	28.6	28.5	28.1		
Receiver R3 FIG Lr,lim dB(A) Leq,d 52.4 dB(A) Sigma(Leq,d) 0.0 dB(A)																											
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Leq,d	-5.6								-18.3																	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Leq,d	9.2								-1.5																	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Leq,d	-1.3								-11.0																	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Leq,d	-6.6								-14.1																	
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Leq,d	3.7								-8.9																	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	40.8								19.6																	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Leq,d	42.1								23.0																	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Leq,d	-10.4								-17.8																	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Leq,d	5.4								-5.8																	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Leq,d	-1.0								-13.4																	
Car Lane	Leq,d	30.0								13.3																	
Drive-Thru	Leq,d	44.1								27.1																	
Drive-Thru	Leq,d	47.4								30.2																	
Drive-Thru	Leq,d	26.8								10.9																	
Speaker	Leq,d	37.9								12.3																	
Speaker	Leq,d	39.6								13.9																	
Turbine	Leq,d	13.1								0.4																	
Turbine	Leq,d	15.1								0.3																	
Vac	Leq,d	35.3								17.8																	
Vac	Leq,d	33.9								19.2																	
Vac	Leq,d	33.9								17.1																	
Vac	Leq,d	34.0								17.1																	
Vac	Leq,d	34.0								17.1																	
Vac	Leq,d	33.8								17.1																	
Vac	Leq,d	31.5								16.3																	
Vac	Leq,d	33.5								16.5																	
Vac	Leq,d	33.5								16.7																	
Vac	Leq,d	33.7								16.8																	
Vac	Leq,d	34.9								18.8																	
Vac	Leq,d	35.1								19.0																	
Vac	Leq,d	35.2								19.1																	

**Bedford Court Noise
Contribution spectra - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Vac	Leq,d	38.2	-2.8	1.1	9.5	13.6	16.6	20.6	20.8	21.8	24.8	26.0	27.0	23.9	21.9	25.8	19.8	24.6	25.6	23.5	27.3	27.9	27.7	27.3	26.8
Vac	Leq,d	39.2	-1.9	1.9	10.4	14.5	17.5	21.5	21.7	22.7	25.7	27.2	28.2	24.9	22.9	26.9	20.9	25.5	26.5	24.5	28.2	28.6	28.4	28.1	27.6
Vac	Leq,d	39.9	-1.0	2.9	11.3	15.5	18.5	22.5	22.8	23.8	26.7	28.5	29.5	25.5	23.5	27.5	21.5	26.2	27.2	25.1	28.8	28.7	29.0	28.7	28.3
Vac	Leq,d	37.0	-4.2	-0.3	8.2	12.2	15.2	19.2	19.4	20.4	23.4	24.2	25.2	22.2	20.3	24.2	18.2	23.2	24.2	23.1	27.0	26.9	26.6	26.2	25.7
Vac	Leq,d	42.0	1.0	4.9	13.3	17.5	20.5	24.5	24.8	25.8	28.8	31.0	32.0	28.0	26.0	30.0	24.0	28.3	29.3	27.2	30.8	30.7	30.6	30.5	30.2
Vac	Leq,d	44.3	2.9	6.8	15.1	19.5	22.4	26.4	26.8	27.8	30.8	33.5	34.5	30.5	28.5	32.5	26.5	30.4	31.4	29.3	32.8	32.8	32.7	32.5	32.3
Vac	Leq,d	36.6	-5.4	-1.5	6.9	11.0	14.0	18.0	18.1	19.1	22.0	22.5	23.5	19.5	19.0	23.0	17.0	24.2	25.2	23.1	27.1	26.9	26.6	26.2	25.5
Vac	Leq,d	37.1	-4.8	-0.9	7.6	11.6	14.6	18.6	18.7	19.7	22.7	23.3	24.3	21.7	19.8	23.8	17.7	23.6	25.5	23.5	27.4	27.2	27.0	26.6	25.9

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

Bedford Court Noise
Contribution level - 003 - 12 Sonny Silenced - Lined: Outdoor

9

Source	Source ty	Leq,d dB(A)	
Receiver R1 FIG Lr,lim dB(A) Leq,d 68.1 dB(A) Sigma(Leq,d) 0.0 dB(A)			
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	68.0	
Car Lane	Line	45.5	
Drive-Thru	Line	42.5	
Vac	Point	40.3	
Vac	Point	38.9	
Vac	Point	38.1	
Vac	Point	37.3	
Vac	Point	36.7	
Vac	Point	36.5	
Vac	Point	36.2	
Vac	Point	35.8	
Vac	Point	35.7	
Vac	Point	35.2	
Vac	Point	35.2	
Vac	Point	34.7	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	34.4	
Vac	Point	34.2	
Vac	Point	33.6	
Vac	Point	33.2	
Drive-Thru	Line	30.8	
Drive-Thru	Line	30.0	
Vac	Point	28.5	
Vac	Point	26.3	
Vac	Point	24.7	
Vac	Point	23.2	
Speaker	Point	21.1	
Speaker	Point	19.3	
Turbine	Point	17.7	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Area	15.3	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Area	14.1	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Area	14.1	
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Area	7.1	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Area	6.7	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Area	5.8	
Turbine	Point	3.5	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Area	1.8	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Area	-11.0	
Receiver R2 FIG Lr,lim dB(A) Leq,d 66.0 dB(A) Sigma(Leq,d) 0.0 dB(A)			
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	65.8	
Vac	Point	41.3	
Vac	Point	40.0	
Vac	Point	39.8	
Vac	Point	38.9	

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

1

Bedford Court Noise
Contribution level - 003 - 12 Sonny Silenced - Lined: Outdoor

9

Source	Source ty	Leq,d dB(A)	
Vac	Point	38.8	
Car Lane	Line	38.3	
Vac	Point	38.3	
Vac	Point	38.0	
Vac	Point	37.8	
Vac	Point	37.5	
Vac	Point	37.2	
Vac	Point	37.0	
Vac	Point	36.9	
Drive-Thru	Line	36.9	
Vac	Point	36.5	
Vac	Point	36.4	
Vac	Point	36.1	
Vac	Point	36.1	
Vac	Point	35.8	
Vac	Point	35.3	
Vac	Point	34.6	
Drive-Thru	Line	34.2	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	33.9	
Drive-Thru	Line	32.8	
Turbine	Point	25.6	
Speaker	Point	25.5	
Speaker	Point	24.3	
Turbine	Point	14.6	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Area	13.4	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Area	12.9	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Area	12.5	
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Area	6.8	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Area	5.2	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Area	2.5	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Area	-1.0	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Area	-11.1	
Receiver R3 FIG Lr,lim dB(A) Leq,d 52.4 dB(A) Sigma(Leq,d) 0.0 dB(A)			
Drive-Thru	Line	47.4	
Drive-Thru	Line	44.1	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	42.1	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	40.8	
Speaker	Point	39.6	
Speaker	Point	37.9	
Vac	Point	35.3	
Vac	Point	35.3	
Vac	Point	35.2	
Vac	Point	35.1	
Vac	Point	34.9	
Vac	Point	34.7	

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

2

Bedford Court Noise
Contribution level - 003 - 12 Sonny Silenced - Lined: Outdoor

9

Source	Source ty	Leq,d dB(A)	
Vac	Point	34.5	
Vac	Point	34.2	
Vac	Point	34.0	
Vac	Point	34.0	
Vac	Point	33.9	
Vac	Point	33.9	
Vac	Point	33.9	
Vac	Point	33.8	
Vac	Point	33.7	
Vac	Point	33.5	
Vac	Point	33.5	
Vac	Point	32.2	
Vac	Point	31.5	
Car Lane	Line	30.0	
Drive-Thru	Line	26.8	
Turbine	Point	15.1	
Turbine	Point	13.1	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Area	9.2	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Area	5.4	
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Area	3.7	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Area	-1.0	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Area	-1.3	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Area	-5.6	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Area	-6.6	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Area	-10.4	
Receiver R4 FIG Lr,lim dB(A) Leq,d 59.5 dB(A) Sigma(Leq,d) 0.0 dB(A)			
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	58.4	
Vac	Point	44.3	
Vac	Point	42.0	
Vac	Point	41.3	
Vac	Point	41.1	
Vac	Point	40.3	
Vac	Point	39.9	
Car Lane	Line	39.6	
Vac	Point	39.5	
Vac	Point	39.4	
Vac	Point	39.2	
Vac	Point	38.7	
Vac	Point	38.2	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	38.1	
Vac	Point	37.9	
Vac	Point	37.7	
Vac	Point	37.1	
Vac	Point	37.1	
Vac	Point	37.0	

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

3

Bedford Court Noise
Contribution level - 003 - 12 Sonny Silenced - Lined: Outdoor

9

Source	Source ty	Leq,d dB(A)
Vac	Point	36.6
Vac	Point	36.5
Vac	Point	35.8
Drive-Thru	Line	35.3
Drive-Thru	Line	35.1
Drive-Thru	Line	34.0
Turbine	Point	27.5
Speaker	Point	26.6
Speaker	Point	25.1
Turbine	Point	17.0
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Area	15.8
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Area	9.5
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Area	9.4
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Area	8.4
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Area	2.3
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Area	-1.2
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Area	-5.9
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Area	-8.5

--

	MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950	4
--	--	---

**Bedford Court Noise
Octave spectra of the sources in dB(A) - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Name	Source type	I or A m ²	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	KI dB	KT dB	DO-Wall dB	Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)
003 - 12 Sonny Silenced - Lined Tunnel-Facade 01	Area	25.41	85.3	57.0	32.6	48.6	0.0	0.0	3	1834_Facade 01	31.9	43.2	43.2	43.2	33.0	27.5	15.2	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 02	Area	164.93	88.5	57.0	33.9	56.0	0.0	0.0	3	1835_Facade 02	43.3	51.7	52.8	52.8	44.7	40.7	29.2	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 03	Area	31.71	93.4	57.0	38.1	53.1	0.0	0.0	3	1836_Facade 03	40.0	48.4	50.0	50.0	42.5	38.9	27.7	
003 - 12 Sonny Silenced - Lined Tunnel-Facade 04	Area	164.93	88.5	57.0	33.9	56.0	0.0	0.0	3	1837_Facade 04	43.3	51.7	52.8	52.8	44.7	40.7	29.2	
003 - 12 Sonny Silenced - Lined Tunnel-Roof 01	Area	187.91	89.0	57.0	34.3	57.1	0.0	0.0	0	1832_Roof 01	44.2	52.7	53.9	53.9	45.8	41.7	30.3	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	15.61	85.7	0.0	85.7	97.6	0.0	0.0	3	1778_Transmissive area 01	73.8	87.1	93.3	93.3	92.3	91.1	82.3	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 01	Area	9.30	95.0	0.0	95.0	104.7	0.0	0.0	3	1782_Transmissive area 01	79.3	90.3	98.2	98.2	99.8	100.2	92.0	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 03	Area	27.48	93.2	57.0	37.9	52.3	0.0	0.0	3	1784_Transmissive area 03	39.3	47.6	49.2	49.2	41.7	38.1	26.9	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 04	Area	27.48	93.3	57.0	38.0	52.4	0.0	0.0	3	1780_Transmissive area 04	39.3	47.6	49.3	49.3	41.8	38.1	27.0	
003 - 12 Sonny Silenced - Lined Tunnel-Transmissive area 05	Area	31.31	92.9	57.0	37.7	52.7	0.0	0.0	0	1770_Transmissive area 05	40.0	48.0	49.5	49.5	42.0	38.3	27.1	
Car Lane	Line	105.82			62.8	83.1	0.0	0.0	0	Drive-Thru - Idling Car @ 6ft	67.1	68.6	72.1	75.8	76.6	77.8	74.3	66.1
Drive-Thru	Line	65.84			62.8	81.0	0.0	0.0	0	Drive-Thru - Idling Car @ 6ft	65.0	66.5	70.0	73.7	74.5	75.8	72.2	64.1
Drive-Thru	Line	63.47			62.8	80.8	0.0	0.0	0	Drive-Thru - Idling Car @ 6ft	64.9	66.3	69.9	73.5	74.4	75.6	72.1	63.9
Drive-Thru	Line	69.21			62.8	81.2	0.0	0.0	0	Drive-Thru - Idling Car @ 6ft	65.2	66.7	70.2	73.9	74.8	76.0	72.4	64.3
Speaker	Point				72.3	72.3	0.0	0.0	0	Drive Thru - Speaker	42.4	50.0	57.7	65.0	69.5	65.4	59.3	50.3
Speaker	Point				72.3	72.3	0.0	0.0	0	Drive Thru - Speaker	42.4	50.0	57.7	65.0	69.5	65.4	59.3	50.3
Turbine	Point				72.6	72.6	0.0	0.0	0	Vacuttech Turbine	44.9	57.3	55.1	52.0	55.6	59.5	66.2	69.5
Turbine	Point				72.6	72.6	0.0	0.0	0	Vacuttech Turbine	44.9	57.3	55.1	52.0	55.6	59.5	66.2	69.5
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacuttech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.													

**Bedford Court Noise
Octave spectra of the sources in dB(A) - 003 - 12 Sonny Silenced - Lined: Outdoor SP**

Name	Source type	I or A m,m ²	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	KI dB	KT dB	DO-Wall dB	Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6

MD Acoustics LLC 4960 S. Gilbert Rd Chandler, AZ 85249 Phone: 602 774 1950

Appendix C:
Manufacturer's and Referenced Noise Data

Project: Sound Library
Job Number: 0000-2020-02
Site Address/Location: Parking lot
Date: 09/18/2018
Field Tech/Engineer: Robert Pearson
Source/System: 2009 Hyundai Sonata

Site Observations:
 Clear sky, measurements were performed at 3ft of source.

General Location: Measured @ 3'
Sound Meter: NTi XL2 **SN:** A2A-05967-E0
Settings: A-weighted, slow, 1-sec, 10-sec duration
Meteorological Cond.: 90 degrees F, 0 mph wind

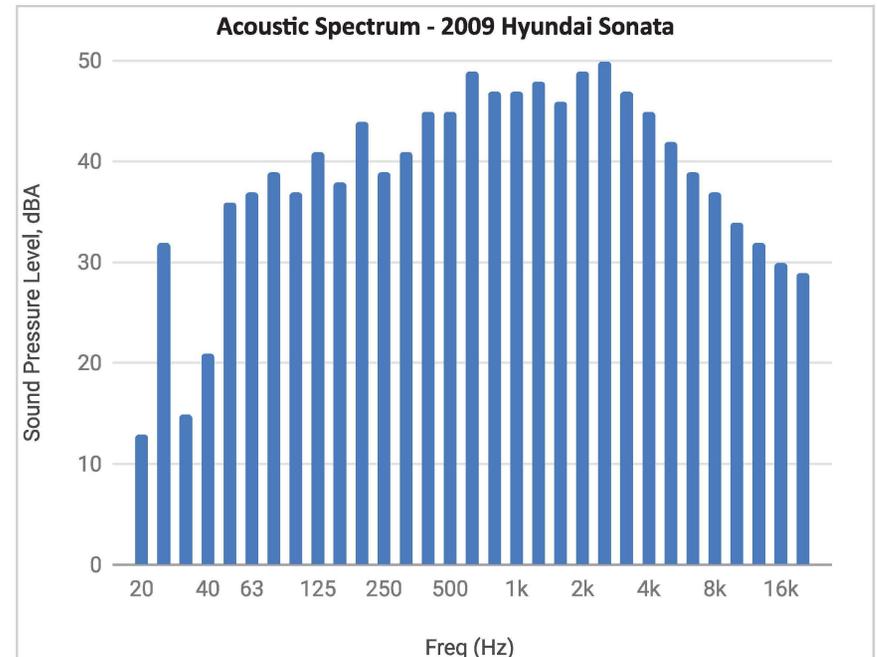
Leq	Lmin	Lmax
58.7	0.0	0.0

Ln 2	Ln 8	Ln 25	Ln 50	Ln 90	Ln 99
0.0	0.0	0.0	0.0	0.0	0.0

Table 1: Summary Measurement Data

Source/System	Overall Source	Overall dB(A)	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
2009 Hyundai Sonata	Car Idle	58.7	13.0	32.0	15.0	21.0	36.0	37.0	39.0	37.0	41.0	38.0	44.0	39.0	41.0	45.0	45.0	49.0	47.0	47.0	48.0	46.0	49.0	50.0	47.0	45.0	42.0	39.0	37.0	34.0	32.0	30.0	29.0

Figure 1: Car Idle - Hyundai Sonata



Project: Whataburger
Job Number: 0792-2021-01
Site Address/Location: 20151 S. Ellsworth Road
Date: 03/09/2021
Field Tech/Engineer: Robert Pearson
Source/System: Drive Thru Speaker Phone

Site Observations:
 3-feet from drive-thru speakerphone

General Location: 3-feet
Sound Meter: NTi **SN:** A2A-16164-E0
Settings: A-weighted, Slow, 1-sec, 10-sec duration
Meteorological Cond.: Clear Skies, 60 degrees

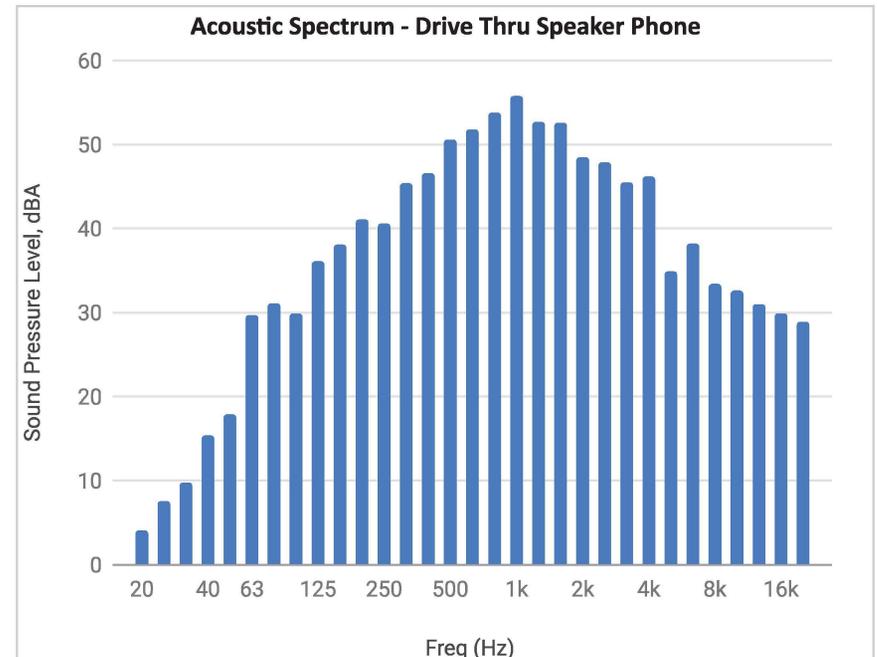
Leq	Lmin	Lmax
62.1	56.5	66.8

Ln 2	Ln 5	Ln 10	Ln 50	Ln 90	Ln 99
0.0	68.0	66.2	58.5	55.7	0.0

Table 1: Summary Measurement Data

Source/System	Overall Source	Overall dB(A)	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Drive Thru Speaker Phone	Drive Thru Spea	62.1	4.2	7.7	9.9	15.5	18.0	29.8	31.2	30.0	36.2	38.2	41.2	40.7	45.5	46.7	50.7	51.9	53.9	55.9	52.8	52.7	48.6	48.0	45.6	46.3	35.0	38.3	33.5	32.7	31.1	30.0	29.0

Figure 1:



Project: SuperStar Car Wash Chulia Vista
 1555 W Warner Rd, Gilbert, AZ 85233
Date: 4/5/2018
Field Tech/Engineer: Robert Pearson
Source/System: Vacutec System

Location: Vac Bay 1
Sound Meter: NNT XL2
Settings: A-weighted, slow, 1-sec, 10-sec duration
Meteorological Cond.: 80 degrees F, 2 mph wind

Site Observations:

Clear sky, measurements were performed within 1.5ft of source. Measurements were performed while the vacuum was positioned at three (3) different positions. Holstered, unholstered and inside a car. This data is utilized for acoustic modeling purposes and represents an average sound level at a vacuum station.

