APPENDIX F2
WQMP

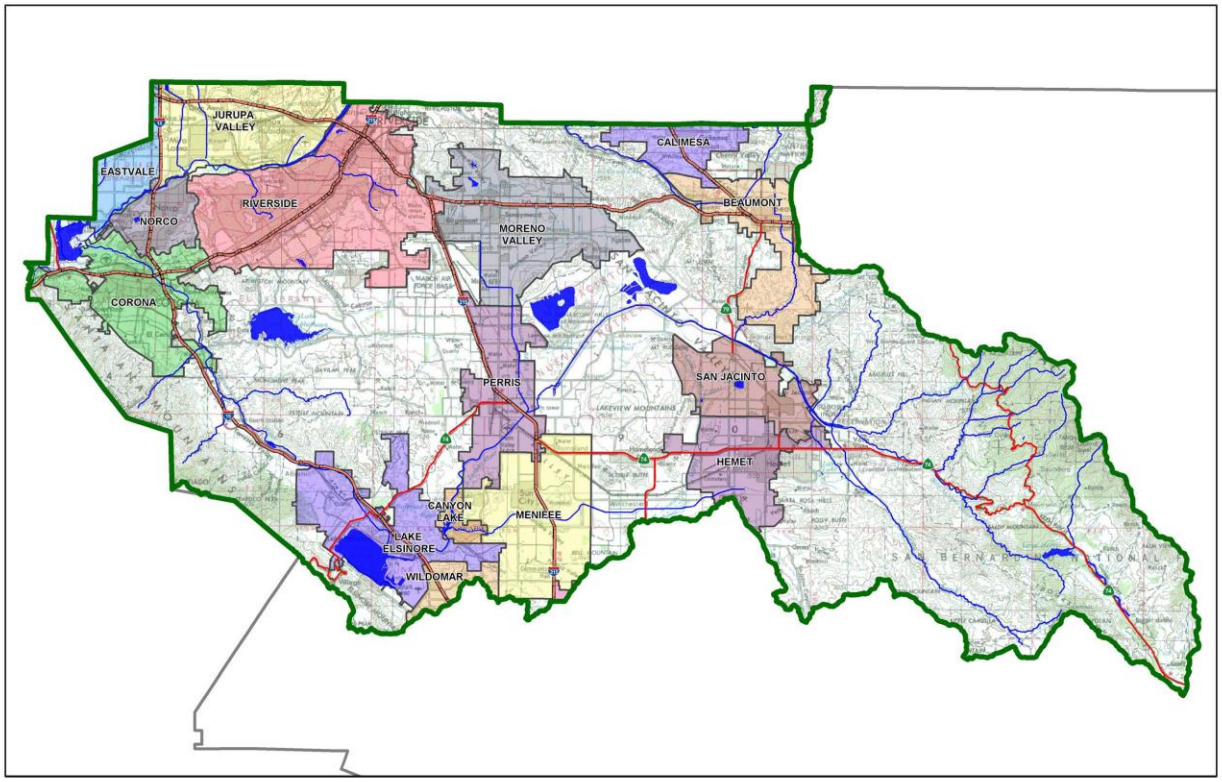
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Coronado Condos

Development No: TTM 38577

Design Review/Case No: WQ-0307



☒ **Preliminary**
☐ **Final**

Original Date Prepared: June 15, 2022

Revision Date(s): May 2, 2023

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**
Template revised June 30, 2016

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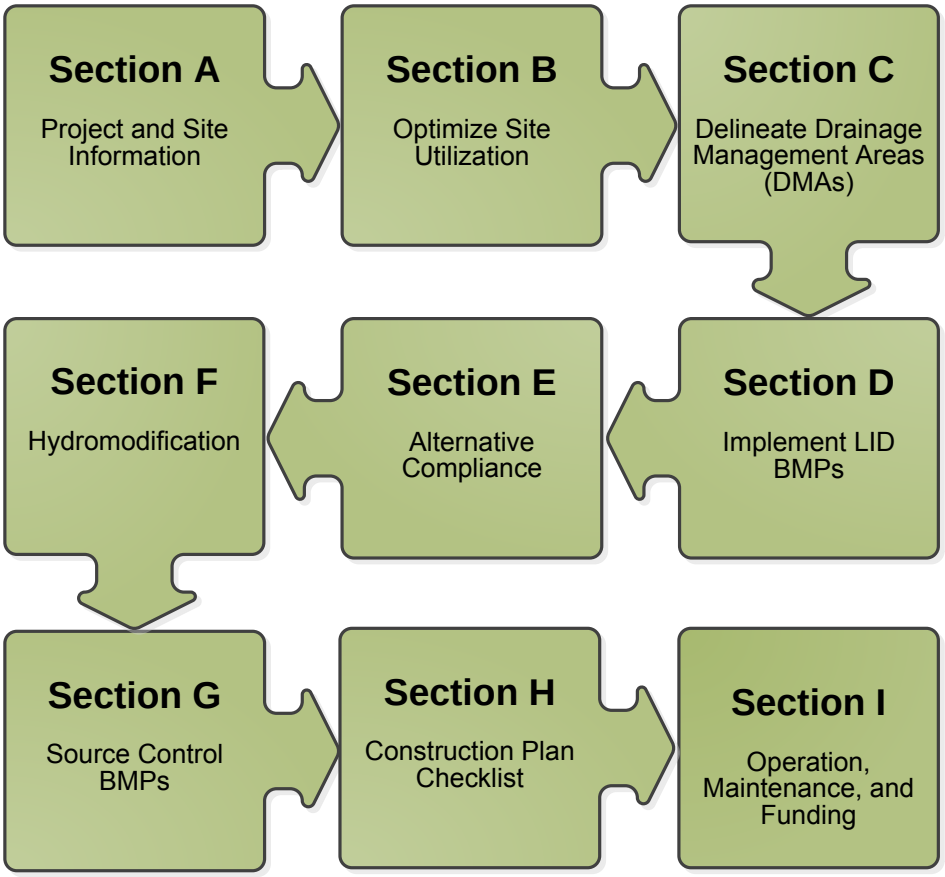
A Brief Introduction

This Project-Specific WQMP Template for the **Santa Ana Region** has been prepared to help guide you in documenting compliance for your project. Because this document has been designed to specifically document compliance, you will need to utilize the WQMP Guidance Document as your "how-to" manual to help guide you through this process. Both the Template and Guidance Document go hand-in-hand, and will help facilitate a well prepared Project-Specific WQMP. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Floit Properties by FMCivil Engineers Inc for the Coronado Condos project.

This WQMP is intended to comply with the requirements of City of Menifee, Municipal Code Section 15.01.015 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under City of Menifee Water Quality Ordinance (Municipal Code Section 15.01.015).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	May 2, 2023 Date
Francisco Martinez, Jr. Preparer's Printed Name	Principal Preparer's Title/Position

Preparer's Licensure:

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Section A: Project and Site Information

PROJECT INFORMATION	
Type of Project:	Residential
Planning Area:	N/A
Community Name:	Coronado Condos
Development Name:	TTM 38577

PROJECT LOCATION

Latitude & Longitude (DMS): 33°43'26.67", -117°12'34.05"

Project Watershed and Sub-Watershed: Santa Ana Watershed and San Jacinto Subwatershed

Gross Acres: 9.66

APN(s): 335-440-001, 335-440-002

TTM 38577

Map Book and Page No.: Assessor's Map Book 335, Page 44

PROJECT CHARACTERISTICS		
Proposed or Potential Land Use(s)	Residential	
Proposed or Potential SIC Code(s)	N/A	
Area of Impervious Project Footprint (SF)	269,854	
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	269,854	
Does the project consist of offsite road improvements?	☐ Y	☒ N
Does the project propose to construct unpaved roads?	☐ Y	☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y	☒ N
EXISTING SITE CHARACTERISTICS		
Total area of existing Impervious Surfaces within the Project limits Footprint (SF)	0 SF	
Is the project located within any MSHCP Criteria Cell?	☐ Y	☒ N
If so, identify the Cell number:	N/A	
Are there any natural hydrologic features on the project site?	☐ Y	☒ N
Is a Geotechnical Report attached?	☒ Y	☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	B, C	
What is the Water Quality Design Storm Depth for the project?	0.60 in	

SITE NARRATIVE

The project site is currently vacant and proposes 73 housing units along with a park area two open space lots, and improvements to Thornton Avenue to the north and Esther Lane to the south. The property is comprised of 4 drainage areas. DA1 is the largest and will be treated via underground chambers in the proposed park, with a Contech CDS unit for pretreatment. DA2 is comprised of an open space lot with an infiltration basin which will treat itself and DA3, whose DCV is generated by the improvements to Esther Lane. DA4 is comprised of the half width improvements to Thornton Avenue, but this area will not be quantified or treated as significant comingling occurs due to flows from the developed site to the west.

Flows will be directed to the infiltration BMPs via a low flow storm drain system. Flows exceeding the flow rate of the 2 year 24 hour storm will be bypassed and discharged directly into the proposed 60" storm drain.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling
- BMP Locations (Lat/Long)

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Salt Creek Channel	None listed	REC1, REC2, WARM, WILD	Not a RARE designated receiving water
Canyon Lake	Nutrients, Pathogens	MUN, AGR, GWR, REC1, REC2, COMM, WARM, WILD	Not a RARE designated receiving water
San Jacinto River, Reach 1	None listed	MUN, AGR, GWR, REC1, REC2, WARM, WILD, RARE	±7.8 miles downstream from site
Lake Elsinore	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs (Polychlorinated Biphenyls), Sediment Toxicity	REC1, REC2, COMM, WARM, WILD, RARE	±12.4 miles downstream from site

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*	☐ Y	☐ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Consideration of "highest and best use" of the discharge should also be considered. For example, Lake Elsinore is evaporating faster than runoff from natural precipitation can recharge it. Requiring infiltration of 85% of runoff events for projects tributary to Lake Elsinore would only exacerbate current water quality problems associated with Pollutant concentration due to lake water evaporation. In cases where rainfall events have low potential to recharge Lake Elsinore (i.e. no hydraulic connection between groundwater to Lake Elsinore, or other factors), requiring infiltration of Urban Runoff from projects is counterproductive to the overall watershed goals. Project proponents, in these cases, would be allowed to discharge Urban Runoff, provided they used equally effective filtration-based BMPs.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Existing drainage patterns will be preserved. Onsite flows consist of flows from a headwall discharging from Tract 22483 and sheet flows originating from the site itself. These flows travel southeast toward Murrieta Road into a modified CB110 per Tract 30507. The proposed storm drain improvements will take these flows underground and connect to the existing storm drain downstream of the CB110 (Line C per RCFCDC Dwg. No. 4-842), which itself discharges to Sun City Channel (Line GG 4-252), and eventually to Canyon Lake via the Salt Creek Channel.

Did you identify and protect existing vegetation? If so, how? If not, why?

Project site consists mostly of seasonal grasses. This will not be preserved. However, the project proposes a park in the center of the site that will be landscaped.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

Natural infiltration capacity will be preserved by directed the DCV to either an onsite underground infiltration system or an above ground infiltration basin.

Did you identify and minimize impervious area? If so, how? If not, why?

Project minimized impervious areas by implementing an infiltration basin, and by including an open space park area.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Runoff was not dispersed. The entire DCV from DA 1-3 will be treated by the two proposed infiltration BMPs. DA4 flows will not be dispersed as they cannot be separated from the flows from the development to the west.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1][2]	Area (Sq. Ft.)	DMA Type
1A – Road	Asphalt or Concrete	43,824.31	D
1B – Concrete	Asphalt or Concrete	69301.94	D
1C – Landscaping	Asphalt or Concrete	142,107.30	D
1D – Homes (Roof and Hardscape)	Roofs and Concrete	114,600.36	D
2A – Basin Bench	Landscaping	820.20	D
2B – Basin Slopes	Landscaping (Pervious Sloped Area)	1403.12	D
2C – Basin Bottom	Natural (B Soil)	952.82	A
3A – Road	Concrete or Asphalt	14,191.19	D
3B – Concrete	Concrete or Asphalt	6,545.86	D
3C – Street Landscaping	Landscaping	2,913.62	D

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*
[2]*If multi-surface provide back-up*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
2C	952.82	Native Grasses	Sub-surface Drip Tubing

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					**Receiving Self-Retaining DMA**		
DMA Name/ ID	Area (square feet)	Post-project surface type	Impervious fraction	Product		Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]	DMA name /ID	[D]	[C]/[D]

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
DMA 1A-1D	Underground Chamber 1
DMA 2A	Infiltration Basin 1 (DMA 2C)
DMA 2B	Infiltration Basin 1 (DMA 2C)
DMA 3A-3C	Infiltration Basin 1 (DMA 2C)

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site; proceed to section D.3

If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?		X
If Yes, list affected DMAs:		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☒The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If none of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: Insert Area (Acres)

Type of Landscaping (Conservation Design or Active Turf): List Landscaping Type

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: Insert Area (Acres)

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: EIATIA Factor

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: Insert Area (Acres)

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
Insert Area (Acres)	Insert Area (Acres)

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: Number of daily Toilet Users

Project Type: Enter 'Residential', 'Commercial', 'Industrial' or 'Schools'

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: Insert Area (Acres)

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-2 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: TUTIA Factor

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: Required number of toilet users

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	**Projected number of toilet users (Step 1)**
Insert Area (Acres)	Insert Area (Acres)

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

Insert narrative description here.

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: Projected Average Daily Use (gpd)

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: Insert Area (Acres)

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-4 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-4: Enter Value

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: Minimum use required (gpd)

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the projected average daily use (Step 1) to the minimum required non-potable use (Step 4).

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
Minimum use required (gpd)	Projected Average Daily Use (gpd)

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment per Section 3.4.2 of the WQMP Guidance Document.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☐ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
DA1	☒	☐	☒	☐	☐
DA2/3	☒	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using a method approved by the Copermittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DA 1/Underground Chamber 1*		
	[A]		[B]	[C]	[A] x [C]			
1A - Road	*43824.31*	*Concrete or Asphalt*	*1*	*0.89*	*39,091.3*	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1B - Concrete	*69301.942*	*Concrete or Asphalt*	*1*	*0.89*	*61,817.3*			
1C-LS	*142107.3*	*Ornamental Landscaping*	*0.1*	*0.11*	*15,696.9*			
1D - Homes (Roof & Hardscape)	*114600.362*	*Roofs*	*1*	*0.89*	*114,600.4*			
	369,732.72				218,829	0.60	10,941.5	***15,206***

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DA 2 & DA 3/Infiltration Basin 1*		
	[A]		[B]	[C]	[A] x [C]			
2A – Basin Bench	*820.2*	Ornamental Landscaping	*0.1*	0.11	90.6	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
2B – Basin Slope	*1403.12*	Ornamental Landscaping	*0.1*	0.11	155.0			
2C – Basin Bottom	*952.82*	Natural (B Soil)	*0.15*	0.11	134.8			
3A – Street Asphalt	14191.19	Concrete or Asphalt	*1*	0.89	12,658.5			
3B – Street Concrete	6545.86	Concrete or Asphalt	*1*	0.89	5,838.9			
3C – Street Landscaping	*2913.62*	Ornamental Landscaping	*0.1*	0.11	321.8			
	26,826.81				19,199.6	0.60	959.5	***1,012***

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

E.1 Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project's receiving waters and their associated EPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table E.1 below. If the identified General Pollutant Categories are the same as those listed for your receiving waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

Table E.1 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
☒ Detached Residential Development	P	N	P	P	N	P	P	P
☐ Attached Residential Development	P	N	P	P	N	P	P	P(2)
☐ Commercial/Industrial Development	P(3)	P	P(1)	P(1)	P(5)	P(1)	P	P
☐ Automotive Repair Shops	N	P	N	N	P(4, 5)	N	P	P
☐ Restaurants (>5,000 ft^2)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft^2)	P	N	P	P	N	P	P	P
☐ Parking Lots (>5,000 ft^2)	P(6)	P	P(1)	P(1)	P(4)	P(1)	P	P
☐ Retail Gasoline Outlets	N	P	N	N	P	N	P	P
Project Priority Pollutant(s) of Concern	☒	☐	☒	☒	☐	☒	☒	☒

P = Potential

N = Not Potential

(1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

(3) A potential Pollutant is land use involving animal waste

(4) Specifically petroleum hydrocarbons

(5) Specifically solvents

(6) Bacterial indicators are routinely detected in pavement runoff

E.2 Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement smart growth principles are potentially eligible for Stormwater Credits. Utilize Table 3-8 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table E.2 Water Quality Credits

Qualifying Project Categories	Credit Percentage[2]
Total Credit Percentage[1]	N/A

[1]*Cannot Exceed 50%*
[2]*Obtain corresponding data from Table 3-8 in the WQMP Guidance Document*

E.3 Sizing Criteria

After you appropriately considered Stormwater Credits for your project, utilize Table E.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.2 of the WQMP Guidance Document for further information.

Table not completed as project is not eligible for Stormwater Credits

Table E.3 Treatment Control BMP Sizing

DMA Type/ID	**DMA Area (square feet)**	**Post-Project Surface Type**	**Effective Impervious Fraction, I_f**	**DMA Runoff Factor**	**DMA Area x Runoff Factor**		***Enter BMP Name / Identifier Here***		
	[A]		[B]	[C]	[A] x [C]				
						Design Storm Depth (in)	*Minimum Design Capture Volume or Design Flow Rate (cubic feet or cfs)*	*Total Storm Water Credit % Reduction*	*Proposed Volume or Flow on Plans (cubic feet or cfs)*
	A_T = Σ[A]				Σ= [D]	[E]	$[F] = \frac{[D]x[E]}{[G]}$	[F] X (1-[H])	[I]

[B], [C] is obtained as described in Section 2.3.1 from the WQMP Guidance Document
[E] is for Flow-Based Treatment Control BMPs [E] = .2, for Volume-Based Control Treatment BMPs, [E] obtained from Exhibit A in the WQMP Guidance Document
[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12
[H] is from the Total Credit Percentage as Calculated from Table E.2 above
[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

E.4 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

- **High**: equal to or greater than 80% removal efficiency
- **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table E.4 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]
Contech CDS for Pretreatment	Hydrocarbons, Sediment	80%

[1] Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.
[2] Cross Reference Table E.1 above to populate this column.
[3] As documented in a Co-Permittee Approved Study and provided in Appendix 6.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, HCOC criteria do not apply.