Table 1: Summary Measurement Data

Source	System	Overall dBA	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1K	1.25K	1.6K	2K	2.5K	3.15K	4K	5K	6.3K	8K	10K	12.5K	16K	20K
Vacutec (Holstered)	Vacuum	63.3	9	17	22	29	31	35	40	41	44	43	46	48	47	49	51	51	52	53	52	52	52	50	52	53	50	47	48	45	39	30	
Vacutec (Unholstered)	Vacuum	80.7	6	19	22	28	34	37	40	43	47	46	48	48	48	49	54	55	58	62	65	68	70	74	75	73	69	67	65	60	55		
Vacutec (Inside Car)	Vacuum	69.6	16	28	31	38	42	45	49	51	52	55	60	61	57	55	59	53	55	56	54	57	57	57	57	55	54	51	48	46	42	36	
Average Level*	Vacuum	76.3	13	24	28	34	38	41	45	47	49	51	56	57	53	52	56	54	56	56	59	61	64	66	69	70	68	64	62	60	58	55	50

* Refers to the logarithmic average of all measurements. This measurement represents an average of the multiple vacuum positions.

Figure 1: Example Measurement Position



Figure 1: Holstered

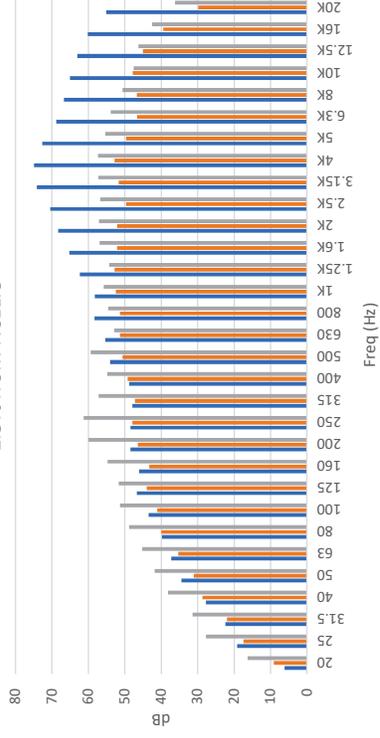


Figure 2: Unholstered



Figure 3: Inside Car

1.5ft from Nozzle





SOUND LEVEL METER READINGS

MODEL: FT-DD-T340HP4 (40hp VACSTAR TURBINE VACUUM PRODUCER)

READING ONE: 43 DB-A, 3 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING TWO: 36 DB-A, 10 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING THREE: 24 DB-A, 20 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING FOUR: 12 DB-A, 30 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

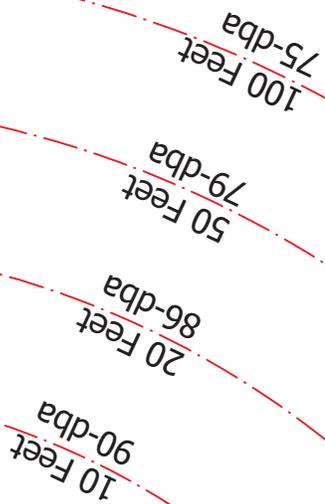
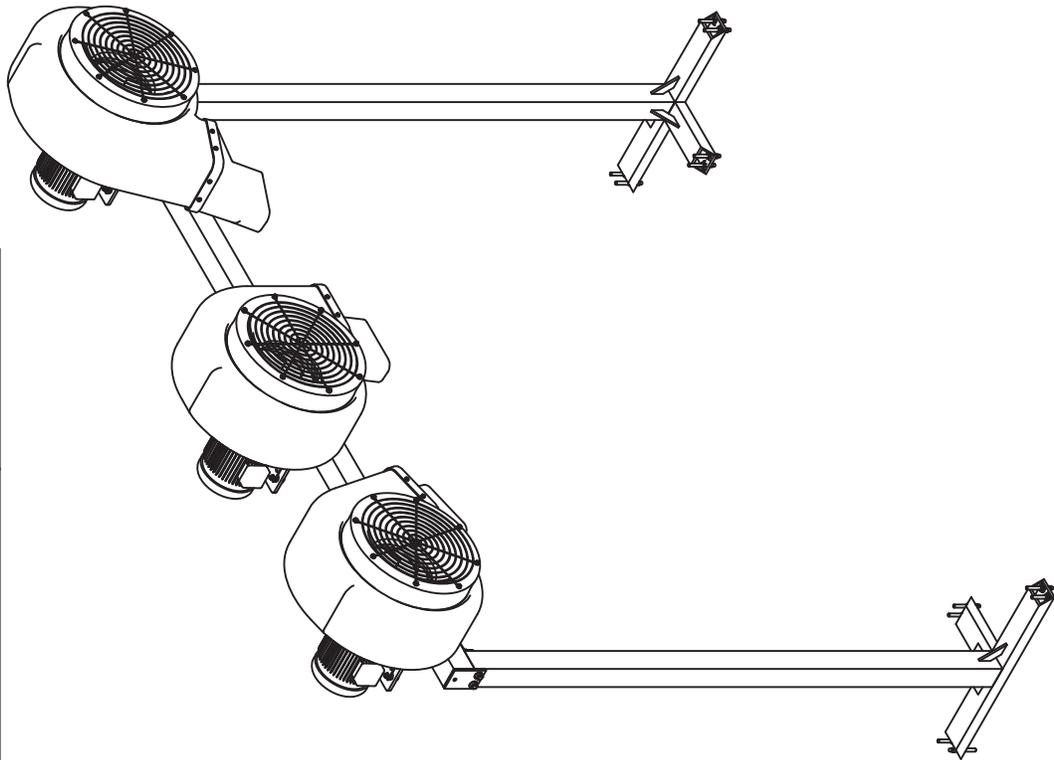
NOTE: THESE READINGS WERE TAKEN OUTSIDE OF 8'x10'x8' CINDER BLOCK ENCLOSURE WITH CONCRETE SLAB AND WOOD JOIST ROOF.

SOUND LEVEL METER USED:

SIMPSON MODEL #40003 – MSHA APPROVED.
MEETS OSHA & WALSH-HEALY REQUIREMENTS FOR NOISE CONTROL.
CONFORMS TO ANSI S1.4-1983, IEC 651 SPECS FOR METER TYPE.

Vacutech
1350 Hi-Tech Drive, Sheridan WY, 82801
PHONE: (800) 917-9444 FAX: (303) 675-1988
EMAIL: info@vacutechllc
WEB SITE: vacutechllc.com

Environmental Noise with Dryer OFF: 70 dba



SONNY'S ENTERPRISES THE CARWASH FACTORY		8/26/2011	8/1/2012	BLOWER		BLOWER ASSEMBLY, ONE ARCH 45HP	
DRAWN LVerdecia		APPROVED		CATEGORY		PART NUMBER	
MACHINING TOLERANCES FRACTIONAL ± 1/16" .XX DECIMAL ± 0.050 XXX DECIMAL ± 0.005 ANGULARITY ± 2° FINISH 125		THIS SHEET CONTAINS CONFIDENTIAL INFORMATION. IT IS THE PROPERTY OF SONNY'S ENTERPRISES, INC. AND IS NOT TO BE REPRODUCED OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF SONNY'S ENTERPRISES, INC. ALL RIGHTS RESERVED.		SHEET 2 OF 2		SCALE N.T.S.	
THIRD ANGLE PROJECTION BREAK ALL SHARP CORNERS. PART TO BE FREE OF BURRS. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.		DRAWN LVerdecia		CATEGORY		PART NUMBER	
MATERIAL		APPROVED		BLOWER		BL 1-45HP-1	

Product Features

- Gain flexibility in complying with noise ordinances that limit the allowable noise levels in some zoned areas.
- Blower Inlet Silencer retrofits to an existing Sonny's blower to reduce noise level by up to 7 decibels at 50 feet (depending on site specific architecture and other variables).
- Available in three colors: **Blue (# 20018006)**, **Black (# 20018005)** and **Red (# 20018008)**



Note: Hardware is not included. Order a self-tapping screw kit (# **10013134**) for each silencer.

INSTALLATION

Tools

1. Safety Glasses
2. Cordless Drill
3. Drive Socket Set
4. 8' Ladder

Consumables

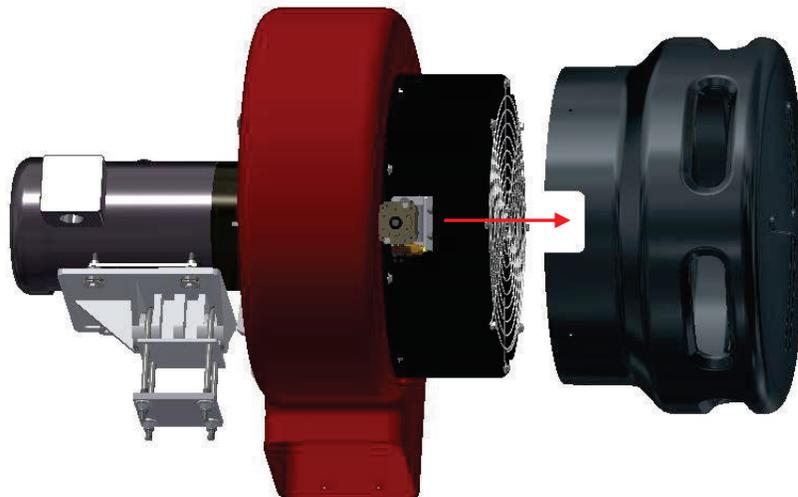
None

Work Force

Two (2) persons

Time (assuming no problems)

15 - 30 minutes



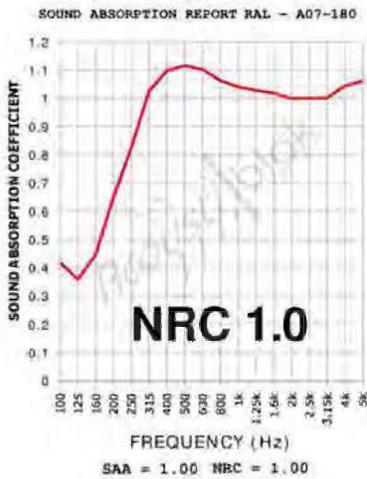
Caution: You must shut off all power to the conveyor and lock out the Motor Control Center before starting this install.

1. Shut off all power to the conveyor, blowers and lock out the Motor Control Center.
2. Insert the silencer over the venturi. For the gator silencer option, align notches to the gator actuator bracket (as pictured above).
3. Using the existing holes on the Silencer housing, affix the silencer to the gator housing using (8) of the provided self-tapping screws (# 10013134).
4. Avoid over-torquing the self-tapping screws to prevent stripping the plastic housing.



North American Office
Acoustiblok, Inc.
 6900 Interbay Boulevard
 Tampa, FL 33616 USA
 Phone: 813-980-1400
 Fax: 813-549-2653
 www.acoustiblok.com
 sales@acoustiblok.com

Industrial Model All Weather Sound Panel™ (Pat. Pend) Technical Data



Acoustiblok All Weather Sound Panels™ achieve high STC and NRC ratings. They have been specifically designed to withstand outdoor exposure in full sunlight, extreme weather conditions, and harsh industrial environments. (NRC of 1.0 is the highest sound absorption rating possible)

All Weather Sound Panels include an internal layer of U.L. classified Acoustiblok sound isolation material plus a specifically engineered 2" thick weather proof sound absorbing material.

Specifications:		
NRC (Noise Reduction Coefficient):	1.00 *	Gross dimensions: up to 48" x 120" x 2.423", ± 0.125" custom sizes available on special order.
STC (Sound Transmission Class):	29 *	Frame construction: 0.125" welded corrosion resistant 6063-T5 aluminum, mill finish, eyelets: 0.375" (18 ea.)
Weight: (8' panel)	104 lbs	Front face: 0.040 corrosion resistant 5052-H32 aluminum alloy, 3/32" round holes staggered on 5/32" centers.
UL Std 723 fire resistance: Flame spread 0, smoke developed 0.		Back face: 0.032 corrosion resistant 5052-H32 aluminum alloy, mill finish.
UV tolerant, animal resistant, washable, does not support mold growth.		

* Independent Testing by accredited NVLAP testing facility in compliance with ASTM E90, E 413, and other applicable industry standards.

Subject to change without notice, contact Acoustiblok for details.

Product Name

QuietFiber® Hydrophobic Noise Absorption Material – QF2

For Manufacturer Info:

Contact:

Acoustiblok, Inc.

6900 Interbay Boulevard

Tampa, FL 33616

Call - (813) 980-1400

Fax - (813)849-6347

Email - sales@acoustiblok.com

www.acoustiblok.com

Product Description

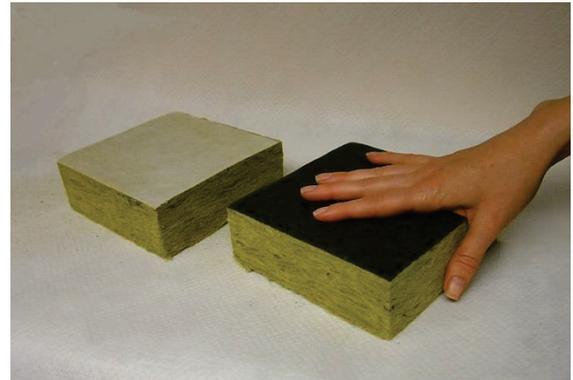
Basic Use

QuietFiber hydrophobic noise absorption material is an easily installed solution to many noise problems. It is engineered specifically for maximum noise absorption and is used extensively for industrial and commercial applications and is now being successfully introduced into non-industrial environments where reverberant sound and echo is a problem.

QuietFiber® QF2

QuietFiber is rated at the highest noise reduction level – NRC 1.00. Areas of high noise levels including sound reverberation can be resolved easily and economically by introducing QuietFiber into as much of the area as possible. The amount of noise reduction in highly reflective rooms will be directly relative to how much of the QuietFiber material can be installed into the room.

Unlike other fibrous materials which do not have the same high NRC ratings, QuietFiber is hydrophobic, meaning it will not absorb nor combine with water. Marine noise reduction applications are endless.