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	N/A	N/A	N/A
Volume (Cubic Feet)	N/A	N/A	N/A

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Susceptibility Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

Project is HCOC Exempt as project site is within a non-applicable area per HCOC Applicability MAP KMZ file provided on rcwatershed.org. An exhibit showing the site within the non-applicable area is included in Appendix 7.

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
On-site Storm Drain Inlets	Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	-Maintain and periodically repaint or replace inlet markings -Provide stormwater pollution prevention to new site owners, tenants, or operators. -See applicable optional BMPs in fact sheet SC-44, "Drainage System Maintenance," in the Casqa Storm Quality Handbook. (Can be found in Appendix 10)

Landscape/Outdoor Pesticide Use	State that final landscape plans will accomplish all the following: -Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. -Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. -Where landscaped areas are used to retain or detain stormwater, specify plans that are tolerant to saturated soil conditions. -Consider using pest-resistant plants, especially adjacent to hardscape. To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	-Maintain landscaping using minimum or no pesticides -See applicable operational BMPs in the Outreach Materials Library at https://rcwatershed.org/about/links-and-resources/outreach-materials-library/ -See applicable operational BMPs relating to residential gardening and landscaping at https://rcwatershed.org/residents/at-home/gardening/
Pools, spas, ponds, decorative fountains, and other water features	If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at https://rcwatershed.org/wp-content/uploads/2020/09/Pool-and-Fountain-Maintenance-Guide.pdf
Roofing, gutters, and trim	Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table to completed during final WQMP

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	BMP Location (Lat/Long)

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: The proposed Contech underground infiltration chambers and Contech CDS unit will be maintained by the owner following the manufacturers recommendations. Infiltration basin maintenance will include the items listed in Riverside County's LID BMP Design Handbook for infiltration basins.

Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

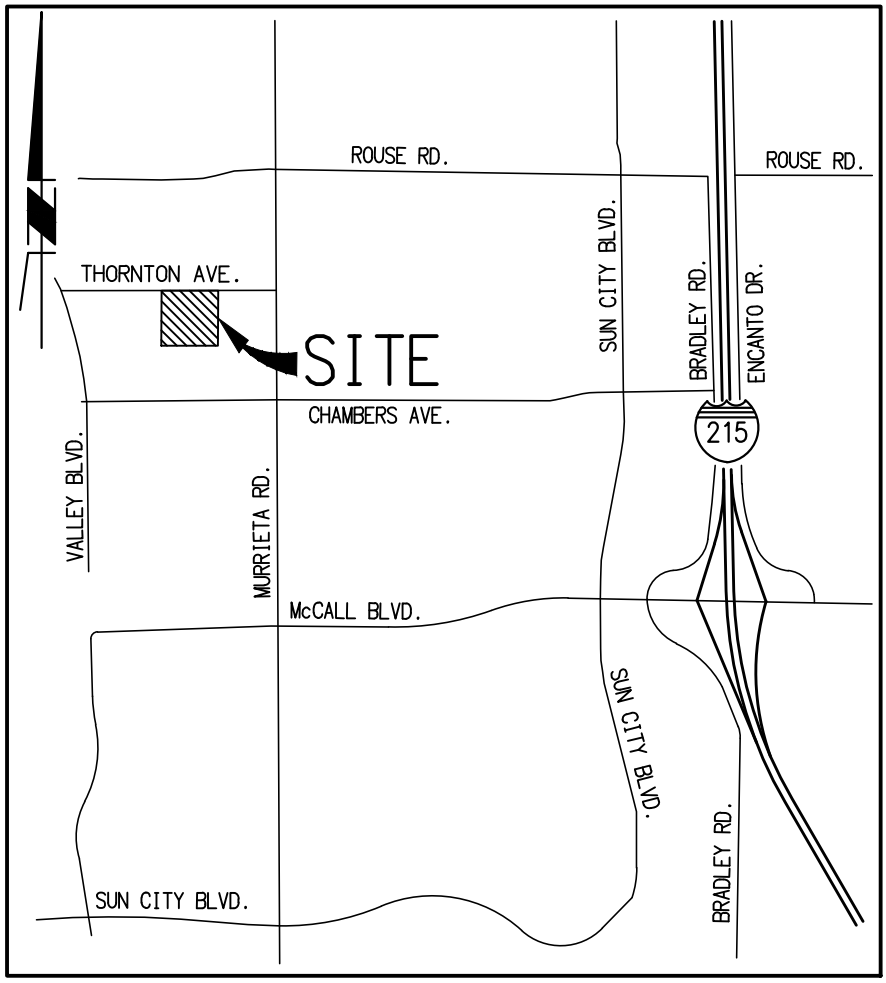
☒ Y ☐ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

This section will be completed during the Final WQMP Submittal

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map



VICINITY MAP

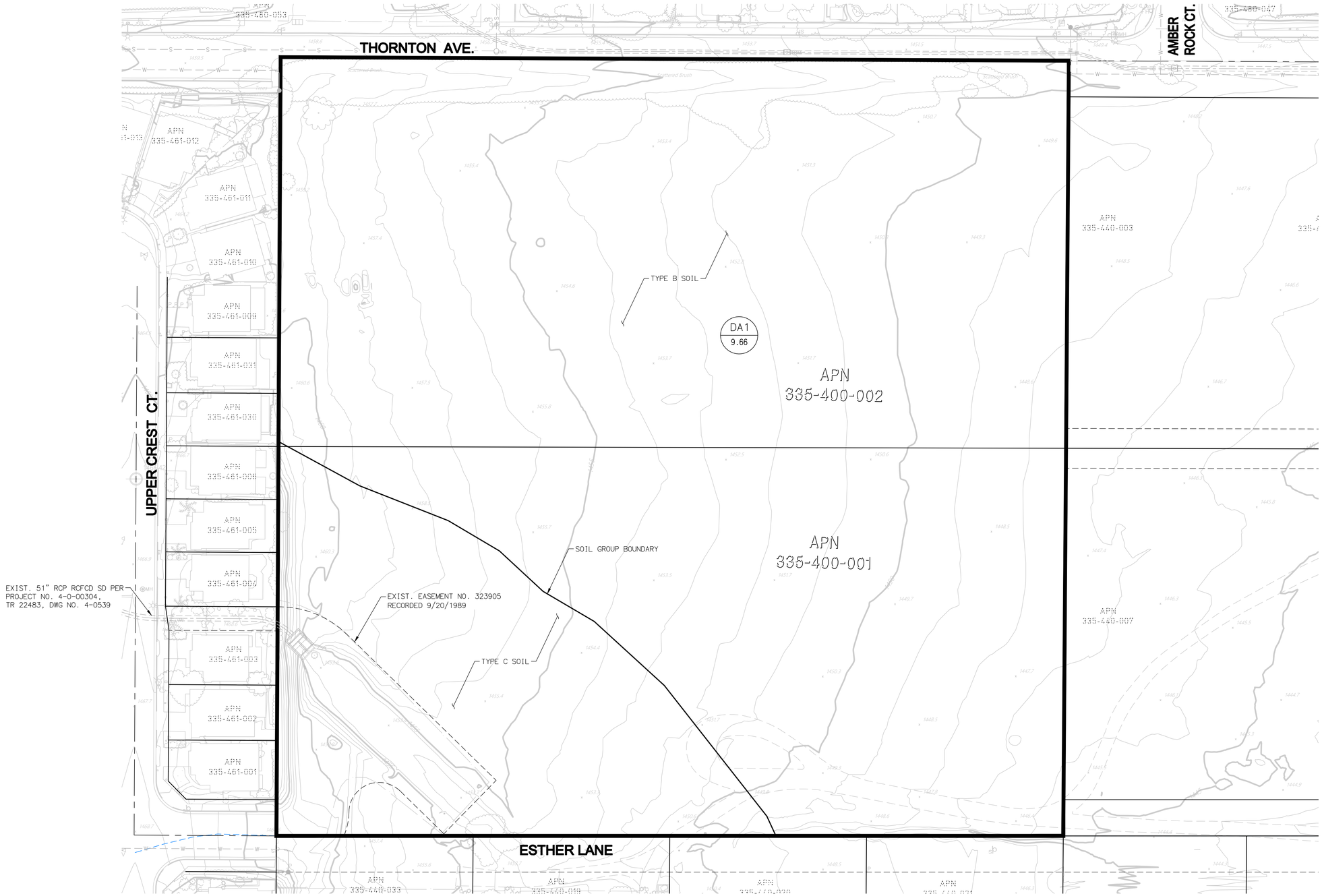
NOT TO SCALE

FMCIVIL ENGINEERS INC.
29995 TECHNOLOGY DRIVE, SUITE 306 | MURRIETA | CA 92563
951.331.9873 - FMCIVIL.COM

CORONADO AT MENIFEE

FIGURE 1
VICINITY MAP

H:\PDATA\22-003 QUINN MENIFEE 10\DOCS\HYDRO\1. PRELIMINARY\CAD\22-003-VICINITY-MAP.DWG DANIEL 4/6/2022 11:36 AM



LEGEND

DMA1 / 3.38 — DA AREA NUMBER / AREA IN ACRES

EXIST. PROPERTY LINE

SCALE 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

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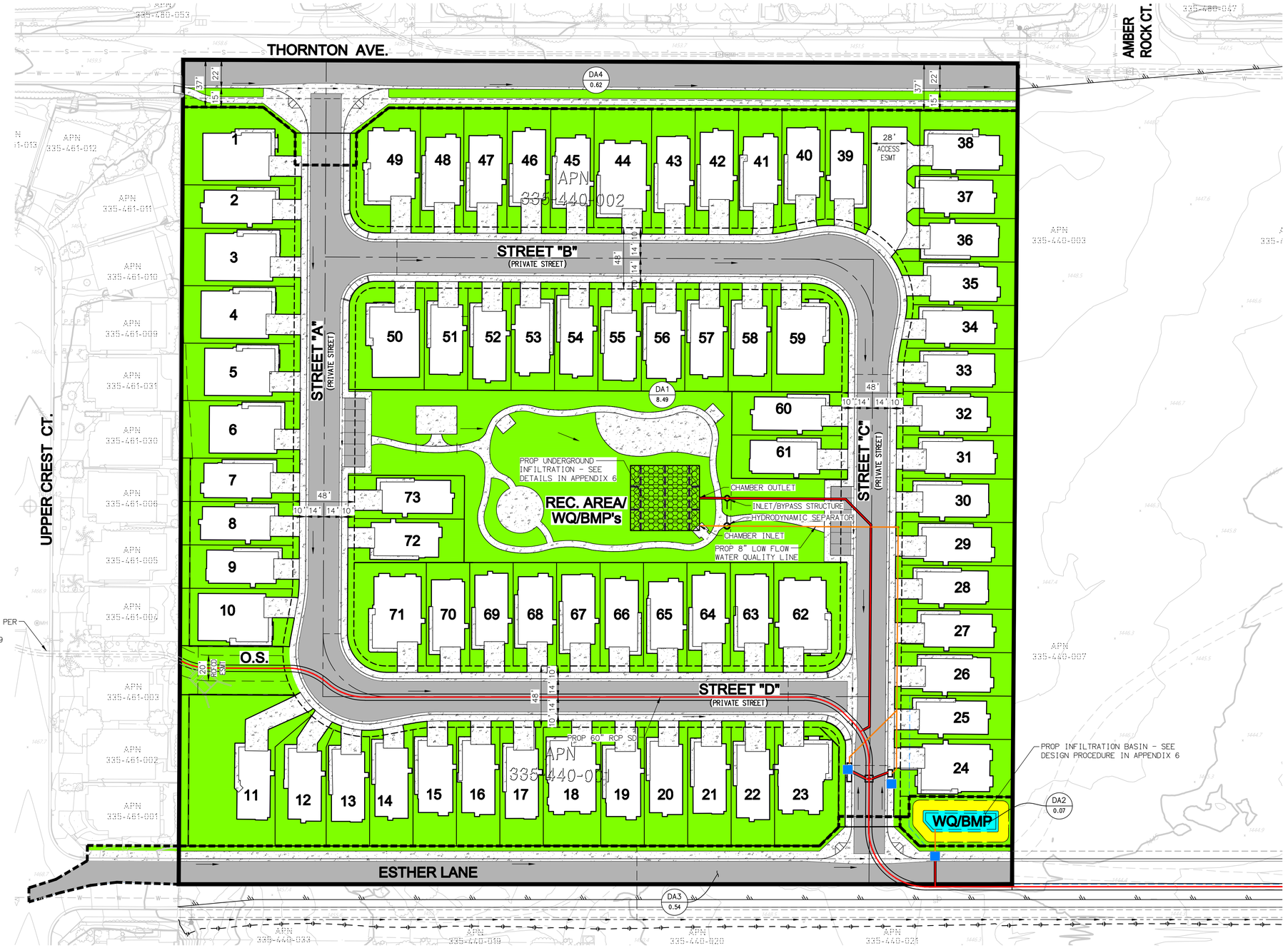
951.973.0201 - FMCIVIL.COM

CORONADO CONDOS MENIFEE

EXISTING WQMP SITE PLAN

1

OF 1 SHEETS



LEGEND

- DMA1 / 3.38 — DA AREA NUMBER / AREA IN ACRES
- LANDSCAPE - DA-1C, 2A & 3C
- LANDSCAPED, PERVIOUS SLOPED AREA - DA-2B
- ASPHALT - DA-1A, 3A
- TYPE B NATURAL SOIL - DA-2C
- CONCRETE - DA-1B, 3B
- HOMES (ROOF AND HARDSCAPE) - DA-1D
- UNDERGROUND INFILTRATION (SEE PLANS ATTACHED IN APPENDIX 6)
- DRAIN INLET STENCIL
- DMA BOUNDARY
- PROPOSED STORM DRAIN
- PROPOSED WATER QUALITY/LOW FLOW LINE
- EXIST. PROPERTY LINE
- DIRECTION OF FLOW

SCALE 1"=40'

40 20 0 40 80 120

SCALE: 1"=40'

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CORONADO CONDOS MENIFEE

WQMP SITE PLAN

1 OF 1 SHEETS

Appendix 2: Construction Plans

Grading and Drainage Plans

TENTATIVE TRACT MAP NO. 38577
(FOR CONDOMINIUM PURPOSES)
CONCEPTUAL GRADING
IN THE CITY OF MENIFEE, CALIFORNIA

LEGEND

- 1025 — INDEX CONTOUR
- RETAINING WALL
- FENCE
- EDGE OF PAVEMENT
- SIGN
- MH — MANHOLE
- RIGHT OF WAY (R/W)
- EASEMENT
- PARCEL LINE
- PARCEL MAP BOUNDARY
- STREET CENTER LINE
- RETAINING WALL
- EXISTING LOT LINE
- PROPOSED EDGE OF PAVEMENT
- W — EXISTING WATER LINE
- SS — EXISTING SEWER LINE
- SD — EXISTING STORM DRAIN PIPE
- SD — PROPOSED STORM DRAIN PIPE
- CUT/FILL LINE
- SLOPE SYMBOL
- 49 — RESIDENTIAL DWELLING UNIT NUMBER

UTILITIES

WATER: EASTERN MUNICIPAL WATER DISTRICT

SEWER: EASTERN MUNICIPAL WATER DISTRICT

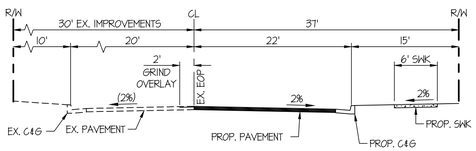
GAS: SOUTHERN CALIFORNIA GAS CO.

ELECTRICAL: SOUTHERN CALIFORNIA EDISON

EARTHWORK QUANTITIES

DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
RAW	13,800	12,200	1,600 (EXPORT)

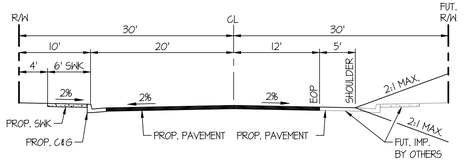
NOTE: THESE EARTHWORK QUANTITIES ARE RAW AND FOR REFERENCE ONLY.