QuietFiber® QF2

- Highest noise absorption rating of NRC 1.00
- Non Silica
- Virtually fireproof – Class A fire rating
 - 0 Smoke + 0 Flame Development
- Hydrophobic – will not combine with water
- Will not support mold or mildew growth
- Available in plain, black or white face
- Full outdoor weather and U.V. tolerant
- Significant sound benefit v. fiberglass
- Install on top of acoustical ceiling tiles
- High temperature capable
- Comprised of up to 90% recycled material
- 100% recyclable

Product Name

QuietFiber® Hydrophobic Noise Absorption Material – QF2

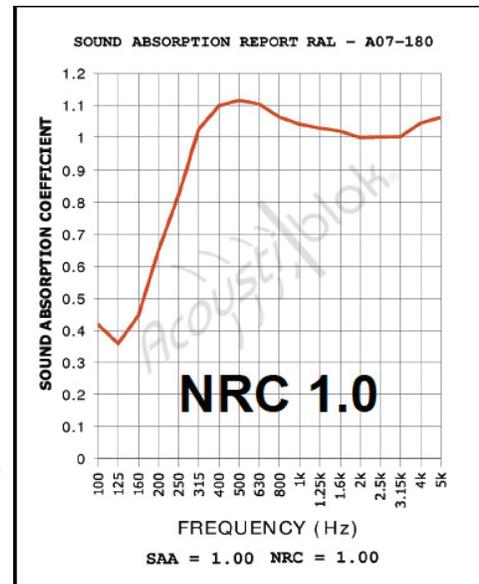
NRC 1.0 Rated	125hz	250hz	500hz	1000hz	2000hz	4000hz
	0.36	0.79	1.15	1.04	1.01	1.04

Technical Data:

- ASTM C 423 – NRC 1.00
- ASTM E 84 – Class 1, 0 Flame 0 Smoke
- ASTM C 518 – R 4.2 per inch
- ASTM C 518 – 0.24 @ 75°F (24°C)

Standards Compliance:

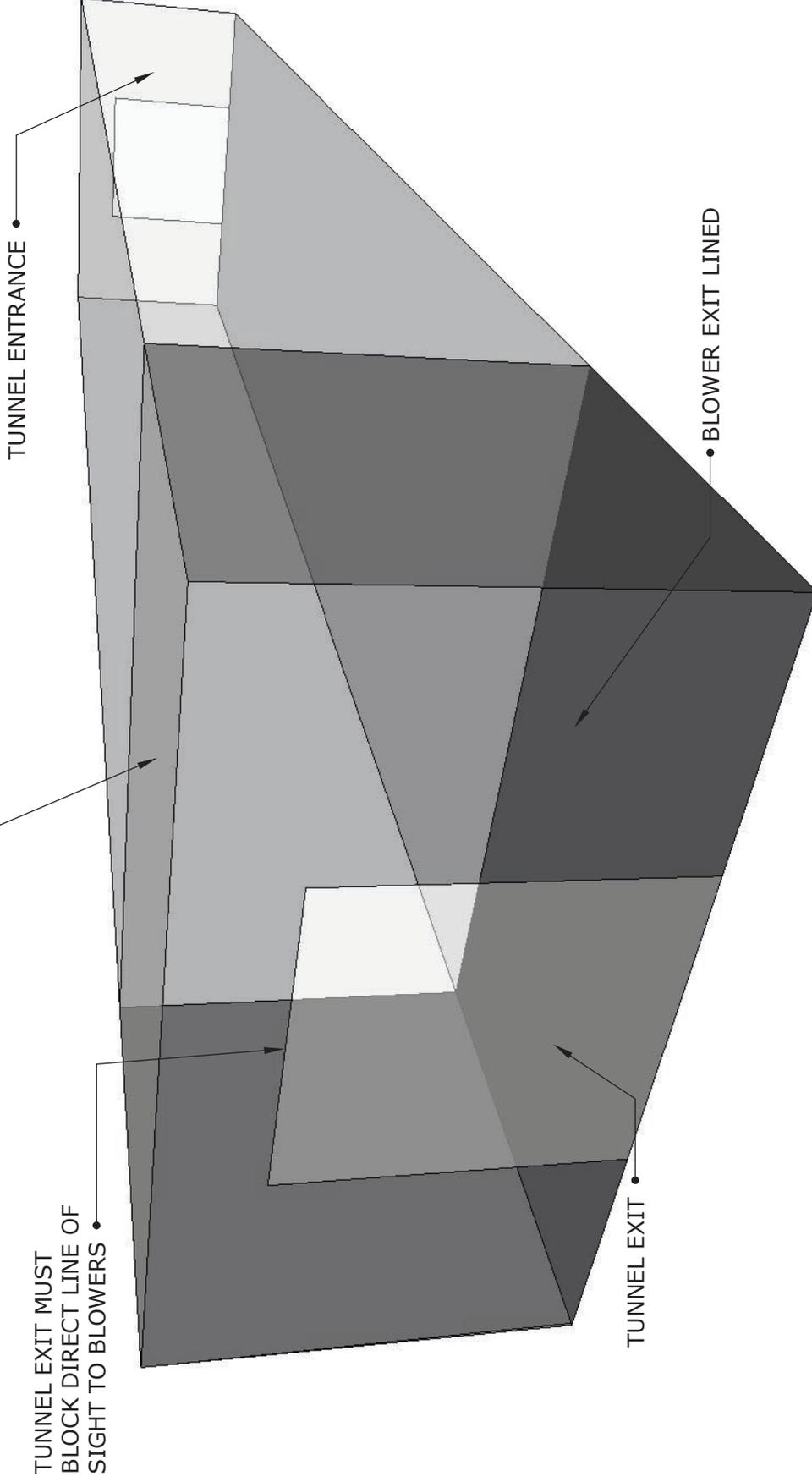
- ASTM C 665 Non-Corrosive Type I
- ASTM C 612 1A, 1B, II, III
- ASTM E 136 Rated Non-combustible per NFPA Standard 220
- ASTM C 1104 Absorption less than 1% by volume
- ASTM C 356 Linear shrinkage <2% @ 1200°F (650°C)



6900 Interbay Blvd
 Tampa, Florida USA 33616
 Telephone: (813)980-1440
 www.Acoustiblok.com
 sales@acoustiblok.com

Disclaimer – This text will be replaced with canned disclaimer verbiage. This text will be replaced with canned disclaimer verbiage. This text will be replaced with canned disclaimer verbiage. This text will be replaced with canned disclaimer verbiage.

LINE EXIT INTERIOR SECTION
OF BLOWER ROOM W/ 2" THICK ACOUSTIC
MATERIAL W/ NRC 1.0 OR EQUIVALENT.
LINER NEEDS TO BE ADDED
TO ALL SURFACES EXCEPT FLOOR



TUNNEL EXIT MUST
BLOCK DIRECT LINE OF
SIGHT TO BLOWERS

TUNNEL ENTRANCE

TUNNEL EXIT

BLOWER EXIT LINED

Appendix D:
Construction Modeling Output

Receptor - Residences to the West

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA ¹	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent ¹	Ground Factor ²	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
SITE PREP									
Tractor	1	84	20	135	40	0.66	0.40	94.6	68.5
Dozer	1	82	20	135	40	0.66	0.40	92.6	66.5
Grader	1	85	20	135	40	0.66	0.40	95.6	69.5
							Log Sum	94.6	73.2
GRADE									
Excavator	1	81	20	135	40	0.66	0.40	91.6	65.5
Grader	1	85	20	135	40	0.66	0.40	95.6	69.5
Dozer	1	82	20	135	40	0.66	0.40	92.6	66.5
Tractor	2	84	20	135	40	0.66	0.40	94.6	68.5
								95.6	75.0
BUILD									
Crane	1	81	20	135	16	0.66	0.16	91.6	61.6
Man lift	1	75	20	135	20	0.66	0.20	85.6	56.5
Generator	1	81	20	135	50	0.66	0.50	91.6	66.5
Tractor	1	84	20	135	40	0.66	0.40	94.6	68.5
Welder/Torch	3	74	20	135	40	0.66	0.40	84.6	58.5
								94.6	72.0
PAVE									
Paver	1	77	20	135	50	0.66	0.50	87.6	62.5
Compactor (ground)	1	83	20	135	20	0.66	0.20	93.6	64.5
Tractor	1	84	20	135	40	0.66	0.40	94.6	68.5
Concrete Mixer Truck	1	79	20	135	40	0.66	0.40	89.6	63.5
Roller	1	80	20	135	20	0.66	0.20	90.6	61.5
								94.6	67.8
ARCH COAT									
Compressor (air)	1	78	20	135	40	0.66	0.40	88.6	62.5
								88.6	62.5

¹FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

VIBRATION LEVEL IMPACT

Project: Bedford Court Date: 12/5/22
Source: Large Bulldozer
Scenario: Unmitigated
Location: Adjacent residences
Address: Bedford Court, Temecula CA
PPV = $PPV_{ref}(25/D)^n$ (in/sec)

DATA INPUT

Equipment = 2 Large Bulldozer INPUT SECTION IN BLUE
Type
PPVref = 0.089 Reference PPV (in/sec) at 25 ft.
D = 30.00 Distance from Equipment to Receiver (ft)
n = 1.10 Vibration attenuation rate through the ground

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV = 0.073 IN/SEC OUTPUT IN RED

Appendix J
Queuing Analysis



TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

March 19, 2024

Mr. Ryan Fryer
CATALYST COMMERCIAL GROUP
38605 Calistoga Drive, Suite 150
Murrieta, CA 92563

Subject: Quick Quack Queue Analysis, City of Temecula

Dear Mr. Fryer:

TJW ENGINEERING, INC. (TJW) is pleased to submit this drive-through queue study for the proposed 3,596 square foot Quick Quack Car Wash located at Bedford Court and Temecula Parkway in the City of Temecula. A queue analysis was conducted to determine the anticipated queue length for the proposed project. The results of the queue analysis were compared to the proposed queue capacity to determine if adequate space is provided and if any impacts are anticipated.

Project location can be found in **Exhibit 1**. **Exhibit 2** contains the proposed site plan and demonstrates the proposed queue using a standard passenger vehicle.

Drive-Through Queue Analysis Methodology

Two (2) comparable Quick Quack car wash sites were selected to gather queue data to estimate the anticipated queue for the proposed project. The data collected from the comparable sites all come from larger car washes (approximately 3,600 square feet and 5,000 square feet), so the recorded data may be considered a conservative approach. The project proposes dual drive-through entry lanes, one for members and one for non-members. Member lanes are meant for returning customers so minimal information is required thus moving vehicles faster through. Both comparable sites reviewed have the same layout and procedures. As is typical of car wash land uses, counts were taken in the afternoon (11:00 AM – 2:00 PM), and in the evening (4:00 PM – 7:00 PM) during weekdays, and from open to close (7:00 AM – 9:00 PM) on Saturdays. The queue data was gathered during the same peak periods, in 10-minute increments, on Saturday, February 24, 2024, and Tuesday, February 27, 2024.

The data resulted in a sample size of 38 data points for each Tuesday and 85 data points for each Saturday, for a total of 246 data points. The data was used to determine the 85th percentile queue length, which is typically used to determine the appropriate vehicle stacking needed for drive-through related land uses.

Comparable Sites

Comparable sites for drive-through queue analysis were determined based on discussions with the project applicant and City staff. The two locations have similar adjacent major roadways. Drive-through queue were collected at the following two existing comparable locations:

- 1) Quick Quack: 28040 Clinton Keith Rd, Murrieta, CA 92563;
- 2) Quick Quack: 250 S Sanderson Ave, Hemet, CA 92545;

Figure 1: Murrieta Quick Quack Site



Approximately 3,600 square feet and 11 passenger vehicles max queue line

Figure 2: Hemet Quick Quack Site



Approximately 5,000 square feet and 18 passenger vehicles max queue line

Drive-Through Queue Results

Based on the data, **Table 1**, and **Table 2** show the number of times a certain queue length occurred, and the probability of that queue length not being exceeded. The peak queue data shows a maximum of six (6) vehicles in the member lane and three (3) vehicles in the non-member lane for an observed maximum of nine (9) vehicles at one time in the queue, complete queue data is provided in **Appendix A**.

Table 1:
Membership Summary of Comparable Drive-Through Queue Data

Drive-Through Queue Analysis			
Queue Length (Vehicles)	Number of Occurrences	Total Number of Data Points	Percent of Total vehicles
0	178	178	72.36%
1	45	223	90.65%
2	16	239	97.15%
3	4	243	98.78%
4	1	244	99.19%
5	1	245	99.59%
6	1	246	100.00%
85th Percentile Info			
Queue Length: 1 Vehicles		Data Point: 210th	

Table 2:
Non-Membership Summary of Comparable Drive-Through Queue Data

Drive-Through Queue Analysis			
Queue Length (Vehicles)	Number of Occurrences	Total Number of Data Points	Percent of Total vehicles
0	178	178	72.36%
1	45	223	90.65%
2	16	239	97.15%
3	4	243	98.78%
85th Percentile Info			
Queue Length: 1 Vehicles		Data Point: 210th	

When determining the appropriate queue storage, a drive-through should typically be designed to accommodate the 85th percentile queue length. Based on the data collected at the existing locations, the 85th percentile queue length is one (1) vehicle which occurred at the 210th data point for both members and non-member lines.

The proposed site will construct a dual drive-through lane, which will have room for approximately 19 vehicles before it would spill into the nearest drive aisle. Since the maximum observed queue was nine (9) vehicles at one time six (6) in the member lane and three (3) in the non-member lane, based on data from two (2) comparable sites, the proposed drive-through lane will be able to accommodate 100 percent of the queue length.



As previously mentioned, **Exhibit 2** shows proposed project site plan and the potential queue using a standard passenger vehicle.

Conclusion

The proposed Quick Quack car wash will construct a drive-through lane with a dual lane at the pick-up window. The drive-through will have the capacity for approximately 19 vehicles before spilling into the nearest driveway aisle. Since the maximum observed queue was nine (9) vehicles at one time six (6) in the member lane and three (3) in the non-member lane, based on data from two (2) comparable sites, the proposed drive-through lane will be able to accommodate 100 percent of the queue length.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,



Gene Kim, PE, TE
Principal Engineer



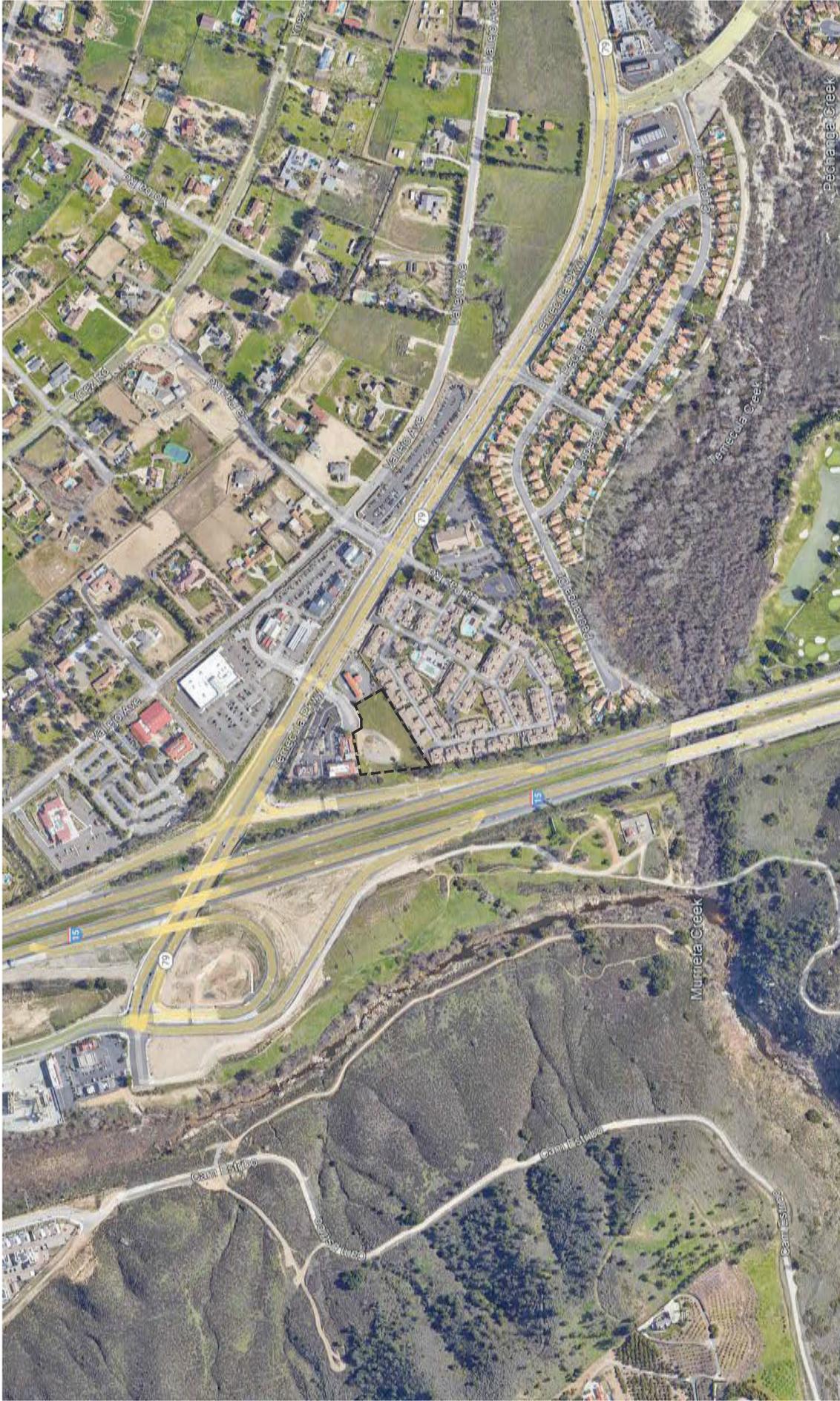
David Chew, PTP
Transportation Planner

Registered Civil Engineer #83175
Registered Traffic Engineer #2684



Daniel Flores, EIT
Project Engineer





Legend:
[Dashed Box] Project Site

Exhibit 1: Project Location

Quick Queue Analysis



TJW ENGINEERING, INC.

CCG-22-003



Not to Scale



Exhibit 2: Proposed Project Site Plan

Quick Queue Analysis

CCG-22-003



Not to Scale



TJW ENGINEERING, INC.