*TYPICAL SECTION PER CITY OF MENIFEE STD. NO. 113

TYPICAL SECTION THORNTON AVENUE

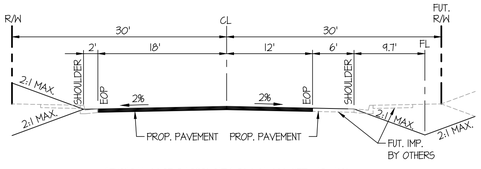
*COLLECTOR STREET
HOR. SCALE: 1"=10'



*TYPICAL SECTION PER CITY OF MENIFEE STD. NO. 115B

TYPICAL SECTION ESTHER LANE

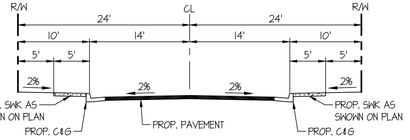
*GENERAL LOCAL STREET
HOR. SCALE: 1"=10'



*TYPICAL SECTION PER CITY OF MENIFEE STD. NO. 115B

TYPICAL SECTION ESTHER LANE (OFFSITE)

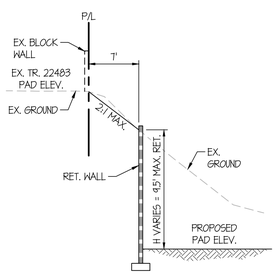
*GENERAL LOCAL STREET
HOR. SCALE: 1"=10'



*TYPICAL SECTION PER CITY OF MENIFEE STD. NO. 124

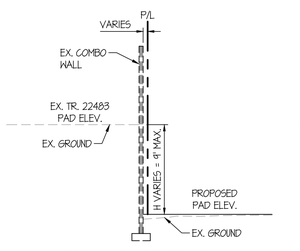
TYPICAL SECTION STREETS A, B, C, & D

*PRIVATE RESIDENTIAL STREET
HOR. SCALE: 1"=10'



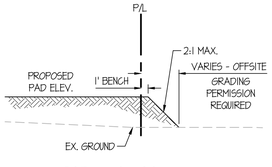
SECTION A-A

N.T.S.



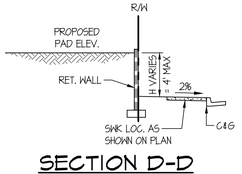
SECTION B-B

N.T.S.



SECTION C-C

N.T.S.



SECTION D-D

N.T.S.

SCALE: 1"=50'

SCALE: 1"=50'

SUN CITY - THORNTON AVE. DETENTION BASIN
LAND USE: OS-R

LAND USE: LDR-2

MB 359/11-16 TR. NO. 28504-1
LAND USE: LDR-2

THORNTON AVENUE

AMBER ROCK CT.

MURRIETA ROAD

FAMILY CIR.

STREET "A" (PRIVATE)

STREET "B" (PRIVATE)

STREET "C" (PRIVATE)

STREET "D" (PRIVATE)

ESTHER LANE

UPPER CREST COURT

O.S. & WQ/BMP's

WQ / BMP

UNDERGROUND STORM WATER CHAMBER SYSTEM

EX. SD OUTLET STRUCTURE TO BE REMOVED

2:1 SLOPE OFFSITE GRADING PERMISSION REQUIRED

EX EASEMENT NO. 323905 REC. 4-20-84 TO VACATED WITH SD DESIGN

EX 8"WTR

EX. SINK

EX. RET WALL

EX. C&G

EX 10"SWR

EX 12"WTR

EX 36"SD

EX 30"SD

PROP. R/W

PROP. EOP 10:1 TAPER

PROP. C&G

PROP. SWR

PROP. WTR

PROP. SWK

PROP. LOW FLOW

P.J.U.E. (TYP.)

PROP. 60"SD

FUT. IMPROVEMENTS (BY OTHERS)

FUT. C&G (BY OTHERS)

P.M. 147/7 PARCEL MAP 18923
LAND USE: CR

P.M. 148/23-24 PARCEL MAP 22726
LAND USE: CR

LAND USE: CR

MB 207/44-49 TR. NO. 22483
LAND USE: LMDR

P.M. 28/1-2 PARCEL MAP 7529
LAND USE: LMDR

P.M. 62/15 PARCEL MAP 12575
LAND USE: LMDR

NO.	DATE	REVISION

REGISTERED PROFESSIONAL ENGINEER — FRANCISCO MARTINEZ JR. — C-84640 — CIVIL — STATE OF CALIFORNIA

PREPARED BY:
FMCIVIL ENGINEERS INC.
24985 TECHNOLOGY DRIVE, SUITE 306 | MURRIETA | CA 92563
951.331.4013 - FMCIVIL.COM
FRANCISCO MARTINEZ JR. — DATE: R.C.E. #84640

CITY OF MENIFEE
SITE PLAN, CONCEPTUAL GRADING & CONCEPTUAL UTILITY PLAN FOR FLOIT PROPERTIES / QUINN COMMUNITIES

DATE: 2/6/23

2 OF 2 SHEETS

PROJECT NO. 22-003

H:\PDATA\22-003 QUINN MENIFEE\DWGS\PLNG\ENTITLEMENT\TTM22-003-TTM_SP-002_REV.DWG DANNY 4/21/2023 11:30 AM

Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

GEOTECHNICAL INVESTIGATION

CORONADO RESIDENTIAL
THORNTON AVENUE
MENIFEE, CALIFORNIA

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

QUINN COMMUNITIES
ENCINITAS, CALIFORNIA

MAY 13, 2022
PROJECT NO. T2974-22-01

Project No. T2974-22-01
May 13, 2022

Quinn Communities
364 2nd Street, Suite 5
Encinitas, California 92024

Attention: Mr. Stefan LaCasse

Subject: GEOTECHNICAL INVESTIGATION
CORONADO RESIDENTIAL
THORNTON AVENUE
MENIFEE, CALIFORNIA

Dear Mr. LaCasse:

In accordance with your authorization of Geocon Proposal IE-2962 dated March 9, 2022, Geocon West, Inc. (Geocon) herein submits the results of our due diligence geotechnical investigation for the proposed development. The accompanying report presents the results of our study and conclusions and recommendations pertaining to the geotechnical aspects of the proposed residential project. The site is considered suitable for development provided the recommendations of this report are followed.

Should you have questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

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GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of our geotechnical investigation for the proposed Coronado residential development planned for approximate 10-acres of undeveloped land (APNs 335-440-001 & -002) located south of Thornton Avenue, north of Esther Lane, between Family Circle and Amber Rock Drive in Menifee, California (see *Vicinity Map*, Figure 1). The purpose of the geotechnical investigation is to evaluate the surface and subsurface soil conditions and general site geology, and to identify geotechnical constraints that may affect development of the property.

The scope of our investigation included review of previous project reports, geologic mapping, subsurface exploration, percolation testing, laboratory testing, engineering analyses, and the preparation of this report. A summary of the information reviewed for this study is presented in the *List of References*.

The site was explored on April 19 and 20, 2022, using a Case 580 backhoe by excavating eight geotechnical test pits to depths between 8 and 18 feet below existing ground surface and six percolation test pits between 4 and 8 feet below existing ground. The approximate locations of the test pits and percolation tests are depicted on the *Geologic Map* (Figure 2). In-place moisture/density tests were taken within the test pits using a Troxler moisture density gauge per ASTM D6839, the test results are included on the test pit logs in Appendix A. A detailed discussion of the field investigation, including test pit logs and nuclear gauge moisture density results is presented in *Appendix A*.

Laboratory tests were performed on selected soil samples obtained during the investigation to evaluate pertinent physical soil properties for the proposed residential development. *Appendix B* presents a summary of the laboratory test results.

Recommendations presented herein are based on analyses of data obtained from our site investigation and our understanding of proposed site development. References reviewed to prepare this report are provided in the *List of References*. If project details vary significantly from those described herein, Geocon should be contacted to evaluate the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The site will be developed to include 74 residences, two water quality management plan / best management practice areas, interior streets, improvements along the south side of Thornton Avenue, and improvement and paving of Esther Lane from the western project boundary to Murrieta Road. The site is bounded on the north by Thornton Avenue, the south by Esther Lane, the west by a single-family residential development and on the east by undeveloped land. The latitude and longitude of the site are 33.7241 degrees, -117.2094 degrees, respectively.

At the time of our investigation the site was covered with a light to moderate growth of grass and weeds. The property is undeveloped and has been periodically plowed in the past. Based on historic aerial images, the site has been undeveloped since at least 1967. A stream crossed the southwestern corner of the site where a storm water channel is currently located. A ditch is present along the northern property boundary within the western half of the site. At the time of our study, this ditch had standing water and dense growth of riparian vegetation. A large storm water basin is present north of Thornton Avenue across from the site, within Sun Ranch Community Park. Esther Lane is currently an unpaved dirt road. Thornton Avenue along the site is a paved roadway with one lane in each direction.

The square site is generally level; sloping slightly to the southeastern corner. Site elevations range from a high of 1,461 feet above mean sea level (MSL) in the west central area of the property to a low of 1,448 feet MSL in the southeastern area of the site. Drainage is by sheet flow to the southeast.

Grading plans were not available for our review at the time of this investigation. However, the *Site Plan Layout Study Scheme 1*, prepared by FM Civil on March 28, 2022, depicts 74 residential lots with interior streets, and entry/exit points on Thornton Avenue and Esther Lane. Based on current ground surface at the site and surrounding roadways, we expect finished site elevations will be within about 3 feet of existing grades

Structural plans and loading information were not available for our review at the time of this investigation. We expect the residential structures will be between one and three stories in height, supported by conventional spread footing foundations and slab-on-grade floors. We expect structural column loads will not exceed 200 kips and wall loads will not exceed 2 kips per linear foot.

The locations and descriptions provided herein are based on our site reconnaissance, field exploration, and project information provided by the client. If project details differ significantly from those described herein, Geocon should be contacted for review and possible revision to this report.