APPENDIX A

DRIVE-THROUGH QUEUE DATA

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 250 S Sanderson Ave
CITY: Hemet, CA

DAY: Tuesday
DATE: 2/27/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
11:00	1	0	0	1
11:10	0	0	0	0
11:20	0	1	0	1
11:30	1	0	0	1
11:40	0	0	1	1
11:50	0	0	0	0
12:00	0	0	1	1
12:10	2	1	0	3
12:20	1	0	0	1
12:30	0	1	0	1
12:40	0	0	0	0
12:50	0	0	0	0
13:00	0	0	0	0
13:10	0	0	0	0
13:20	1	0	1	2
13:30	0	0	0	0
13:40	0	0	0	0
13:50	0	0	1	1
14:00	1	0	2	3

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 250 S Sanderson Ave
 CITY: Hemet, CA

DAY: Saturday
 DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
7:00	0	0	0	0
7:10	0	0	0	0
7:20	0	0	0	0
7:30	0	0	0	0
7:40	0	0	1	1
7:50	0	0	0	0
8:00	1	0	0	1
8:10	0	0	0	0
8:20	0	0	0	0
8:30	0	0	0	0
8:40	1	0	0	1
8:50	0	0	0	0
9:00	1	1	0	2
9:10	1	1	0	2
9:20	3	0	0	3
9:30	0	0	1	1
9:40	2	0	0	2
9:50	0	0	0	0
10:00	1	0	0	1
10:10	1	0	0	1
10:20	0	0	0	0
10:30	1	0	0	1
10:40	0	0	0	0
10:50	2	1	1	4
11:00	1	1	0	2
11:10	0	0	0	0
11:20	5	1	1	7
11:30	0	0	0	0

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 250 S Sanderson Ave
 CITY: Hemet, CA

DAY: Saturday
 DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
11:40	0	2	1	3
11:50	2	2	0	4
12:00	2	0	2	4
12:10	0	0	0	0
12:20	0	1	4	5
12:30	2	1	0	3
12:40	0	3	0	3
12:50	0	3	5	8
13:00	2	1	0	3
13:10	0	0	0	0
13:20	0	1	0	1
13:30	2	0	1	3
13:40	0	0	0	0
13:50	0	0	3	3
14:00	1	0	0	1
14:10	1	1	0	2
14:20	1	0	0	1
14:30	0	0	0	0
14:40	0	0	1	1
14:50	0	0	0	0
15:00	0	0	0	0
15:10	0	0	0	0
15:20	0	0	0	0
15:30	0	1	0	1
15:40	1	0	0	1
15:50	0	0	0	0
16:00	1	0	0	1
16:10	0	0	1	1
16:20	1	0	0	1
16:30	0	2	0	2
16:40	0	0	0	0
16:50	0	1	1	2
17:00	5	0	1	6
17:10	0	0	0	0
17:20	1	1	0	2
17:30	0	0	0	0

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 250 S Sanderson Ave
CITY: Hemet, CA

DAY: Saturday
DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
17:40	0	0	0	0
17:50	0	0	1	1
18:00	0	1	0	1
18:10	0	0	2	2
18:20	0	0	0	0
18:30	0	0	0	0
18:40	0	0	0	0
18:50	0	0	0	0
19:00	1	0	2	3
19:10	1	1	0	2
19:20	0	0	2	2
19:30	1	0	0	1
19:40	0	0	0	0
19:50	0	0	0	0
20:00	0	0	0	0
20:10	0	0	0	0
20:20	0	0	0	0
20:30	0	0	1	1
20:40	0	1	0	1
20:50	0	0	0	0
21:00	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 28040 Clinton Keith Rd
CITY: Murrieta, CA

DAY: Tuesday
DATE: 2/27/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
11:00	0	1	0	1
11:10	0	0	1	1
11:20	0	1	2	3
11:30	0	1	0	1
11:40	0	1	0	1
11:50	1	0	0	1
12:00	0	0	0	0
12:10	0	1	0	1
12:20	1	0	0	1
12:30	2	0	0	2
12:40	0	0	1	1
12:50	1	1	0	2
13:00	0	0	0	0
13:10	1	0	1	2
13:20	1	1	0	2
13:30	0	0	0	0
13:40	0	1	0	1
13:50	0	1	0	1
14:00	4	0	1	5

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 28040 Clinton Keith Rd
 CITY: Murrieta, CA

DAY: Saturday
 DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
7:00	0	0	0	0
7:10	1	1	0	2
7:20	0	1	1	2
7:30	0	0	0	0
7:40	1	0	0	1
7:50	0	0	1	1
8:00	0	1	0	1
8:10	0	0	2	2
8:20	0	0	0	0
8:30	0	0	0	0
8:40	0	1	0	1
8:50	0	0	0	0
9:00	0	0	0	0
9:10	1	0	0	1
9:20	0	1	0	1
9:30	0	0	0	0
9:40	2	0	0	2
9:50	1	1	0	2
10:00	0	1	0	1
10:10	0	3	3	6
10:20	0	0	1	1
10:30	0	0	0	0
10:40	1	0	0	1
10:50	0	0	1	1
11:00	1	0	1	2
11:10	1	3	6	10
11:20	0	1	0	1
11:30	0	0	0	0

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 28040 Clinton Keith Rd
 CITY: Murrieta, CA

DAY: Saturday
 DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
11:40	0	1	2	3
11:50	0	0	1	1
12:00	1	1	0	2
12:10	0	3	3	6
12:20	0	0	2	2
12:30	2	0	0	2
12:40	0	0	0	0
12:50	1	0	0	1
13:00	1	1	0	2
13:10	1	0	0	1
13:20	0	1	2	3
13:30	0	0	0	0
13:40	2	0	1	3
13:50	1	0	0	1
14:00	0	1	1	2
14:10	0	2	0	2
14:20	0	0	0	0
14:30	0	2	1	3
14:40	0	0	0	0
14:50	0	1	0	1
15:00	0	0	0	0
15:10	0	0	0	0
15:20	0	2	3	5
15:30	0	0	0	0
15:40	1	1	1	3
15:50	1	0	0	1
16:00	0	3	0	3
16:10	0	1	0	1
16:20	0	1	0	1
16:30	1	1	1	3
16:40	1	1	2	4
16:50	0	0	1	1
17:00	1	0	0	1
17:10	2	2	0	4
17:20	3	0	2	5
17:30	0	1	0	1

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 951-268-6268

DRIVE THRU SURVEY

LOCATION: Quick Quack Car Wash, 28040 Clinton Keith Rd
CITY: Murrieta, CA

DAY: Saturday
DATE: 2/24/2024

TIME	Tunnel Entrance to Payment Kiosk	Non-Member Lane	Member Lane	TOTAL
17:40	1	2	2	5
17:50	1	0	0	1
18:00	0	0	0	0
18:10	0	0	1	1
18:20	0	0	0	0
18:30	0	1	0	1
18:40	0	0	0	0
18:50	1	0	0	1
19:00	0	0	0	0
19:10	0	0	0	0
19:20	1	0	0	1
19:30	0	0	0	0
19:40	0	1	0	1
19:50	0	0	0	0
20:00	0	0	0	0
20:10	1	0	0	1
20:20	0	0	0	0
20:30	0	0	0	0
20:40	0	0	1	1
20:50	0	0	0	0
21:00	0	0	0	0



TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

November 17, 2022

Mr. Brandon Humann
CATALYST COMMERCIAL GROUP
38605 Calistoga Drive, Suite 150
Murrieta, CA 92563

Subject: Bedford Court Coffee Shop Queue Analysis, City of Temecula

Dear Mr. Humann:

TJW ENGINEERING, INC. (TJW) is pleased to submit this drive-through queue study for the proposed 1,528 square foot Better Buzz Coffee located at Bedford Court and Temecula Parkway in the City of Temecula. A queue analysis was conducted to determine the anticipated queue length for the proposed project. The results of the queue analysis were compared to the proposed queue capacity to determine if adequate space is provided and if any impacts are anticipated.

Project location can be found in **Exhibit 1**. **Exhibit 2** contains the proposed site plan and demonstrates the proposed queue using a standard passenger vehicle.

Drive-Through Queue Analysis Methodology

Three (3) comparable coffee sites were selected to gather queue data to estimate the anticipated queue for the proposed project. The data collected from the comparable sites all come from larger coffee shops (approximately 3,600 square feet), so the recorded data may be considered a conservative approach. As is typical of coffee shop with drive-through land uses, peak periods are in the morning (6:00 AM - 9:00 AM), lunchtime (11:00 AM – 2:00 PM), and in the evening (4:00 PM – 7:00 PM) during weekdays and Saturdays. The queue data was gathered during the same peak periods, in 10-minute increments, on Thursday, September 22, 2022, and Saturday, September 24, 2022.

The data resulted in a sample size of 54 data points on each day for all three locations, for a total of 324 data points. The data was used to determine the 85th percentile queue length, which is typically used to determine the appropriate vehicle stacking needed for drive-through related land uses.

Comparable Sites

Comparable sites for drive-through queue analysis were determined based on discussions with the project applicant and City staff. All three locations have similar driveway set ups, and approximately the same building size. Drive-through queue and operational information was collected at the following three existing comparable locations:

- 1) 41195 Winchester Road, Temecula, CA 92591;
- 2) 27375 Jefferson Avenue, Temecula, CA 92590;
- 3) 30690 Rancho California Road, Temecula, CA 92591.

Figure 1: Winchester Road Starbucks Site

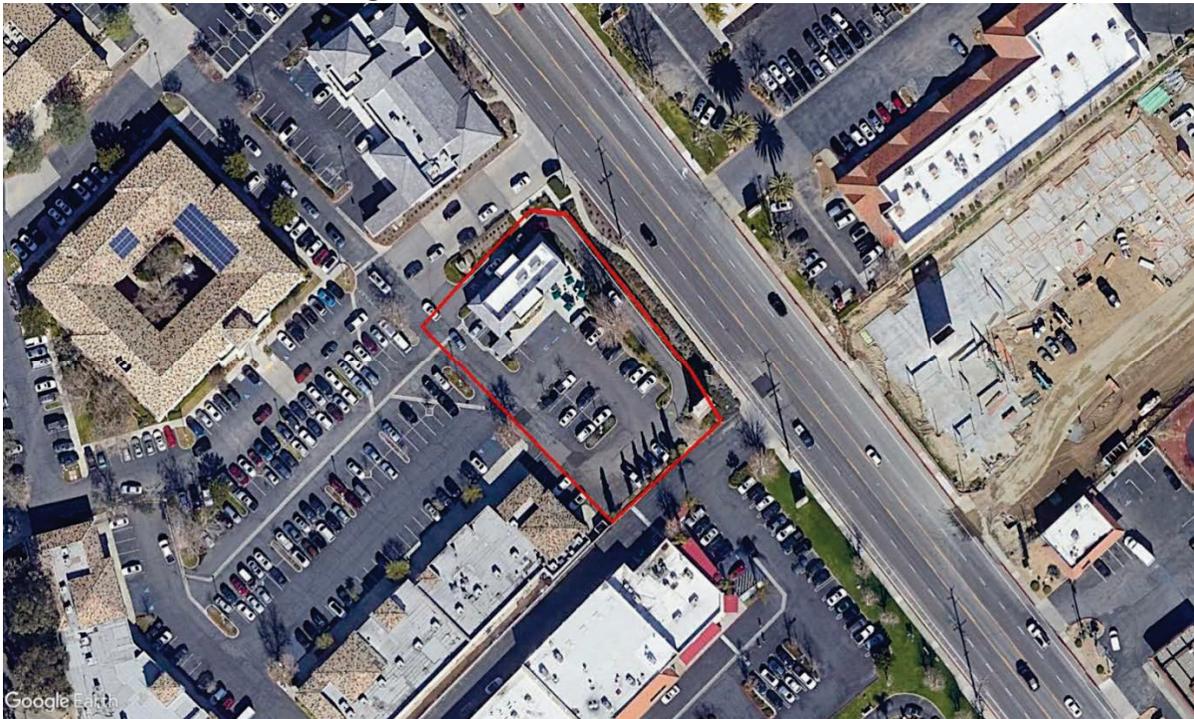


Figure 2: Jefferson Avenue Starbucks Site

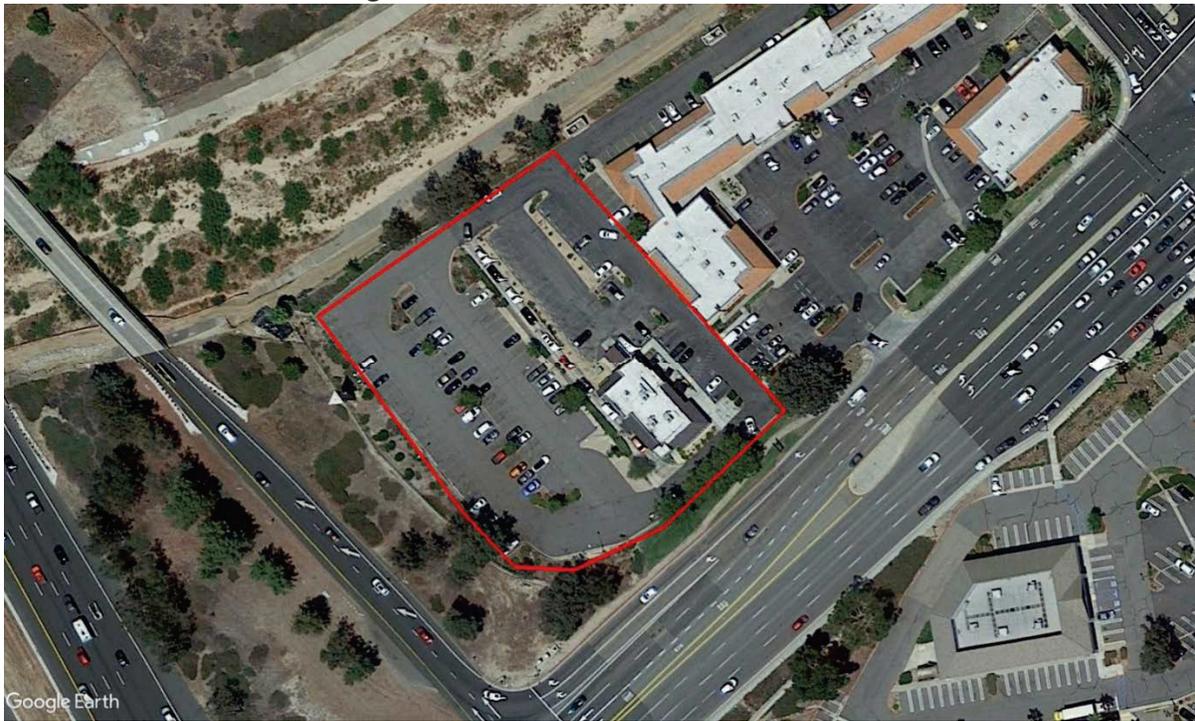


Figure 3: Rancho California Starbucks Site



Drive-Through Queue Results

Based on the data, **Table 1** shows the number of times a certain queue length occurred, and the probability of that queue length not being exceeded. Complete queue data is provided in **Appendix A**.

Table 1:
Summary of Comparable Drive-Through Queue Data

Drive-Through Queue Analysis			
Queue Length (Vehicles)	Number of Occurrences	Total Number of Data Points	Percent of Total vehicles
0	4	2	0.62%
1	8	10	3.09%
2	19	30	9.26%
3	27	56	17.28%
4	29	86	26.54%
5	27	113	34.88%
6	36	152	46.91%
7	36	193	59.57%
8	36	228	70.37%
9	35	265	81.79%
10	20	286	88.27%
11	14	296	91.36%
12	9	304	93.83%
13	8	311	95.99%
14	6	315	97.22%
15	2	317	97.84%
16	3	319	98.46%
17	4	323	99.69%
18	1	324	100.00%
85th Percentile Info			
Queue Length: 9 Vehicles		Data Point: 276th	

When determining the appropriate queue storage, a drive-through should typically be designed to accommodate the 85th percentile queue length. Based on the data collected at the existing locations, the 85th percentile queue length is nine (9) vehicles which occurred at the 276th data point.

The proposed site will construct a dual drive-through lane, which will have room for approximately 19 vehicles before it would spill into the nearest drive aisle. Based on data from three (3) comparable sites, the proposed drive-through lane will be able to accommodate the 100 percent of the queue length, which is 18 vehicles.



Exhibit 2 shows proposed project site plan and the potential queue management.

Conclusion

The proposed Better Buzz Coffee will construct a drive-through lane with a dual lane at the pick-up window. The drive-through will have the capacity for approximately 19 vehicles before spilling into the nearest driveway aisle. Based on data from three (3) comparable sites, the proposed drive-through lane will be able to accommodate the 100 percent of the queue length, which is 18 vehicles.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

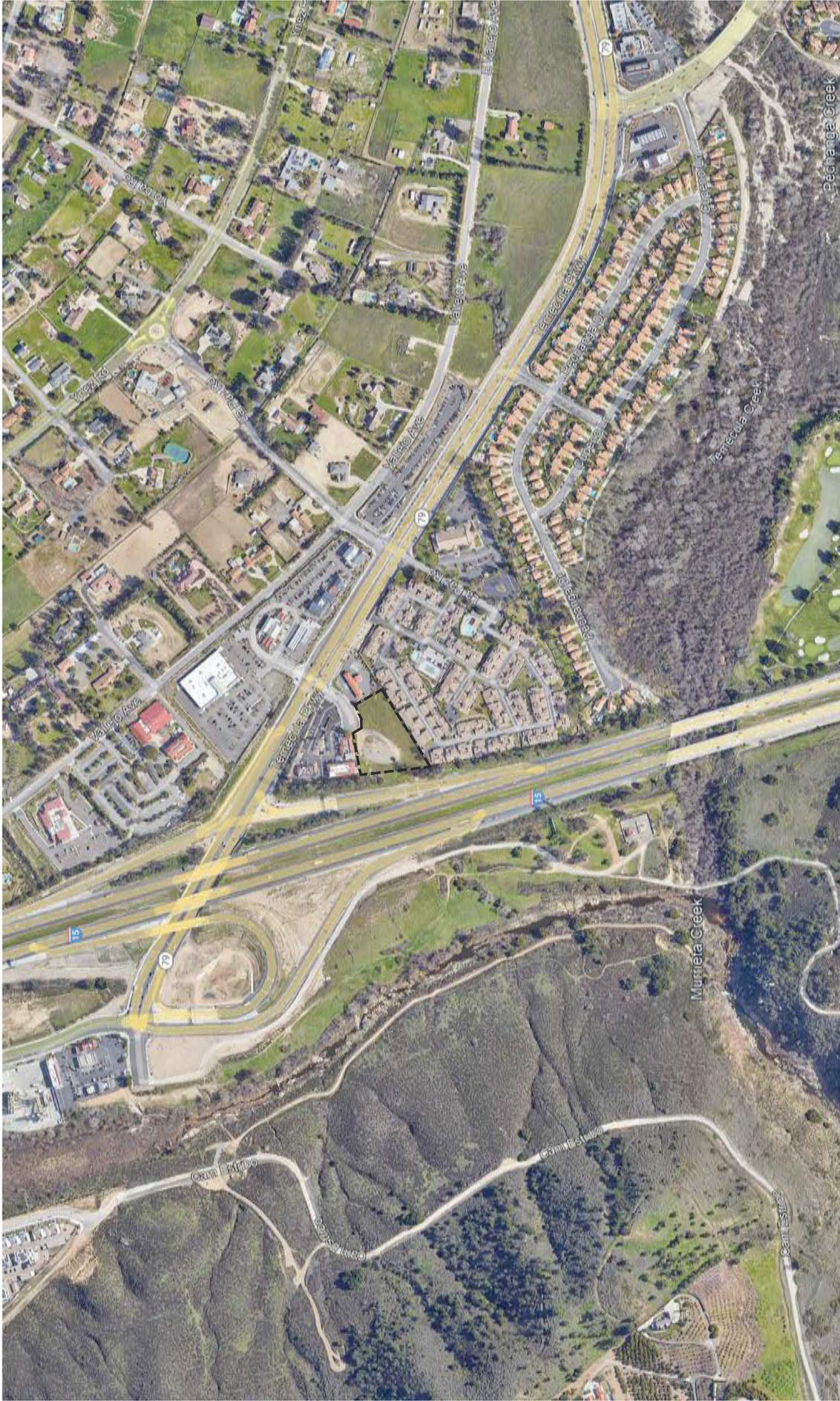
Thomas Wheat, PE, TE
President

Registered Civil Engineer #69467
Registered Traffic Engineer #2565



David Chew, PTP
Transportation Planner

Daniel Flores, EIT
Project Engineer



Legend:
 [Dashed Line] Project Site

Exhibit 1: Project Location

Bedford Court Coffee Shop Queue Analysis



TJW ENGINEERING, INC.