3. GEOLOGIC SETTING

The site is located between the Perris and Menifee valleys within an alluvial filled valley between granitic and metamorphic highlands of low to moderate relief. The property is located with the Perris block within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are bounded on the north by the Transverse Ranges and the Cucamonga/Sierra Madre faults, the east by the San Andreas Fault. The province extends offshore to the west and south to the tip of Baja California. The Peninsular Ranges are characterized by granitic highlands of low to moderate relief surrounded by alluvial plains and valleys. Locally, Menifee is located near the center of the Perris Block which is a stable bedrock block bounded by the Elsinore and San Jacinto faults and extends from Riverside to Murrieta. We encountered recent alluvium overlying very old alluvium within the site. No faults or landslides are geologically mapped within or near the site (Morton, 2003).

4. GEOLOGIC MATERIALS

4.1 General

The primary geologic units at the site consist of alluvium, and very old alluvium. Some undocumented artificial fill is present on site in the form of stockpiles, generated on site and also dumped on site from adjacent residences. Geologic unit classification follows that of Morton, 2003. The descriptions of the soil and geologic conditions are depicted on the *Geologic Map*, Figure 2, discussed on the test pit logs in detail, and generally described in order of increasing age below.

4.2 Undocumented Artificial Fill (afu)

Undocumented artificial fill was observed near the western area of the site. It appears some fill was generated on site by a localized excavation and by adjacent homeowners to the west. Fill may also be present in the vicinity of the storm water channel in the southwestern area of the property. The fill is brown, dry to moist and consists of silty sand. The end-dumped stockpile fill may contain lawn waste and trash.

4.3 Alluvium (Qa)

Alluvium was encountered at the surface across the site to depths of 6 to 8 feet. The alluvium encountered consists predominantly of silty sand. The alluvium can be characterized as loose to medium dense, dry to slightly moist, and yellowish to strong brown. Porosity was observed and decreased with depth.

4.4 Very Old Alluvium (Qvof)

Very old alluvium was encountered below the alluvium in all test pits to the maximum depth explored of 18 feet. The very old alluvium encountered consists predominantly of red brown silty sand which is dense, slightly moist, and contains calcite deposits. Clay development is also observed within the soil.

4.5 Groundwater

We did not encounter groundwater during our investigation to the maximum depth explored of 18 feet. According to the California Department of Water Resources, wells within a one-mile radius indicated a depth to groundwater between 50 and 75 feet below the existing ground surface. It is not uncommon for seepage conditions to develop where none previously existed. Groundwater and seepage are dependent on seasonal precipitation, irrigation, land use, among other factors, and varies as a result. Proper surface drainage will be important to future performance of the project.

5. GEOLOGIC HAZARDS

5.1 Surface Fault Rupture

The numerous faults in southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on data developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). An active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years) but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established State of California Fault Zone or a Riverside County Fault Hazard Zone. The closest active fault to the site is the Wildomar branch of the Elsinore fault zone located approximately ½ miles southwest. Faults within a 50-mile radius of the site are listed in Table 5.1.1. Historic earthquakes in southern California of magnitude 6.0 and greater, their magnitude, distance, and direction from the site are listed in Table 5.1.2.

TABLE 5.1.1
ACTIVE FAULTS WITHIN 50 MILES OF THE SITE

Fault Name	Maximum Magnitude (Mw)	Distance from Site (mi)	Direction from Site
Glen Ivy North	6.8	7	W
Wildomar	6.8	8	SW
Casa Loma	6.9	12	NE
Claremont	6.9	14	NE
San Jacinto Valley	6.9	16	N
Clark	7.2	19	E
San Gorgonio	7.0	23	NE
San Gorgonio Pass	7.0	23	NE
Chino	6.7	24	NW
Glen Helen	6.7	28	N
Whittier	6.8	30	NW
San Andreas South	7.5	37	NE
Cucamonga	6.9	37	N
Pinto Mountain	7.2	37	NE
Morongo	7.2	41	NE
Coyote Creek	6.8	42	SE
Newport-Inglewood	7.1	44	W
San Andreas North	7.5	44	NE
North Frontal	7.2	48	N

TABLE 5.1.2
HISTORIC EARTHQUAKE EVENTS WITH RESPECT TO THE SITE

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
Near Redlands	July 23, 1923	6.3	19	N
Long Beach	March 10, 1933	6.4	44	W
Tehachapi	July 21, 1952	7.5	135	NW
San Fernando	February 9, 1971	6.6	83	WNW
Whittier Narrows	October 1, 1987	5.9	55	WNW
Sierra Madre	June 28, 1991	5.8	59	NW
Landers	June 28, 1992	7.3	55	NE
Big Bear	June 28, 1992	6.4	40	NE
Northridge	January 17, 1994	6.7	83	WNW
Hector Mine	October 16, 1999	7.1	81	NE
Ridgecrest China Lake Fault	July 5, 2019	7.1	143	NNW

5.2 Liquefaction

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength due to pore pressure buildup under the cyclic shear stresses associated with earthquakes. Primary factors that trigger liquefaction are: moderate to strong ground shaking (seismic source), relatively clean, loose granular soils (primarily poorly-graded sands and silty sands), and saturated soil conditions (shallow groundwater).

Based on the lack of shallow groundwater and the presence of shallow relatively dense very old alluvium, liquefaction would not be a design consideration for the proposed development. Furthermore, the potential for seismic "dry-sand" settlement to occur is considered low and would not be a design consideration.

5.3 Expansive Soil

The on-site soils generally consist of silty sands. Laboratory testing result indicates a sample of the near surface soil exhibits a "very low" expansion potential (expansion index [EI] of 20 or less) with test results showing an Expansion Index of 0.

5.4 Hydrocompression

Hydrocompression is the tendency of unsaturated soil structure to collapse upon wetting resulting in the overall settlement of the affected soil and overlying foundations or improvements supported thereon. Potentially compressible soils underlying the site are typically removed and recompacted during remedial site grading. However, if compressible soil is left in-place, a potential for settlement due to hydrocompression of the soil exists.

Remedial grading recommendations provided herein should be implemented during grading operations to reduce the hydrocompression potential of surficial soils. Hydrocompression would therefore not be a design consideration for this site due to the planned remedial grading coupled with the presence of shallow relatively dense very old alluvium.

5.5 Landslides

We did not observe evidence of previous or incipient slope instability within or adjacent to the site. Further, no landslides have been geologically mapped on or adjacent to the site. Therefore, landslide hazard to the site is not a design consideration.

5.6 Rockfall

The property is not located adjacent to bedrock hills. Therefore, rockfall hazards are not a design consideration for this project.

5.7 Slope Stability

Based on the project information available for our review and existing site grades, we do not expect slopes to be planned for this development. However, if slopes are planned, we do not expect slopes higher than 3 feet to be graded at slope inclinations of 2:1 or flatter. These slopes are expected to have adequate factors of safety in excess of 1.5 under static conditions and 1.1 under pseudo-static conditions, if constructed of onsite soils. Once detailed grading plans are available, this report should be reviewed and the stability of individual slopes should be evaluated, if necessary.

5.8 Tsunamis and Seiches

A tsunami is a series of long period waves generated in the ocean by a sudden displacement of large volumes of water. Causes of tsunamis include underwater earthquakes, volcanic eruptions, or offshore slope failures. The first order driving force for locally generated tsunamis offshore southern California is expected to be tectonic deformation from large earthquakes (Legg et al., 2002). The site is located greater than 30 miles from the nearest coastline, with the Santa Ana Mountains lying between the site and the Pacific Ocean; therefore, the risk associated with tsunamis is not a design consideration.

A seiche is a run-up of water within a lake or embayment triggered by fault- or landslide-induced ground displacement. The site is not located downstream from Lake Perris or Canyon Lake. Therefore, a seiche hazard from this reservoir is not a design consideration.

6. SITE INFILTRATION

Percolation testing was performed in accordance with the procedures outlined in *Riverside County Flood Control and Water Conservation District LID BMP, Appendix A* for the proposed infiltration structures along the eastern area of the site. The percolation test locations are depicted on the *Geologic Map*, Figure 2.

Percolation test pits P-1 through P-6 were excavated to proposed basin bottom elevations as directed by FM Civil. One-foot excavations were performed at the bottom of each test pit to perform the percolation testing. Percolation data sheets are presented in *Appendix A* of this report. Results of the converted percolation test rates to infiltration test rates are presented in Table 6.

TABLE 6
INFILTRATION TEST RATES FOR PERCOLATION AREAS

Parameter	P-1	P-2	P-3	P-4	P-5	P-6
Depth (inches)	60	60	120	120	84	96
Test Type	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
Change in head over time: ΔH (inches)	5.4	3.8	3.4	5.5	9.6	7.4
Average head: Havg (inches)	9.3	10.1	10.3	9.2	19.2	20.3
Time Interval (minutes): Δt (minutes)	10	10	10	10	10	10
Radius of test hole: r (inches)	4	4	4	4	4	4
Tested Infiltration Rate: It (inches/hour)	5.7	3.8	3.3	5.9	5.4	4.0

The results of the infiltration testing indicate that infiltration at the locations tested ranged from 3.3 to 5.9 inches per hour.

The in-situ field percolation tests performed provide short-term infiltration rates, which apply mainly to the initiation of the infiltration process due to the short time of the test (hours instead of days) and the amount of water used. Where appropriate, the short-term infiltration rates shall be converted to long-term infiltration rates using reduction factors depending on the degree of infiltrate quality, maintenance access and frequency, site variability, subsurface stratigraphy variation, and other factors. The small-scale percolation testing cannot model the complexity of the effect of interbedded layers of different soil composition, and our test results should be considered only as index values of infiltration rates.

The infiltration feasibility per the *Water Quality Management Plan for the Santa Margarita Region of Riverside County* was evaluated for this site. Based on site typography and the lack of stream channels within or near the site, infiltration is not expected to negatively impact downstream water rights or other beneficial uses. The site is not located in an industrial area. Seasonal high ground water is expected to be more than 10 feet below the basin bottom elevations at the property. No water wells are known to be within 100 feet of the proposed infiltration basins. The site is likely not within a 2:1 (horizontal: vertical) projection of a septic leach line associated with the residence to the south or east. The soils in which the basins will be excavated are expected to have adequate physical and chemical properties for infiltration. The project civil engineer should review the infiltration rates and determine the storm water treatment structure most appropriate for this project.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 We opine that no soil or geologic conditions were encountered that would preclude the development of the property as proposed, provided the recommendations of this report are followed.

7.1.2 Based on our investigation and available geologic information, active or potentially active faults are not present on or trending toward the site.

7.1.3 The surficial alluvium is considered unsuitable for the support of compacted fill or settlement-sensitive improvements based on the conditions as described on the test pit logs and moisture/density gauge test results. Remedial grading in the form of removal and compaction of these deposits will be required.

7.1.4 The test pits were loosely backfilled with the trench spoils generated from our field investigation. During grading operations, the test pit locations should locally be over-excavated 1 foot deeper than the recorded test pit depth and the soil replaced with engineered fill.

7.1.5 Following remedial grading as described herein, the planned residential structures can be supported on conventional shallow foundations with a slab-on-grade floor system.

7.1.6 Proper surface drainage should be maintained to prevent ponding and saturation of the fill in pad and slope areas. Recommendations for site drainage are provided herein.

7.1.7 Changes in the proposed rough grading, as outlined in this report, should be reviewed by this office. Once grading plans become available, they should be reviewed by this office to determine the necessity for review and possible revision of this report.

7.1.8 Geocon should review the grading and structural plans, and provide supplemental geotechnical recommendations as necessary.

7.2 Excavation and Soil Characteristics

7.2.1 Excavation of the undocumented fill, alluvium and very old alluvium should be possible with moderate effort using conventional heavy-duty equipment in proper functioning order. Excavation of the very old alluvium may require very heavy effort using conventional heavy-duty equipment during the grading operations. The grading and improvement contractors should review this report and evaluate the proper equipment to use for the planned excavations.

7.2.2 Laboratory test results indicate site soils exhibit Expansion Index test results of 0. The site soils are expected to be "non-expansive" (Expansion Index [EI] less than 20) as defined by 2019 California Building Code (CBC) Section 1803.5.3. Table 7.2.2 presents soil classifications based on the Expansion Index. Although unlikely, any medium to highly expansive soils encountered at the site should not be placed within 4 feet of the proposed foundations, flatwork or paving improvements.

TABLE 7.2.2
SOIL CLASSIFICATION BASED ON EXPANSION INDEX

Expansion Index (EI)	Expansion Classification	2016 CBC Expansion Classification
0 – 20	**Very Low**	**Non-Expansive**
21 – 50	Low	Expansive
51 – 90	Medium	
91 – 130	High	
Greater Than 130	Very High	

7.2.3 Additional testing for expansion potential should be performed during grading along with plasticity index testing on soils with expansion indices of more than 20.

7.2.4 Laboratory tests were performed on representative samples of the site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B and indicate that the on-site materials possess a sulfate exposure class of "S0" to concrete structures as defined by 2019 CBC Section 1904 and ACI 318-19, Chapter 19.

7.2.5 Laboratory test results indicate resistivity of 5400, Ph of 7.7, chloride content of 40 ppm, and sulfate content of 0 ppm. Based on the laboratory test results, the site soils are not considered corrosive in accordance with the Caltrans *Corrosion Guidelines* (Version 3.2, May 2021) as shown in Table 7.2.5.

TABLE 7.2.5
CALTRANS CORROSION GUIDELINES

Corrosion Exposure	Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)	pH
Corrosive	<1,500	500 or greater	1,500 or greater	5.5 or less

7.2.6 Geocon does not practice in the field of corrosion engineering. Therefore, further evaluation by a corrosion engineer may be performed if improvements that could be susceptible to corrosion are planned.

7.3 Grading

7.3.1 Grading should be performed in accordance with the *Recommended Grading Specifications* contained in *Appendix C* and the grading ordinances of the City of Menifee.

7.3.2 Prior to commencing grading, a preconstruction conference should be held at the site with the City inspector, owner or developer, grading contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling and/or the grading plans can be discussed at that time.

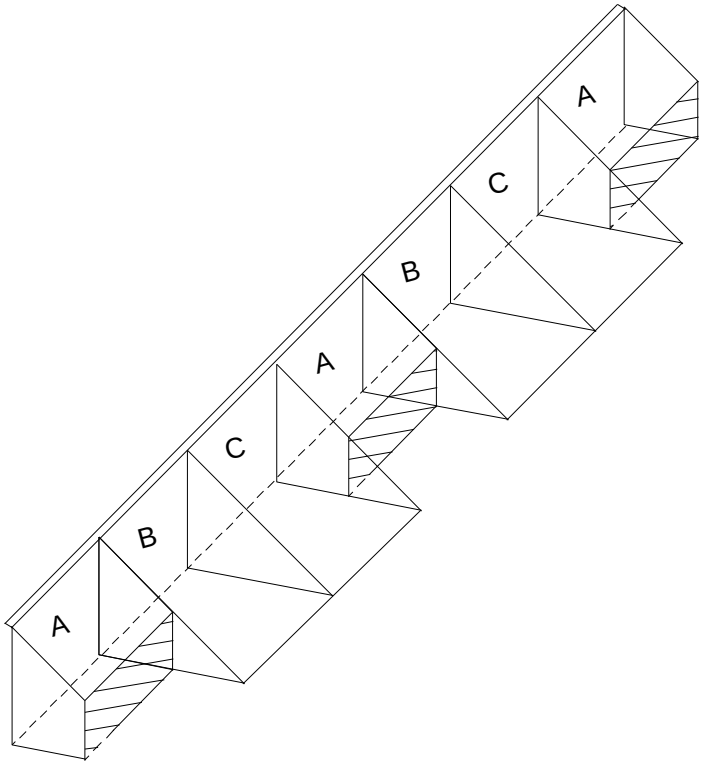
7.3.3 Site preparation should begin with the removal of deleterious material, debris and vegetation across the site and within the undocumented artificial fill end dumps. The depth of removal should be such that material exposed in cut areas or soil to be used as fill is relatively free of organic matter and/or other deleterious material. Material generated during stripping and/or site demolition should be exported from the site.

7.3.4 The undocumented artificial fill end dumps and upper portions of alluvium, should be removed to expose very old alluvium which is non-porous and has an in-place relative compaction of at least 85 percent based on ASTM D1557. Remedial removal depths are expected to range between 6 to 9 feet. The actual depth of remedial grading should be evaluated by the engineering geologist during grading operations. The bottom of the excavations should be scarified to a depth of at least 1 foot, moisture conditioned, and compacted to 90 percent of the maximum dry density (ASTM D1557), prior to fill placement.

7.3.5 Remedial removals will be required adjacent to the existing housing development to the west where large excavation areas may not be possible without damage to existing block walls. Slot cutting may be necessary to perform the required removals in this area. Once site development and grading plans are prepared, Geocon should review the remedial grading in relation to the proposed structures.

7.3.6 Excavations adjacent to the existing block walls to the west that extend below a 1:1 (horizontal:vertical) projection downward and outward from the outside bottom edge of existing wall footings may utilize slot cutting to achieve remedial removals while maintaining support for the existing walls. Care should be taken by the grading contractor so that impact to existing improvements does not occur during slot-cut excavations. This may require reduced slot cut lengths if loose or otherwise unstable soil is encountered. The contractor should be aware that there is an inherent risk to slot-cutting as movement of near vertical excavations can cause stress relief features and vertical ground settlement outside of the excavation. The grading contractor should be prepared to take necessary steps to provide lateral stability/temporary buttressing if slot cut sidewalls experience instability.