CCG-22-003



Not to Scale



Exhibit 2: Proposed Project Site Plan

Bedford Court Coffee Shop Queue Analysis



TJW ENGINEERING, INC.

CCG-22-003



Not to Scale

APPENDIX A

DRIVE-THROUGH QUEUE DATA

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	2	0	0	2
6:10	1	0	0	1
6:20	1	0	0	1
6:30	5	0	0	5
6:40	1	0	0	1
6:50	1	0	0	1
7:00	3	0	0	3
7:10	4	2	0	6
7:20	6	2	0	8
7:30	5	1	0	6
7:40	5	4	1	10
7:50	4	3	0	7
8:00	3	0	0	3
8:10	2	3	0	5
8:20	4	4	1	9
8:30	4	3	4	11
8:40	5	3	3	11
8:50	3	3	4	10
9:00	3	3	4	10

DAY: Saturday
DATE: 9/24/2022

TIME	Number of Arrivals
6:00	3
6:10	4
6:20	2
6:30	9
6:40	5
6:50	4
7:00	6
7:10	9
7:20	10
7:30	7
7:40	9
7:50	10
8:00	11
8:10	10
8:20	12
8:30	7
8:40	10
8:50	12
TOTAL	140

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	5	4	3	12
11:10	4	4	2	10
11:20	5	3	3	11
11:30	6	3	2	11
11:40	4	3	2	9
11:50	6	4	2	12
12:00	6	3	1	10
12:10	5	3	2	10
12:20	4	4	2	10
12:30	6	4	3	13
12:40	4	2	0	6
12:50	5	3	1	9
13:00	5	3	2	10
13:10	5	3	0	8
13:20	5	3	0	8
13:30	5	2	0	7
13:40	5	0	0	5
13:50	4	1	0	5
14:00	6	3	1	10

DAY: Saturday
DATE: 9/24/2022

TIME	Number of Arrivals
11:00	7
11:10	7
11:20	6
11:30	9
11:40	6
11:50	7
12:00	5
12:10	6
12:20	4
12:30	8
12:40	9
12:50	4
13:00	7
13:10	7
13:20	7
13:30	9
13:40	8
13:50	7
TOTAL	123

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	5	3	1	9
16:10	4	1	0	5
16:20	5	1	0	6
16:30	5	0	0	5
16:40	2	0	0	2
16:50	3	0	0	3
17:00	0	0	0	0
17:10	3	0	0	3
17:20	3	0	0	3
17:30	3	0	0	3
17:40	0	0	0	0
17:50	2	1	0	3
18:00	2	1	0	3
18:10	3	0	0	3
18:20	1	0	0	1
18:30	0	0	0	0
18:40	5	1	1	7
18:50	5	1	0	6
19:00	5	1	0	6

DAY: Saturday
DATE: 9/24/2022

TIME	Number of Arrivals
16:00	8
16:10	3
16:20	10
16:30	8
16:40	4
16:50	7
17:00	4
17:10	3
17:20	4
17:30	6
17:40	3
17:50	7
18:00	5
18:10	6
18:20	3
18:30	2
18:40	5
18:50	5
TOTAL	93

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	4	1	0	2
6:10	2	0	0	1
6:20	1	0	0	5
6:30	1	0	0	5
6:40	5	3	1	3
6:50	2	0	0	1
7:00	4	0	0	6
7:10	2	3	0	2
7:20	5	2	0	8
7:30	2	1	0	0
7:40	2	2	1	2
7:50	2	0	0	1
8:00	4	2	0	7
8:10	3	1	0	6
8:20	3	4	4	55
8:30	2	1	0	0
8:40	6	1	1	9
8:50	3	2	0	2
9:00	2	0	0	1

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
6:00	51
6:10	0
6:20	3
6:30	54
6:40	9
6:50	55
7:00	51
7:10	51
7:20	3
7:30	3
7:40	50
7:50	54
8:00	54
8:10	55
8:20	56
8:30	55
8:40	57
8:50	56
TOTAL	536

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	2	0	0	1
11:10	3	0	0	0
11:20	3	0	0	0
11:30	2	0	0	1
11:40	3	1	0	6
11:50	4	0	0	6
12:00	3	1	0	6
12:10	0	1	0	5
12:20	1	0	0	5
12:30	2	0	0	1
12:40	4	1	1	7
12:50	3	0	0	0
13:00	2	0	0	1
13:10	0	0	0	4
13:20	3	1	0	6
13:30	1	0	0	5
13:40	2	1	0	0
13:50	2	0	0	1
14:00	2	2	0	6

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
11:00	8
11:10	55
11:20	8
11:30	9
11:40	3
11:50	8
12:00	9
12:10	0
12:20	7
12:30	7
12:40	9
12:50	2
13:00	54
13:10	1
13:20	8
13:30	2
13:40	9
13:50	2
TOTAL	511

DRIVE THRU SURVEY

LOCATION: Starbucks, 41195 Winchester Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	1	0	0	5
16:10	0	0	0	4
16:20	3	0	1	6
16:30	4	1	0	2
16:40	1	0	1	1
16:50	3	0	0	0
17:00	1	0	0	5
17:10	2	0	0	1
17:20	0	0	0	4
17:30	3	0	0	0
17:40	0	0	0	4
17:50	1	0	0	5
18:00	0	0	0	4
18:10	0	0	0	4
18:20	3	0	0	0
18:30	0	0	0	4
18:40	2	0	0	1
18:50	2	0	0	1
19:00	2	0	0	1

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
16:00	6
16:10	6
16:20	55
16:30	8
16:40	6
16:50	6
17:00	6
17:10	2
17:20	0
17:30	8
17:40	0
17:50	0
18:00	4
18:10	0
18:20	2
18:30	4
18:40	7
18:50	6
TOTAL	88

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	0	0	0	2
6:10	1	0	0	1
6:20	0	0	0	2
6:30	0	0	0	2
6:40	3	0	0	5
6:50	2	0	0	3
7:00	1	0	0	1
7:10	0	0	0	2
7:20	4	0	0	6
7:30	0	0	0	2
7:40	4	2	0	8
7:50	3	0	0	5
8:00	0	0	0	2
8:10	3	1	0	6
8:20	2	1	0	5
8:30	1	0	0	1
8:40	3	0	0	5
8:50	2	1	0	5
9:00	4	0	0	6

DAY: Saturday
DATE: 9/24/2022

TIME	0 79 Num be Arrrof iv
6:00	1
6:10	2
6:20	2
6:30	a
6:40	12
6:50	l
7:00	5
7:10	8
7:20	5
7:30	s
7:40	s
7:50	8
8:00	l
8:10	s
8:20	8
8:30	11
8:40	s
8:50	5
TOTAL	4s

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	3	2	0	1
11:10	3	2	0	1
11:20	3	1	0	6
11:30	2	0	0	3
11:40	6	4	0	12
11:50	3	0	0	5
12:00	3	0	0	5
12:10	4	3	0	a
12:20	3	0	0	5
12:30	4	0	0	6
12:40	0	0	0	2
12:50	3	0	0	5
13:00	5	0	0	1
13:10	2	0	0	3
13:20	2	0	0	3
13:30	4	0	0	6
13:40	1	0	0	1
13:50	1	0	0	1
14:00	1	0	0	1

DAY: Saturday
DATE: 9/24/2022

TIME	0 79 Num be Arrrof iv
11:00	12
11:10	s
11:20	s
11:30	4
11:40	4
11:50	a
12:00	12
12:10	8
12:20	8
12:30	3
12:40	5
12:50	a
13:00	6
13:10	5
13:20	4
13:30	3
13:40	8
13:50	6
TOTAL	115

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	1	0	0	1
16:10	0	0	0	2
16:20	0	0	0	2
16:30	3	0	0	5
16:40	2	0	0	3
16:50	2	0	0	3
17:00	0	0	0	2
17:10	0	0	0	2
17:20	0	0	0	2
17:30	2	0	0	3
17:40	2	0	0	3
17:50	3	0	0	5
18:00	0	0	0	2
18:10	0	0	0	2
18:20	1	0	0	1
18:30	0	0	0	2
18:40	0	0	0	2
18:50	1	0	0	1
19:00	0	0	0	2

DAY: Saturday
DATE: 9/24/2022

TIME	0 79 Num be Arrrof iv
16:00	3
16:10	6
16:20	a
16:30	6
16:40	1
16:50	3
17:00	3
17:10	5
17:20	6
17:30	5
17:40	5
17:50	5
18:00	5
18:10	1
18:20	1
18:30	1
18:40	3
18:50	1
TOTAL	6a

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	2	0	0	2
6:10	2	0	0	2
6:20	3	0	0	1
6:30	2	0	0	2
6:40	2	0	0	2
6:50	4	4	0	5
7:00	5	3	0	5
7:10	1	0	0	3
7:20	2	0	0	2
7:30	4	0	0	6
7:40	2	0	0	2
7:50	4	0	0	6
8:00	5	0	0	8
8:10	6	3	0	0
8:20	3	0	0	1
8:30	4	0	0	6
8:40	6	4	0	37
8:50	5	4	0	0
9:00	4	3	0	9

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
6:00	2
6:10	8
6:20	5
6:30	9
6:40	4
6:50	33
7:00	4
7:10	8
7:20	5
7:30	36
7:40	33
7:50	8
8:00	36
8:10	32
8:20	33
8:30	5
8:40	39
8:50	31
TOTAL	341

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	5	1	0	4
11:10	6	5	0	33
11:20	4	0	0	6
11:30	5	2	0	9
11:40	1	0	0	3
11:50	2	1	0	1
12:00	4	2	0	4
12:10	6	4	0	37
12:20	5	3	0	5
12:30	5	0	0	8
12:40	3	0	0	1
12:50	3	0	0	1
13:00	0	0	0	7
13:10	5	0	0	8
13:20	5	3	0	5
13:30	4	0	0	6
13:40	4	0	0	6
13:50	1	0	0	3
14:00	0	0	0	7

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
11:00	5
11:10	36
11:20	9
11:30	37
11:40	2
11:50	8
12:00	8
12:10	9
12:20	5
12:30	8
12:40	6
12:50	4
13:00	2
13:10	33
13:20	5
13:30	8
13:40	0
13:50	6
TOTAL	327

DRIVE THRU SURVEY

LOCATION: Starbucks, 27375 Jefferson Avenue
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	2	1	0	1
16:10	0	1	0	3
16:20	1	0	0	3
16:30	2	0	0	2
16:40	0	1	0	3
16:50	4	3	0	9
17:00	4	0	0	6
17:10	0	0	0	7
17:20	0	0	0	7
17:30	2	0	0	2
17:40	5	3	0	5
17:50	3	0	0	1
18:00	3	1	0	6
18:10	0	1	0	3
18:20	0	0	0	7
18:30	3	0	0	1
18:40	1	0	0	3
18:50	0	0	0	7
19:00	1	0	0	3

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Arrivals
16:00	9
16:10	2
16:20	8
16:30	9
16:40	2
16:50	5
17:00	9
17:10	1
17:20	6
17:30	1
17:40	0
17:50	6
18:00	4
18:10	3
18:20	2
18:30	6
18:40	2
18:50	3
TOTAL	99

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	2	1	0	2
6:10	0	0	0	1
6:20	3	0	0	2
6:30	0	0	0	1
6:40	3	2	0	5
6:50	5	3	0	3
7:00	5	0	0	5
7:10	3	0	0	2
7:20	5	6	1	68
7:30	5	8	1	60
7:40	4	6	0	61
7:50	5	5	0	61
8:00	5	4	0	7
8:10	3	6	1	61
8:20	3	4	4	66
8:30	4	5	4	62
8:40	5	7	3	65
8:50	5	6	4	65
9:00	5	5	4	60

DAY: Saturday
DATE: 9/24/2022

TIME	9 Nu mbe r o Aee fi va l
6:00	0
6:10	5
6:20	5
6:30	0
6:40	61
6:50	s
7:00	7
7:10	5
7:20	4
7:30	7
7:40	7
7:50	64
8:00	7
8:10	6s
8:20	7
8:30	7
8:40	3
8:50	62
TOTAL	650

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	5	5	4	60
11:10	5	7	3	65
11:20	4	6	3	62
11:30	5	5	0	61
11:40	4	5	0	7
11:50	5	5	0	61
12:00	3	6	0	7
12:10	4	7	2	62
12:20	3	5	0	3
12:30	4	6	1	66
12:40	5	4	0	7
12:50	4	4	0	3
13:00	4	6	1	66
13:10	4	4	3	66
13:20	5	5	1	66
13:30	5	3	2	61
13:40	5	7	0	68
13:50	4	6	2	68
14:00	5	3	0	3

DAY: Saturday
DATE: 9/24/2022

TIME	9 Nu mbe r o Aeei vd
11:00	7
11:10	7
11:20	62
11:30	66
11:40	7
11:50	61
12:00	4
12:10	3
12:20	7
12:30	3
12:40	3
12:50	7
13:00	7
13:10	s
13:20	7
13:30	68
13:40	3
13:50	3
TOTAL	648

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	4	0	0	0
16:10	3	2	0	5
16:20	4	0	0	0
16:30	5	2	0	5
16:40	3	0	0	2
16:50	0	0	0	1
17:00	3	5	0	3
17:10	5	4	0	7
17:20	4	2	0	4
17:30	4	0	0	0
17:40	4	0	0	0
17:50	4	1	0	5
18:00	4	1	0	5
18:10	4	4	0	3
18:20	5	4	0	7
18:30	4	2	0	4
18:40	4	0	0	0
18:50	3	1	0	0
19:00	5	0	0	5

DAY: Saturday
DATE: 9/24/2022

TIME	9 Nu mbe r o Aeei vd
16:00	5
16:10	4
16:20	4
16:30	7
16:40	4
16:50	8
17:00	4
17:10	3
17:20	5
17:30	3
17:40	4
17:50	0
18:00	4
18:10	5
18:20	s
18:30	3
18:40	4
18:50	2
TOTAL	614

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
6:00	4	4	0	2
6:10	3	1	0	1
6:20	1	0	0	5
6:30	2	0	0	3
6:40	5	2	0	6
6:50	4	2	0	8
7:00	4	5	0	0
7:10	5	3	0	2
7:20	3	1	0	1
7:30	4	2	0	8
7:40	2	1	0	7
7:50	5	5	3	57
8:00	4	7	3	51
8:10	5	5	3	57
8:20	4	4	0	2
8:30	4	6	2	53
8:40	5	6	5	58
8:50	5	5	3	57
9:00	5	6	3	51

DAY: Thursday
DATE: 9/22/2022

TIME	9 Nu mbe r o Aeei va
6:00	57
6:10	8
6:20	8
6:30	6
6:40	5s
6:50	0
7:00	53
7:10	57
7:20	5s
7:30	54
7:40	53
7:50	55
8:00	57
8:10	56
8:20	58
8:30	52
8:40	56
8:50	54
TOTAL	33s

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
11:00	3	2	0	4
11:10	5	2	0	6
11:20	2	4	0	8
11:30	4	4	0	2
11:40	5	3	0	2
11:50	2	0	0	3
12:00	2	3	0	4
12:10	4	2	0	8
12:20	4	2	0	8
12:30	4	2	0	8
12:40	3	6	0	0
12:50	5	2	0	6
13:00	1	0	0	5
13:10	0	0	0	s
13:20	3	2	0	4
13:30	4	1	0	4
13:40	3	0	0	7
13:50	3	0	0	7
14:00	1	0	0	5

DAY: Thursday
DATE: 9/22/2022

TIME	Number of Aerials
11:00	5s
11:10	0
11:20	6
11:30	51
11:40	0
11:50	2
12:00	5s
12:10	55
12:20	6
12:30	2
12:40	2
12:50	2
13:00	8
13:10	8
13:20	5s
13:30	0
13:40	8
13:50	7
TOTAL	510

DRIVE THRU SURVEY

LOCATION: Starbucks, 30690 Rancho California Road
 CITY: Temecula

TIME	PickUp Window To Order Board	Order Board to DT Entrance	DT Entrance into Street	TOTAL
16:00	5	7	1	57
16:10	5	6	0	55
16:20	4	7	1	53
16:30	4	6	0	5s
16:40	3	3	0	8
16:50	1	1	0	3
17:00	0	0	0	s
17:10	0	0	0	s
17:20	3	1	0	1
17:30	3	0	0	7
17:40	5	2	0	6
17:50	4	0	0	1
18:00	1	0	0	5
18:10	3	0	0	7
18:20	4	0	0	1
18:30	1	2	0	7
18:40	2	0	0	3
18:50	2	1	0	7
19:00	0	0	0	s

DAY: Thursday
DATE: 9/22/2022

TIME	9 Nu mbe r o Aee fi va l
16:00	6
16:10	6
16:20	1
16:30	57
16:40	2
16:50	8
17:00	7
17:10	3
17:20	0
17:30	8
17:40	0
17:50	1
18:00	7
18:10	6
18:20	8
18:30	1
18:40	3
18:50	4
TOTAL	5s4

Appendix K
Tribal Consultation Communications

Appendix L
Water System Analysis



Bedford Court - Temecula Water System Analysis Memorandum

Temecula, CA

August 14th, 2024

Kimley»»Horn

TABLE OF CONTENTS

1. Introduction.....	3
<i>Project Description</i>	3
<i>Purpose of Memorandum</i>	3
2. Analysis Criteria.....	4
<i>Water Demand</i>	4
<i>Design Criteria</i>	5
3. Water System Calibration	6
<i>Base Model</i>	6
4. System Analysis and Results.....	6
<i>Demand Analysis</i>	6
<i>Water System Analysis</i>	7
4. Conclusion.....	8
<i>Limitations</i>	8

LIST OF TABLES

Table 1 - Potable Water Design Criteria.....	5
Table 2 - Fire Flow Results.....	6
Table 3 - Potable Water Demands	6
Table 4 - Demand Scenarios	7
Table 5 - Hydraulic Analysis Results.....	7

EXHIBITS

Water System Layout	Exhibit A
---------------------------	-----------

APPENDICES

Rancho California Water District Fire Flow Test Results.....	Appendix A
WaterCAD Results	Appendix B
Rancho California Water District Design Policy Excerpts.....	Appendix C

ACRONYMS

AC	Acre
ADD	Average Day Demand
FF	Fire Flow
FT	Feet
FPS	Feet Per Second
GPD	Gallons Per Day
GPM	Gallons Per Minute
MDD	Maximum Daily Demand
MDDFF	Maximum Daily Demand Plus Fire Flow
MIN	Minimum
MAX	Maximum
PHD	Peak Hour Demand
POC	Point of Connection
PSI	Pounds Per Square Inch

1. INTRODUCTION

Project Description

Bedford Court Temecula (Project or Proposed Project) is proposing to develop 1.87 acres of undeveloped land into a three-lane drive through car wash and three-lane drive through coffee shop located on Bedford Court in the City of Temecula (City) in the County of Riverside, CA. The Project location and surrounding vicinity are depicted in **Figure 1**.

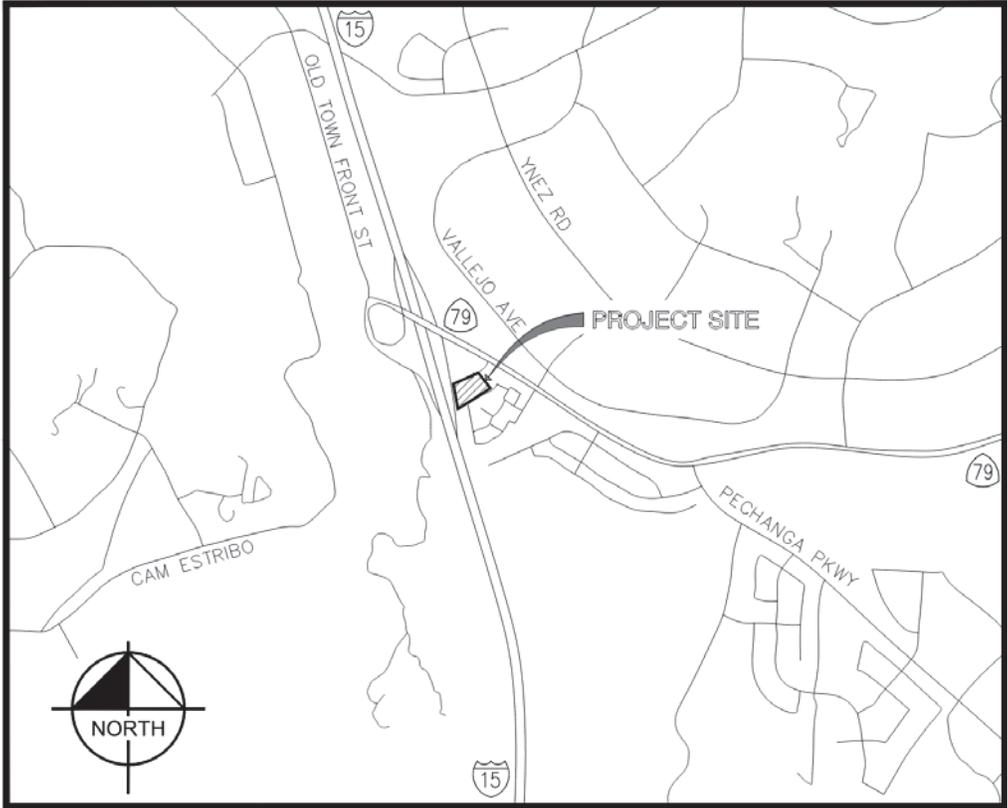


Figure 1 – Project Vicinity

On-site domestic water, fire water, and irrigation systems will be built as part of Bedford Court Temecula. The Project is being developed by Catalyst Commercial Group (Applicant) and will be served by Rancho California Water District (District), who provides water service to the City of Temecula, City of Murrieta, and unincorporated areas of southwest Riverside County.

Purpose of Memorandum

This memorandum performed an analysis to determine whether the current public water system can supply sufficient domestic water and fire flow demand for the Project. It evaluated the necessity for any offsite water system improvements to ensure the development meets Rancho California Water District and County of Riverside Fire Department design criteria.

Additionally, this analysis includes recommendations for pipes sizes within the private site’s water system, optimizing pressures for buildings and fire hydrants, while adhering to the District’s guidelines.

2. ANALYSIS CRITERIA

This Water System Analysis Memorandum has been prepared in accordance with Rancho California Water District's planning criteria and utilizing Project information provided by the Applicant. The following reference documents and tools were utilized in the preparation of this water study:

- County of Riverside Fire Department Code
- California Fire Code
- Rancho California Water District Water System Facility Requirements and Design Guidelines (November 2017)
- Bentley Systems WaterCAD 10.03.05.05

Water Demand

Using the District's water demand factors yielded low demand that is not representative of the actual water usage. Demands per the design criteria would be less than 10 gpm during PHD conditions. Therefore, the domestic potable water demand of 75 gpm was provided by the building architect, Armet Davis Newlove Architects, based on historical use from similar developments. The irrigation demand of 35 gpm was provided by the landscape architect, Conceptual Design and Planning Company.

Maximum day demands (MDD) are calculated by multiplying average day demands (ADD) with a maximum day peaking factor (PF). Peak Hour Demands (PHD) are calculated by multiplying MDD with a peak hour peaking factor. Both peaking factors are assigned according to District pressure zones. The peaking factors are shown in **Table 1**.

Fire flow demand requirements corresponding to the proposed land use are provided by the District (**Appendix C**). Based on the materials of the buildings, the construction classification for this Project is Type IIIA (ISO 2). The fire flow demand is shown in **Table 1**. The fire water system is also analyzed under maximum day demand plus fire flow demand (MDFF).

Design Criteria

The District's System Facility Requirements and Design Guidelines were used to analyze the proposed water system. A summary of the design criteria is presented in **Table 1**.

Table 1 - Potable Water Design Criteria

Static Water Pressure	
Minimum*	40 psi
All water services having static pressure of 150 psi or greater shall have a pressure regulator installed prior to the meter	
Dynamic Water Pressure @ PHD	
Minimum	60 psi, 40 psi if static pressure is less than 60 psi
Maximum Head Loss	3 ft per 1,000 ft
Dynamic Water Pressure @ MDFD	
Minimum	20 psi
Maximum Velocity With Fire Flow	15 fps
Peaking Factors (Rancho Division)	
MDD	2.5
PHD	2.0
Fire Flow Demands (Construction Type IIIA)	
Fire Flow	1,500 gpm
Land Use Demand Factors	
Commercial	2,000 GPD/AC
Business Park/Industrial	2,500 GPD/AC

*Design criteria not in District's Design Guidelines, values assumed based on industry standard practices

The District Design Guidelines do not specify design criteria for the on-site recycled water system. Therefore, industry standard practices were used to develop design criteria for the recycled water system and are listed below:

- The recycled water system will service only on-site irrigation
- System will be privately-owned and maintained
- Minimum pressure is 60 psi
- Maximum velocity of 7 ft/s

3. WATER SYSTEM CALIBRATION

The proposed water system will have one point of connection (POC). One POC will be along Bedford Court and connect to an existing 8-inch waterline. The POC is depicted in **Exhibit A**.

Base Model

The water system was analyzed using Bentley’s WaterCAD v8i simulation model. WaterCAD is a dynamic water distribution system modeling software that models multiple flow conditions evaluating velocities, pressures, and head losses across the entire system. Preparation and calibration of the model was based on the Project plans and results from the fire flow model test. Fire flow model testing results provided by the District are summarized in **Table 2**. The location of the tested connection, Point of Connection “A,” is depicted in **Exhibit A**. A Hazen-Williams head loss coefficient (C) of 130 was used for all on-site pipes to account for minor losses. Due the site being flat, all elements in the model were placed at elevation zero. General purpose valves were used to model the headlosses through the reduced pressure principle assemblies. A headloss curve was inputted into the valve parameters.

Table 2 - Fire Flow Results

Location	Maximum Static Pressure (PSI)	Residual Pressure @ 500 gpm (PSI)	Residual Pressure @ 2,400 gpm (PSI)
Point of Connection “A”	126	118	113

The data presented in **Table 2** was used to develop pump curves to simulate the existing water system conditions and calibrate the model. The fire flow data provided by the District is provided in **Appendix A**.

4. SYSTEM ANALYSIS AND RESULTS

Demand Analysis

The proposed water system was analyzed to meet the design criteria for MDFF and PHD. MDFF and PHD were calculated per the District’s Design Guidelines summarized in *Section 3*. The demands are listed in **Table 3**.

Table 3 - Potable Water Demands

Demand	Total	Car Wash	Coffee Shop
ADD	75 gpm	50 gpm	25 gpm
MDD	187.5 gpm	125 gpm	62.5 gpm
PHD	375 gpm	250 gpm	125 gpm
MDFF	1687.5 gpm		
Irrigation	35 gpm		

Water System Analysis

Once the model was calibrated, four different demand scenarios were run. The irrigation demand remained the same for each water system scenario. The scenarios are listed in **Table 4**.

Table 4 - Demand Scenarios

Scenario	Total Flow (GPM)	Node	Flow (GPM)
1 (ADD)	75.0	J-7	25
		J-10	50
2 (MDD)	187.5	J-7	62.5
		J-10	125
3 (PHD)	375.0	J-7	125
		J-10	250
4 (MDFF)	1687.5	J-6	1,500
		J-7	62.5
		J-10	125
Irrigation	35.0	J-8	35

Pipe sizes were adjusted and optimized to achieve the design criteria listed in *Section 2*. **Table 5** summarizes the results for each scenario. The WaterCAD results for all scenarios are included in **Appendix B**.

Table 5 - Hydraulic Analysis Results

Scenario	Minimum Residual Pressure (PSI)	Maximum Residual Pressure (PSI)	Maximum Velocity (FPS)	Maximum Headloss (FT/1000 FT)
1 (ADD)	110	121	0.32	0.082
2 (MDD)	109	120	0.80	0.437
3 (PHD)	108	118	1.60	1.578
4 (MDFF)	99	114	9.57	38.705
Irrigation	100	121	3.57	31.471

4. CONCLUSION

The water system analysis determined that an 8-inch diameter pipe for the fire water system, a 6-inch diameter pipe for the domestic water system to the coffee shop, and an 8-inch diameter domestic pipe for the water system to the car wash will meet the required design criteria for the on-site water system. Additionally, the water system analysis determined that a 2-inch diameter pipe for the irrigation water system will meet the design criteria. **Exhibit A** depicts the recommendations.

Based on the fire flow data provided by the District, the on-site fire hydrants and nodes will have residual pressures ranging from 99 PSI to 114 PSI during MDFF condition, with maximum velocities reaching 9.57 FPS. Additionally, all on-site nodes will maintain residual pressures of 108 PSI during PHD conditions, which is within the District's acceptable range of water pressures.

Limitations

The recommendations presented in this report are based upon the modeling data provided by the Rancho California Water District, which may not represent actual field conditions. **Flow testing should be performed to confirm the actual field conditions.**



Taylor Thorig, P.E.

8/14/2024

EXHIBIT A

Water System Layout

APPENDIX A

Rancho California Water District Fire Flow Test Results



CITY OF TEMECULA ♦ FIRE PREVENTION BUREAU

41000 Main Street ♦ Temecula ♦ CA ♦ 92590 ♦ Telephone (951) 694-6405 ♦ fax (951) 506-5169

WATER SYSTEM FLOW TEST

Date: _____ Project: _____ Applicant (Name/Title): _____

This form must be submitted with all underground and fire sprinkler plans at the time of submittal to the Temecula Fire Prevention Bureau. Failure to do so will result in an incomplete plan review of the project and plans will be returned to the applicant.

The minimum fire flow for this building is determined using the California Fire Code, Appendix B of the California Fire Code, 2022 Edition.

Hydrant testing shall include the minimum following information:

- | | | | |
|---|----------------|----------------|--|
| <input type="checkbox"/> Static Pressure: | max: _____ psi | min: _____ psi | <input type="checkbox"/> Hydrant Outlet Size: _____ |
| <input type="checkbox"/> Residual Pressure: | _____ psi | | <input type="checkbox"/> Flow available at 20 psi: _____ gpm |
| <input type="checkbox"/> Pitot Reading | _____ psi | | <input type="checkbox"/> Time of test: _____ |
| <input type="checkbox"/> Discharge Flow (in gallons per minute): | _____ gpm | | |
| <input type="checkbox"/> Date of test: | _____ | | |
| <input type="checkbox"/> Water main diameter: | _____ in. | | |
| <input type="checkbox"/> Flow location map (pressure location & flow location). | | | |

The following shall be considered in providing the required verification:

- Test should be conducted during a period of ordinary demand.
- If available by the water purveyor, provide the peak hourly demand, or the maximum amount of water used in any given hour of a day.
- For the most accurate readings, a sufficient discharge amount should be achieved to cause a drop in pressure at the residual hydrant of at least 25%.
- Pitot readings of less than 10 psi and more than 30 psi should be avoided.
- Unusual situations that might have caused an excessive use of water, such as refilling a reservoir after cleaning, should not be considered when determining this figure.

All flow testing should be conducted in accordance with NFPA 291. This standard goes over the requirements for flow testing procedures, pitot readings, layout of the test, equipment to be used and determining the discharge. Also, per NFPA 13 and Chapter 80 of the CFC the fire flow test shall not be older than 6 months. For the most accurate readings the pitot pressure should be at least 10 psi and the residual pressure should drop 25% or 15 psi below the static pressure

This test shall be coordinated with the water purveyor prior to conducting any flow tests. It is the contractor's responsibility to obtain all the information required for the area in which the test is to be conducted. If available from the water purveyor, it is the contractor's responsibility to obtain a hydrant location map prior to flow testing.

Fire Flow Test Company: _____

CSLB C-16#: _____

Name: _____ Title: _____

Date: _____

Water District Witness: _____

Name: _____ Title: _____

Date: _____

District Comments:

APPENDIX B

WaterCAD Results

Bedford Court Temecula WaterCAD Results

Scenario Summary

ID	71
Label	ADD
Notes	
Active Topology	Base Active Topology
User Data Extensions	Base User Data Extensions
Physical	Base Physical
Demand	ADD
Initial Settings	Base Initial Settings
Operational	Base Operational
Age	Base Age
Constituent	Base Constituent
Trace	Base Trace
Fire Flow	Base Fire Flow
Energy Cost	Base Energy Cost
Pressure Dependent Demand	Base Pressure Dependent Demand
Transient	Base Transient
Failure History	Base Failure History
SCADA	Base SCADA
Steady State / EPS Solver Calculation Options	Base Calculation Options
Transient Solver Calculation Options	Base Calculation Options

Junction Table - Time: 0.00 hours

Label	Zone	Pressure (psi)	Demand (gpm)	Elevation (ft)
J-1	<None>	121	0	0.00
J-2	<None>	121	0	0.00
J-3	<None>	121	0	0.00
J-4	<None>	121	0	0.00
J-5	<None>	119	0	0.00
J-6	<None>	119	0	0.00
J-7	<None>	114	25	0.00
J-8	<None>	107	35	0.00
J-9	<None>	110	0	0.00
J-10	<None>	110	50	0.00
J-11	<None>	121	0	0.00

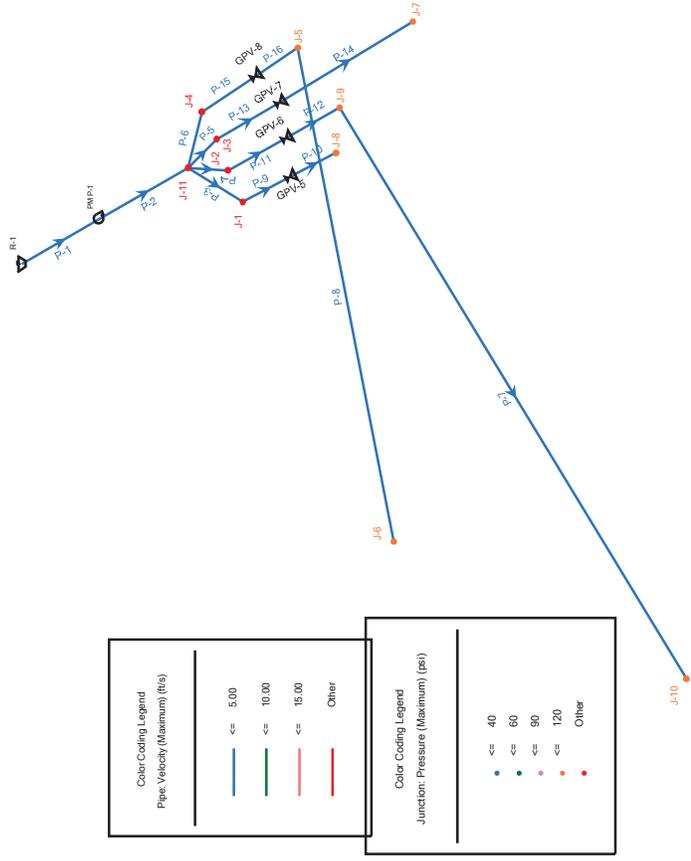
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1	24	<None>	100.0	130.0	110	0.00	0.000
P-2	27	<None>	10.0	130.0	110	0.45	0.103
P-3	17	<None>	2.0	130.0	35	3.57	31.470
P-4	11	<None>	8.0	130.0	50	0.32	0.072
P-5	11	<None>	6.0	130.0	25	0.28	0.082
P-6	15	<None>	8.0	130.0	0	0.00	0.000
P-7	178	<None>	8.0	130.0	50	0.32	0.071
P-8	134	<None>	8.0	130.0	0	0.00	0.000

Bedford Court Temecula WaterCAD Results
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-9	14	<None>	2.0	130.0	35	3.57	31.471
P-10	14	<None>	2.0	130.0	35	3.57	31.469
P-11	18	<None>	8.0	130.0	50	0.32	0.071
P-12	16	<None>	8.0	130.0	50	0.32	0.071
P-13	19	<None>	6.0	130.0	25	0.28	0.079
P-14	41	<None>	6.0	130.0	25	0.28	0.080
P-15	17	<None>	8.0	130.0	0	0.00	0.000
P-16	14	<None>	8.0	130.0	0	0.00	0.000

Scenario: ADD



Color Coding Legend
Pipe: Velocity (Maximum) (ft/s)

Blue	<= 5.00
Green	<= 10.00
Red	<= 15.00
Other	Other

Color Coding Legend
Junction: Pressure (Maximum) (psi)

Blue	<= 40
Green	<= 60
Red	<= 90
Other	<= 120
Other	Other

Bedford Court Temecula WaterCAD Results

Scenario Summary

ID	72
Label	MDD
Notes	
Active Topology	Base Active Topology
User Data Extensions	Base User Data Extensions
Physical	Base Physical
Demand	MDD
Initial Settings	Base Initial Settings
Operational	Base Operational
Age	Base Age
Constituent	Base Constituent
Trace	Base Trace
Fire Flow	Base Fire Flow
Energy Cost	Base Energy Cost
Pressure Dependent Demand	Base Pressure Dependent Demand
Transient	Base Transient
Failure History	Base Failure History
SCADA	Base SCADA
Steady State / EPS Solver Calculation Options	Base Calculation Options
Transient Solver Calculation Options	Base Calculation Options

Junction Table - Time: 0.00 hours

Label	Zone	Pressure (psi)	Demand (gpm)	Elevation (ft)
J-1	<None>	119	0	0.00
J-2	<None>	120	0	0.00
J-3	<None>	120	0	0.00
J-4	<None>	120	0	0.00
J-5	<None>	118	0	0.00
J-6	<None>	118	0	0.00
J-7	<None>	109	62	0.00
J-8	<None>	106	35	0.00
J-9	<None>	109	0	0.00
J-10	<None>	109	125	0.00
J-11	<None>	120	0	0.00

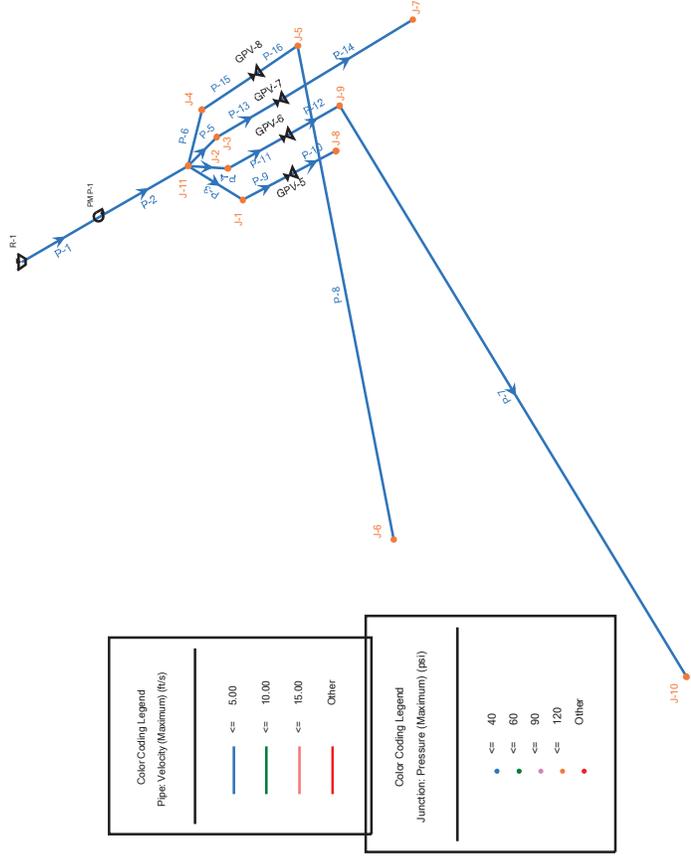
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1	24	<None>	100.0	130.0	223	0.01	0.000
P-2	27	<None>	10.0	130.0	223	0.91	0.381
P-3	17	<None>	2.0	130.0	35	3.57	31.468
P-4	11	<None>	8.0	130.0	125	0.80	0.387
P-5	11	<None>	6.0	130.0	63	0.71	0.434
P-6	15	<None>	8.0	130.0	0	0.00	0.000
P-7	178	<None>	8.0	130.0	125	0.80	0.388
P-8	134	<None>	8.0	130.0	0	0.00	0.000

Bedford Court Temecula WaterCAD Results
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-9	14	<None>	2.0	130.0	35	3.57	31.471
P-10	14	<None>	2.0	130.0	35	3.57	31.470
P-11	18	<None>	8.0	130.0	125	0.80	0.388
P-12	16	<None>	8.0	130.0	125	0.80	0.389
P-13	19	<None>	6.0	130.0	63	0.71	0.437
P-14	41	<None>	6.0	130.0	62	0.71	0.437
P-15	17	<None>	8.0	130.0	0	0.00	0.000
P-16	14	<None>	8.0	130.0	0	0.00	0.000

Scenario: MDD



Color Coding Legend
Pipe: Velocity (Maximum) (ft/s)

Blue	<= 5.00
Green	<= 10.00
Red	<= 15.00
Other	Other

Color Coding Legend
Junction: Pressure (Maximum) (psi)

Blue	<= 40
Green	<= 60
Red	<= 90
Other	<= 120
Other	Other

Bedford Court Temecula WaterCAD Results

Scenario Summary

ID	76
Label	MDDFF
Notes	
Active Topology	Base Active Topology
User Data Extensions	Base User Data Extensions
Physical	Base Physical
Demand	MDDFF
Initial Settings	Base Initial Settings
Operational	Base Operational
Age	Base Age
Constituent	Base Constituent
Trace	Base Trace
Fire Flow	Base Fire Flow
Energy Cost	Base Energy Cost
Pressure Dependent Demand	Base Pressure Dependent Demand
Transient	Base Transient
Failure History	Base Failure History
SCADA	Base SCADA
Steady State / EPS Solver Calculation Options	Base Calculation Options
Transient Solver Calculation Options	Base Calculation Options

Junction Table - Time: 0.00 hours

Label	Zone	Pressure (psi)	Demand (gpm)	Elevation (ft)
J-1	<None>	114	0	0.00
J-2	<None>	114	0	0.00
J-3	<None>	114	0	0.00
J-4	<None>	114	0	0.00
J-5	<None>	102	0	0.00
J-6	<None>	99	1,500	0.00
J-7	<None>	103	62	0.00
J-8	<None>	100	35	0.00
J-9	<None>	103	0	0.00
J-10	<None>	103	125	0.00
J-11	<None>	114	0	0.00

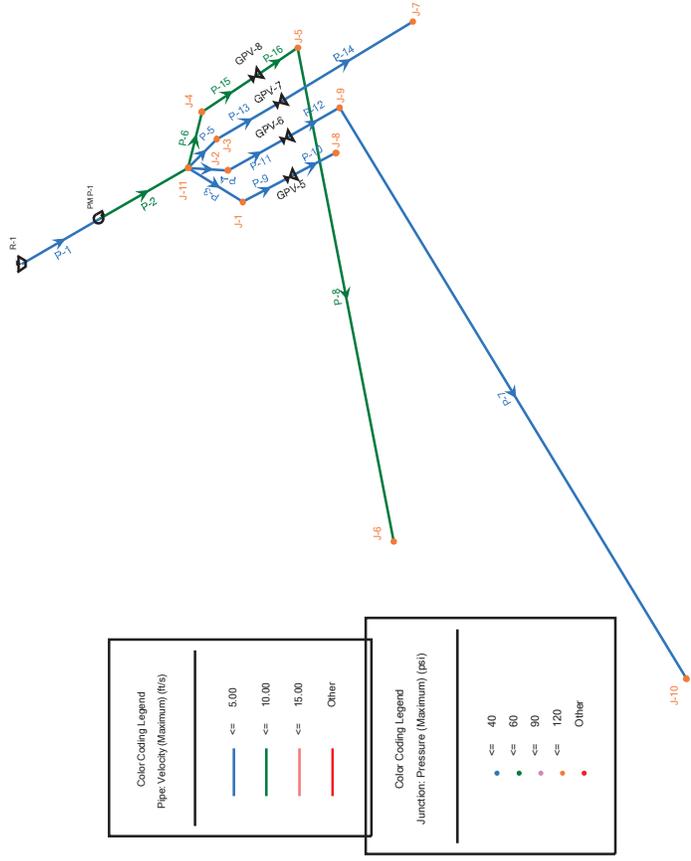
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1	24	<None>	100.0	130.0	1,723	0.07	0.000
P-2	27	<None>	10.0	130.0	1,723	7.04	16.864
P-3	17	<None>	2.0	130.0	35	3.57	31.470
P-4	11	<None>	8.0	130.0	125	0.80	0.387
P-5	11	<None>	6.0	130.0	63	0.71	0.437
P-6	15	<None>	8.0	130.0	1,500	9.57	38.705
P-7	178	<None>	8.0	130.0	125	0.80	0.388
P-8	134	<None>	8.0	130.0	1,500	9.57	38.705

Bedford Court Temecula WaterCAD Results
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-9	14	<None>	2.0	130.0	35	3.57	31.469
P-10	14	<None>	2.0	130.0	35	3.57	31.469
P-11	18	<None>	8.0	130.0	125	0.80	0.388
P-12	16	<None>	8.0	130.0	125	0.80	0.388
P-13	19	<None>	6.0	130.0	63	0.71	0.436
P-14	41	<None>	6.0	130.0	62	0.71	0.437
P-15	17	<None>	8.0	130.0	1,500	9.57	38.705
P-16	14	<None>	8.0	130.0	1,500	9.57	38.705

Scenario: MDDFF



Color Coding Legend
Pipe: Velocity (Maximum) (ft/s)

Blue	<= 5.00
Green	<= 10.00
Red	<= 15.00
Other	Other

Color Coding Legend
Junction: Pressure (Maximum) (psi)

Blue	<= 40
Green	<= 60
Red	<= 90
Other	<= 120
Other	Other

Bedford Court Temecula WaterCAD Results

Scenario Summary

ID	74
Label	PD
Notes	
Active Topology	Base Active Topology
User Data Extensions	Base User Data Extensions
Physical	Base Physical
Demand	PD
Initial Settings	Base Initial Settings
Operational	Base Operational
Age	Base Age
Constituent	Base Constituent
Trace	Base Trace
Fire Flow	Base Fire Flow
Energy Cost	Base Energy Cost
Pressure Dependent Demand	Base Pressure Dependent Demand
Transient	Base Transient
Failure History	Base Failure History
SCADA	Base SCADA
Steady State / EPS Solver Calculation Options	Base Calculation Options
Transient Solver Calculation Options	Base Calculation Options

Junction Table - Time: 0.00 hours

Label	Zone	Pressure (psi)	Demand (gpm)	Elevation (ft)
J-1	<None>	118	0	0.00
J-2	<None>	118	0	0.00
J-3	<None>	118	0	0.00
J-4	<None>	118	0	0.00
J-5	<None>	116	0	0.00
J-6	<None>	116	0	0.00
J-7	<None>	108	125	0.00
J-8	<None>	104	35	0.00
J-9	<None>	108	0	0.00
J-10	<None>	108	250	0.00
J-11	<None>	118	0	0.00

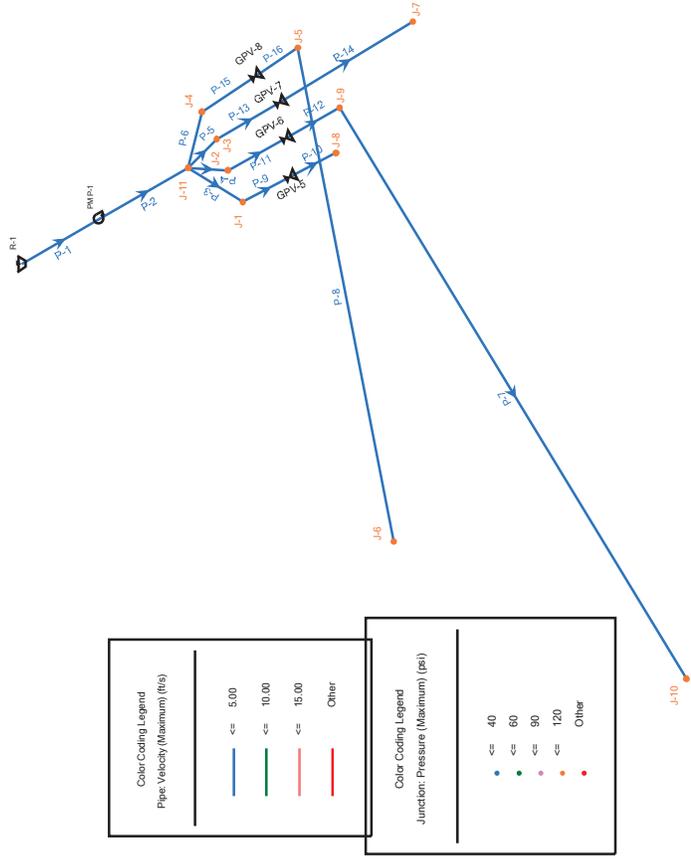
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1	24	<None>	100.0	130.0	410	0.02	0.000
P-2	27	<None>	10.0	130.0	410	1.67	1.181
P-3	17	<None>	2.0	130.0	35	3.57	31.470
P-4	11	<None>	8.0	130.0	250	1.60	1.402
P-5	11	<None>	6.0	130.0	125	1.42	1.578
P-6	15	<None>	8.0	130.0	0	0.00	0.000
P-7	178	<None>	8.0	130.0	250	1.60	1.402
P-8	134	<None>	8.0	130.0	0	0.00	0.000

Bedford Court Temecula WaterCAD Results
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (ft)	Zone	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-9	14	<None>	2.0	130.0	35	3.57	31.471
P-10	14	<None>	2.0	130.0	35	3.57	31.470
P-11	18	<None>	8.0	130.0	250	1.60	1.402
P-12	16	<None>	8.0	130.0	250	1.60	1.402
P-13	19	<None>	6.0	130.0	125	1.42	1.577
P-14	41	<None>	6.0	130.0	125	1.42	1.576
P-15	17	<None>	8.0	130.0	0	0.00	0.000
P-16	14	<None>	8.0	130.0	0	0.00	0.000

Scenario: PD



Color Coding Legend
Pipe: Velocity (Maximum) (ft/s)

Blue	<= 5.00
Green	<= 10.00
Red	<= 15.00
Other	Other

Color Coding Legend
Junction: Pressure (Maximum) (psi)

Blue	<= 40
Green	<= 60
Red	<= 90
Other	<= 120
Other	Other

APPENDIX C

Rancho California Water District Design Policy Excerpts

SECTION III
DESIGN CRITERIA

SECTION III - DESIGN CRITERIA

Water systems shall be designed in accordance with the District's Standard Specifications and Standard Drawings for Water and Sanitary Sewer Facilities, latest revision, and the following criteria:

A. HYDRAULIC NETWORK ANALYSIS CRITERIA (POTABLE WATER SYSTEMS)

Each hydraulic network analysis shall be performed by a registered Civil Engineer and be signed and stamped by same. The District reserves the right to determine the criteria for each water system or sub-system based upon conditions that may exist for that particular location, anticipated level of development, planned use, or other criteria. In general, however, the water system shall be sized to handle the highest demand within the general area of the tract and shall conform to the following minimum standards:

1. Pipeline Diameters

The minimum pipeline diameter for distribution and transmission mains is 8". The District accepts only the following diameters: 4, 6, 8, 12, 16, 20, 24, 30, 36, 42, and 48 inches.

2. Pipeline Friction Factors

Pipeline friction factors shall be as follows:

<u>Pipe Material</u>	<u>Hazen-Williams Coefficient</u>
Cement Mortar Lined Steel Pipe	C=120
Polyvinyl Chloride Pipe	C=130
Ductile Iron Pipe	C=120

3. Water System Unit Demands

Average day unit demands shall be as follows:

<u>Land Use Demand Factors</u>	Average Day Unit
a. Very Low Density/Low Density (1 DU/AC)	1,500 GPD/DU
b. Medium Low Density (2-4 DU/AC)	1,000 GPD/DU
c. Medium Density/Medium High Density/High Density (5-16 DU/AC)	600 GPD/DU
d. Commercial	2,000 GPD/AC
e. Business Park/Industrial	2,500 GPD/AC
f. Vineyard	2 AF/AC/YR
g. Park/Golf Course	4 AF/AC/YR
h. Wildlife/Reserve	0
i. Resort Commercial	4 AF/AC/YR
j. Open Space	1.5 AF/AC/YR
k. Agricultural (Avocado, Citrus, Horse Ranch)	3.5 AF/AC/YR

4. Peaking Factors

The peaking factors to be used are as follows:

a. Maximum Day Demand/Demand Analysis

For the Santa Rosa Division, Maximum Day Demand shall equal 3.0 times the Average Day Demand for Zones 1440, 1670, and 1990. For all other zones, the Maximum Day Demand shall equal 2.5 times the Average Day Demand.

For the Rancho Division, Maximum Day Demand shall equal 3.0 times Average Day Demand for Zones 1610 and 1790. For all other zones, the Maximum Day Demand shall equal 2.5 times the Average Day Demand.

b. Peak Demand

For all zones, the Peak Demand shall equal two times the Maximum Day Demand.

For analysis of “small” projects (multi-family sites, subdivisions with less than 100 lots, etc.), the District reserves the right to assign a higher peak factor to the demand analysis.

5. Fire Flow

The fire flow requirements shall be in accordance with the applicable standards of the Insurance Services Office (ISO) and shall be those required by the Riverside County Fire Department, Murrieta Fire Protection District, City of Temecula Fire Department, or California Division of Forestry for the type of development under consideration.

6. System Hydraulic Analysis

The proposed water system shall be analyzed for the following two conditions*:

- a. Peak Demand Flow.
- b. Maximum Day Demand plus Fire Flow.

* A system analysis will be required for all developments. The level of detail will vary based on the scope of the project and requested service. See Section II, Subsection A-3 for additional details.

For the Peak Demand flow condition, the pressure at each node shall be designed for 60 psi minimum. A minimum pressure of 40 psi may be allowed if static pressure is less than 60 psi. The maximum head loss in the pipeline shall be 3 feet per 1,000 feet.

For the Maximum Day Demand plus fire flow, the pressure at each node shall be a minimum of 20 psi. The velocity in the water system distribution pipelines and service laterals shall be no more than 15 feet per second (fps) during a maximum day demand plus fire flow condition. Fire flow should be taken from the hydrant furthest from the connection(s) to the District's distribution system and/or the highest system elevation, as directed by District. Fire and domestic demands through certified backflow devices shall not exceed the maximum flow rate specified by the manufacturer or exceed the demands for which the device has UL, FM, and USC approvals for.

A hydraulic analysis for determining water meters and lateral sizes shall be in accordance with the criteria identified in Section B, Subsection 13.

7. Recycled Water Systems (Off-Site/District-Owned, -Operated, and -Maintained)

Recycled water systems shall have the same hydraulic analysis criteria as potable water systems except with the following revisions:

a. Peaking Factors

The recycled water system peaking factors are as follows:

Maximum Day Demand

Maximum Day Demand shall be equal to 3.5 times the Average Day Demand.

Peak Demand

Peak Demand shall be equal to 2.0 times the Maximum Day Demand.

b. Fire Flow

Recycled water shall not be used for fire protection.

c. System Analysis

The proposed recycled water system shall be analyzed and designed for peak demand flow.

B. WATER CONSTRUCTION DRAWING DESIGN CRITERIA (POTABLE WATER SYSTEMS)

1. Pipeline Location

Unless otherwise approved by the District, all water pipelines shall be located on the south or west side of the street, 7 feet off of curb face or berm, per the Riverside County Road Department standards. Location is not to interfere with other existing utilities.

Pipe joint deflection is not allowed. High deflection couplings may be required for PVC pipe per manufacturer's recommendation (typically between 0° and 5° for AWWA C-900 PVC pipe and 0° and 4° for AWWA C-905 PVC). Joint deflection angle shall be indicated on all horizontal and vertical curves. Bending of AWWA C-900 PVC pipe may be allowed if minimum radius of pipe conforms to AWWA 605, as summarized below for the applicable pipe diameter, and no stress is exerted on the pipe joints when bending occurs. Bending of AWWA C-905 PVC pipe greater than 12-inches shall not be permitted and deflections shall be made with high deflection couplings or fittings.

Allowable Pipe Bending (AWWA C-900 only)	
Pipe Size (inch)	Minimum Bending Radius (feet)
4	100
6	144
8	189
10	231
12	275

Water pipeline installation near sewer pipelines and/or non-potable pipelines shall be in accordance with Title 22, §64572. In general, water pipelines should cross perpendicular to, and one-foot above, sewer and recycled water pipelines. Water pipelines parallel to sewer pipelines shall be located a minimum of 10 feet (measured from outside of both pipes) from the sewer pipeline. When separation criteria cannot be met, Standard Drawing S-23 and Department of Health Services' Guidance Memo No. 2003-2 may be used only with written approval from the State Water Resources Control Board.

When crossing other utilities, provide a minimum one-foot vertical clearance. Water pipelines parallel to other utilities shall be located a minimum of five feet from the utility, whenever possible. If pipelines cannot maintain the required horizontal and vertical clearances, District staff shall be contacted for further direction.

2. Source Connections

- a. Development projects having 20 or more individual water services (or as determined/required by District) shall have two or more source connections to provide system redundancy.
- b. Pursuant to the State of California Water Code section 535 and RCWD's Rules and Regulations, separate water service(s) will be required for landscape irrigation.
- c. Landscape irrigation is subject to the mandatory use of recycled water, pursuant to Resolution 2007-10-5, which may require the extension of recycled water distribution facilities by developer.

3. Minimum Pipe Cover

The minimum cover over the top of pipe shall be 48 inches from finished road grade, and shall provide adequate depth so that gate valve stems and operating nuts have a 12-inch clearance to finished road grade. When 48 inches of cover cannot be provided, concrete encasement or protective slab construction over the pipeline may be considered by District staff.

4. Pipe Materials

Minimum allowable pipe materials are as follows:

- Polyvinyl Chloride (PVC) Plastic Pipe C-900, DR-18—4" through 12" diameters
 - Polyvinyl Chloride (PVC) Plastic Pipe C-905, DR-18—16" through 24" diameters
 - *Cement Mortar Lined & Coated (CML&C) Steel Pipe, 12 Gage—4" through 24" diameters
 - *Cement Mortar Lined & Coated (CML&C) Steel Pipe, 10 Gage—30" and larger diameters
 - Ductile Iron Pipe (DIP) — Requires Special Design
- * Reference Division 3 of the Technical Provisions for cases requiring greater steel thickness.

For inordinate depths (i.e. less than 30 inches, greater than 8 feet, and/or as determined by the District), CML&C steel pipe shall be used and considered a "special" (with a factor of safety of 2.5) for the purpose of determining the minimum cylinder thickness pursuant to the District's Division 3 Technical Provisions for steel pipe.

The use of metallic pipe will require that a corrosivity study be performed by a qualified engineer. Results of the corrosivity study may require metallic pipes to utilize special pipe coatings, special installation, and/or design and installation of cathodic protection facilities (in addition to the minimum pipe material requirements).

5. Pipe Slope

All pipelines shall be designed to maintain a slope (0.5% minimum) to accommodate the release of air from the pipe, unless otherwise directed by District staff.

6. Separation Between Appurtenances and Pipe Joints

All appurtenances shall be spaced at a minimum of 24 inches from other services, pipe joints, fittings, or service saddles. Where multiple service saddles are required at the 24-inch spacing, the taps made in the pipe shall be alternated between 15° and 30° angles above the springline of the pipe to avoid creating a weak plane. Actual spacing of pipe joints, fittings, and saddles will be determined based on the fitting dimensions for the selected pipe size and the ability to connect to adjacent piping/fittings considering factors such as the length of restraining rods, access to flange bolts, space requirements of appurtenances on the side of the road, minimum pipe lengths, and trench widths/loads for future repairs, without impacting adjacent piping.

7. Minimum Pipe Lengths

The minimum length of pipe used for tie-ins, stub-outs, and between mechanical joint fittings shall be three times the pipe diameter or 48 inches, whichever is longer, unless otherwise approved by the District.

8. Valves

Refer to Appendix “V,” Valve Application Table, for appropriate valve types, based upon use and design pressure.

Generally, three valves shall be installed on each tee and four valves shall be installed on each cross, with no separation between the valve and fitting. In-tract valving requirements may be reduced at the direction of the District. Line valves shall be spaced at 1,320-foot maximum intervals or as directed by District staff.

9. Fire Hydrants

Fire hydrants shall be in accordance with District standards, constructed at right angles to the water pipeline.

Fire hydrants shall be located per the requirements of the Riverside County Fire Department, as stated in the Tract Conditions of Approval, but no greater than 1,000-foot intervals.

10. Air Valves

Air valves shall be combination air vacuum and air release valves, in accordance with the District standards, constructed at right angles to the water pipeline.

Air valves shall be located at all high points of pipeline and down-slope of valves. Minimum size of air valves shall be 1" and shall be sized as follows:

<u>Air Valve Size</u>	<u>Pipeline Diameter</u>
1"	8" & 12"
2"	16", 20", & 24"
4"	30"
Consult with District staff (reference AWWA M-51)	> 30"

11. Blowoffs

Blowoffs shall be in accordance with District Standards, located at right angles to the water pipeline. Where possible, fire hydrants shall be used in place of blowoffs. Blowoffs shall be located at all

low points of the pipeline, at all dead-ends or terminal points, and up-slope of valves. Minimum size of blowoffs shall be 6". Consult with District staff regarding required size.

12. Backflow Prevention Devices

In accordance with the District’s Cross Connection Control Program (Ordinance Number 2009-10-1), an approved backflow prevention device shall be selected and constructed immediately downstream of the potable water meter on all multi-family, commercial/retail, industrial, agriculture, and irrigation services. A backflow prevention device is not required on recycled water irrigation services except where fertilizer and/or chemical injection systems are used. For sites with multiple service connections, which include a recycled service connection for irrigation, a reduced pressure detector assembly is required for the site’s fire services, and a reduced pressure principle backflow prevention assembly is required for the site’s potable water services. All devices shall be FM, UL, and USC approved at the designed flow rate. In addition, an approved backflow prevention device is required on potable water services to properties with on-site wells, storage tanks, and/or booster pumps.

13. Water Services and Meters

Meter size/type will be determined by the District, based upon project-specific continuous and/or intermittent flows. General parameters for meter type determination are as follows:

Project Type	Service Type	Meter Type
One/Two Family Home-Domestic + Fire Sprinkler	Potable	Disc/Multi-Jet
Multi-Family (Apartment/Condo)- Domestic	Potable	Compound
Multi-Family (Apartment/Condo)- Fire Service	Potable	Partially-metered DCDA or RPDA
Commercial/Retail- Domestic	Potable	Disc/Multi-Jet; Compound
Commercial/Retail- Fire Service	Potable	Partially-metered DCDA or RPDA
Industrial- Domestic	Potable	Disc/Multi-Jet; Compound
Industrial- Process	Potable or Recycled	Compound; Turbine
Industrial- Fire Service	Potable	Partially-metered DCDA or RPDA
Irrigation	Potable or Recycled	Disc/Multi-Jet; Turbine
Agriculture	Potable or Recycled	Disc/Multi-Jet; Turbine

- One/two family homes without any accessory dwelling units (i.e. granny flats) shall have a minimum 1-inch lateral with a ¾-inch meter; however, one/two family homes with interior (residential) fire sprinklers may require a 1-inch meter depending upon flow/pressure requirements and jurisdictional agency requirements.
- Other Domestic Demands: lateral and/or meter sizes shall be determined by calculating the anticipated demands for the project from the proposed fixture units and the associated demand loads using Table A-2 and Chart A-2 in the Uniform Plumbing Code (latest version). For projects with more than 3,000 fixture units, Hunter’s Curve shall be used for estimating demand loads. The appropriate meter size shall be selected using the “Maximum Intermittent Capacity” column of the above-mentioned table.
- Landscape Irrigation Demands: lateral and/or meter sizes shall be calculated by the irrigation demands associated with the zone(s) that produce the highest flow rate. For meters with combined domestic and landscape demands, each component shall be added together and size shall be determined based on the “Maximum Intermittent Capacity” column.

- All residential (other than one/two family homes) and commercial projects requiring new water service with 5,000 square feet (or more) of landscaped area shall have a separate meter for irrigation, in conformance with California State Water Code section 535. The size of dedicated landscape meters, or projects containing process water, shall be selected from the “Maximum Continuous Capacity” column.
- Developments with private on-site water systems shall have dedicated services/piping for domestic demands (fully-metered) and separate services/piping for fire demands (partially-metered) to avoid oversizing meters to meet fire flow conditions (meters that are excessively large result in inaccurate meter reads, excessive capacity fees, and high monthly standby fees). The only exception shall be for projects that can demonstrate fire demands will be approximately the same as continuous or intermittent domestic demands for the project (this is a rare situation and requires special District consideration).

Lateral Size	Meter Size/Type	Maximum Continuous¹ Capacity (GPM)	Maximum Intermittent² Capacity (GPM)
1”	¾” Disc/Multi-Jet	25	35
1”	1” Disc/Multi-Jet	50	70
2”	1 ½” Disc/Multi Jet	80	100
2”	2” Disc/Multi Jet	100	160
2”	2” Turbine	200	310
2”	2” Compound	160	200
4”	3” Compound	400	500
4”	3” Turbine	450	550
4”	4” Turbine	1,000	1,250
4”	4” Compound	800	1,000
6”	6” Turbine	2,000	2,500
6”	6” Compound	1,600	2,000
8”	8” Turbine	3,500	4,500
8”	8” Compound	2,700	3,400

1. “Continuous Flow” refers to the flow that results from irrigation or domestic use that lasts for long durations (usually five to fifteen minutes or more) and occurs frequently or daily. It is the upper limit of continuous flow through a water meter that will impact the accuracy of or damage the internal workings of a water meter.

2. “Intermittent Flow” refers to the flow that results from numerous fixture units or fire flows and incorporates a probability that all fixtures will not be in use at the same time and that the flow is of short duration, usually a few minutes. Intermittent flow is typically infrequent, often occurring once a year or less. It is the upper limit of intermittent flow through a water meter that will impact the accuracy of or damage the internal workings of a water meter.

All water services that have a static pressure of 150 psi or greater shall have a pressure regulator installed prior to the meter, which will require the installation of a larger meter box.

Water services and meters shall be constructed in accordance with District standards, constructed at right angles to the water main. No service laterals shall be installed between end-of-line appurtenances (fire hydrants, blowoffs, or air valves) and pipeline terminus point.

14. Minimum Design Pressure

Minimum design pressure shall be the maximum static pressure times 125%, with the total rounded up to the nearest 25 psi, or as directed by District.

Minimum design pressure shall not be less than 150 psi.

PVC pipe shall be:

DR-18 for pressures up to 150 psi

DR-14 for pressures up to 200 psi

Steel pipe shall be used for pressures greater than 200 psi. Cylinder thickness shall be determined based on the District's specifications for steel pipe located in Division 3 of the Technical Provisions.

Special consideration to deviate from this provision may be granted at the District's discretion, if supported by site-specific calculations.

15. Thrust Restraint

Thrust restraint shall be through the use of restrained joints for PVC and ductile iron pipe, and welded joints for steel pipe. Restrained lengths shall be calculated, as shown in AWWA M-23. Thrust blocks are no longer accepted by the District for thrust restraint, except for rare circumstances and with District approval.

16. Control Valves, Pressure Relief Valves, and Other Special Valves

Control valves, pressure relief valves, and other special valves shall be designed and located as directed by District staff.

17. Easement Criteria

Pipelines not located within public right-of-way must be located in easements granted to the District on the District's Grant of Easement form. Easements shall be a minimum of 30 feet in width unless otherwise approved by the District. Easements for other utilities may overlap District easement only if proper separations are maintained. Details for grant of easement documents are included in Section IV, Construction Drawing Preparation.

C. WATER CONSTRUCTION DRAWING DESIGN CRITERIA (RECYCLED WATER SYSTEMS)

Recycled water construction drawing design criteria shall be the same as potable water systems, except with the following revisions:

1. Pipeline Location

Unless otherwise approved by the District, all recycled water pipelines shall be located on the north or east side of the street, seven feet off curb face or berm, and shall have required horizontal and vertical separation, in accordance with Title 22, §64572.

2. Minimum Pipe Cover

The minimum cover over the recycled water pipeline shall be 48 inches from finished road grade. If a recycled water pipeline has a horizontal separation of less than 10 feet from a potable water pipeline, its vertical profile (depth) must be one-foot below the potable water pipeline.

3. Pipe Materials/Pipe Identification

PVC pipe shall be magenta (purple) in color. CML&C steel or ductile iron pipe shall be placed in a magenta (purple)-colored plastic sleeve.

4. Fire Hydrants/Blowoffs

Fire hydrants will not be allowed. Underground blowoffs shall be installed at all low points, at all dead-ends or terminal points, up-slope of valves, and no further than 1,000 feet separation. Recycled water blowoffs shall be per RCWD's Standard Drawing RW-4.