7.3.7 We recommend that the initial temporary excavation along the property line be sloped back at a uniform 1:1 (horizontal to vertical) slope gradient or flatter for excavation of the existing soils to the necessary depth. The temporary slope may then be excavated using slot-cutting techniques (see illustration below).



7.3.8 The slot-cutting method employs the earth as a buttress and allows the earth excavation to proceed in phases. The initial excavation is made at a slope of 1:1. Alternate "A" slots should be worked first. Slots may be up to 4 feet in width. The backfill should be completed in the "A" slots before the "B" slots are excavated. After completing the backfill in the "B" slots, the "C" slots may be excavated. Slot-cutting is not recommended for vertical excavations greater than 9 feet in height or where surcharged by more than 1,000 pounds per linear foot. Where slot dimensions or surcharge loads exceed these amounts, Geocon should be contacted for additional recommendations.

7.3.9 The site should be brought to finish grade elevations with fill compacted in layers. Layers of fill should be no thicker than will allow for adequate bonding and compaction. Fill, including backfill and scarified ground surfaces, should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density at or slightly above optimum moisture content as determined by ASTM D1557. Fill materials placed below optimum moisture content may require additional moisture conditioning prior to placing additional fill.

7.3.10 The fill placed within 3 feet of proposed finish grade should possess a "low" expansion potential (EI of 50 or less), where practical.

7.3.11 Import fill (if necessary) should consist of granular materials with a "low" expansion potential (EI of 50 or less), generally free of deleterious material and rock fragments larger than 6 inches and should be compacted as recommended herein. Geocon should be notified of the import soil source and should perform laboratory testing of import soil prior to its arrival at the site to evaluate its suitability as fill material. Laboratory testing typically takes up to four working days to perform, therefore the grading contractor should plan for the laboratory testing in their schedule to provide sufficient time to allow for completion of testing prior to importing materials.

7.3.12 Fill slopes (if planned) should be overbuilt at least 2 feet and cut back to design grades for best performance. As an alternative, slopes should be compacted by back rolling with a loaded sheepsfoot roller at vertical intervals not to exceed 4 feet and should be track-walked at the completion of each slope such that the fill soils are uniformly compacted to at least 90 percent relative compaction to the face of the finished slope.

7.3.13 Finished slopes should be landscaped with drought-tolerant vegetation having variable root depths and requiring minimal landscape irrigation. In addition, the slopes should be drained and properly maintained to reduce erosion.

7.3.14 Infiltration basins should be excavated in native soil without compaction effort applied to the basin bottom. Basin maintenance should include the removal of silt from the basin bottom after each significant rain event for best performance.

7.4 Earthwork Grading Factors

7.4.1 Estimates of shrinkage factors are based on empirical judgments comparing the material in its existing or natural state as encountered in the exploratory excavations to a compacted state. Variations in natural soil density and in compacted fill density render shrinkage value estimates very approximate. As an example, the contractor can compact the fill to a dry density of 90 percent or higher of the laboratory maximum dry density. Thus, the contractor has an approximately 10 percent range of control over the fill volume. Due to the variations in the actual shrinkage/bulking factors, a balance area should be provided to accommodate variations.

7.5 Utility Trench Backfill

7.5.1 Utility trenches should be properly backfilled in accordance with the requirements of the City of Menifee and the latest edition of the *Standard Specifications for Public Works Construction* (Greenbook). The pipes should be bedded with well graded crushed rock or clean sands (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe. The use of well graded crushed rock must be used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of 2-sack slurry and controlled low strength material (CLSM) are also acceptable. However, consideration should be given to the possibility of differential settlement where the slurry ends and earthen backfill begins. These transitions should be minimized, and additional stabilization should be considered at these transitions.

7.5.2 Utility excavation bottoms should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, gravel, concrete, or geogrid.

7.6 Seismic Design Criteria

7.6.1 Table 7.6.1 summarizes site-specific design criteria obtained from the 2019 California Building Code (CBC; Based on the 2018 International Building Code [IBC] and ASCE 7-16), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the Structural Engineers Association (SEA) to calculate the seismic design parameters. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2019 CBC and Table 20.3-1 of ASCE 7-16. The buildings and improvements should be designed using a Site Class D. The values presented on the following table are for the risk-targeted maximum considered earthquake (MCE_R).

TABLE 7.6.1
2019 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2019 CBC Reference
Site Class	D	Section 1613.2.2
Fill Thickness, T (feet)	T<20	--
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	1.415g	Figure 1613.2.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.522g	Figure 1613.2.1(2)
Site Coefficient, F_A	1.200	Table 1613.2.3(1)
Site Coefficient, F_V	1.778	Table 1613.2.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	1.698g	Section 1613.2.3 (Eqn 16-36)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	0.928g	Section 1613.2.3 (Eqn 16-37)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.132g	Section 1613.2.4 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.619g	Section 1613.2.4 (Eqn 16-39)

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7.6.2 Table 7.6.2 presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-16.

TABLE 7.6.2
2019 CBC SITE ACCELERATION DESIGN PARAMETERS

Parameter	Value	ASCE 7-16
Site Class	D	--
Fill Thickness, T (Feet)	$T \leq 20$	--
Mapped MCE_G Peak Ground Acceleration, PGA	0.513g	Figure 22-9
Site Coefficient, F_{PGA}	1.2	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.616g	Section 11.8.3 (Eqn 11.8-1)

7.6.3 Conformance to the criteria in Tables 6.7.1 and 6.7.2 for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur in the event of a large earthquake. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

7.6.4 The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2019 California Building Code and ASCE 7-16, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain "Life Safety" during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

7.6.5 Deaggregation of the MCE peak ground acceleration was performed using the USGS online Unified Hazard Tool, 2014 Conterminous U.S. Dynamic edition (v4.2.0). The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.84 magnitude event occurring at a hypocentral distance of 16.12 kilometers from the site.

7.6.6 Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.78 magnitude occurring at a hypocentral distance of 19.46 kilometers from the site.

7.6.7 Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

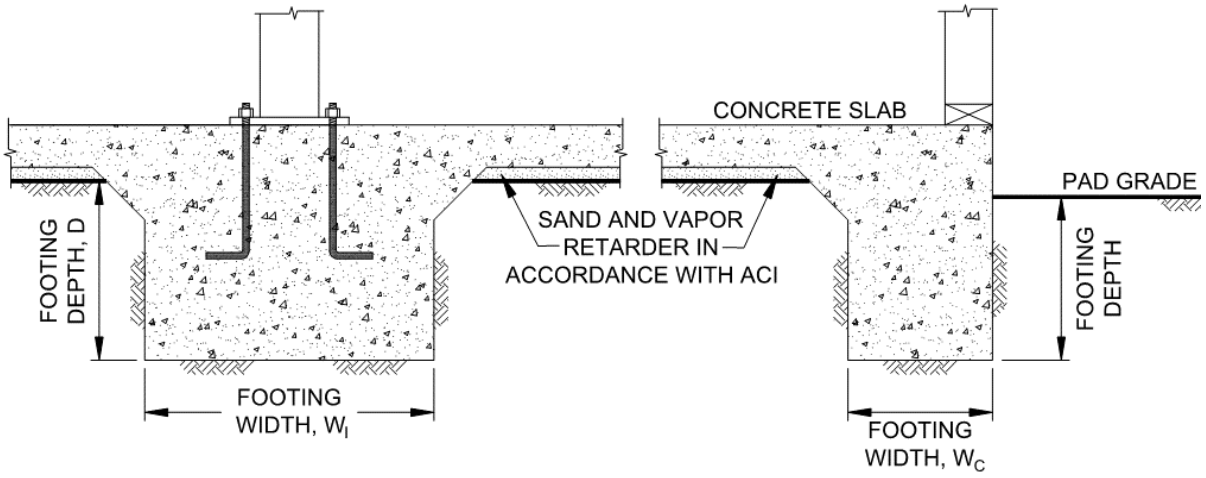
7.7 Foundation and Concrete Slabs-On-Grade Recommendations

7.7.1 The foundation recommendations presented herein are for the proposed residential buildings subsequent to the recommended grading. We understand that future buildings will be supported on conventional shallow foundations with concrete slabs-on-grade deriving support in newly placed engineered fill. Foundations for the structure should consist of continuous strip footings and/or isolated spread footings. Table 7.7.1 provides a summary of the foundation design recommendations.

TABLE 7.7.1
SUMMARY OF FOUNDATION RECOMMENDATIONS

Parameter	Value
Minimum Continuous Foundation Width, W_C	12 inches
Minimum Isolated Foundation Width, W_I	24 inches
Minimum Foundation Depth, D	18 Inches Below Lowest Adjacent Grade
Minimum Steel Reinforcement	4 No. 4 Bars, 2 at the Top and 2 at the Bottom
Allowable Bearing Capacity	3,000 psf
Bearing Capacity Increase	500 psf per Foot of Depth
	250 psf per Foot of Width
Maximum Allowable Bearing Capacity	4,000 psf
Estimated Total Settlement	½ Inch
Estimated Differential Settlement	¼ Inch in 40 Feet
Footing Size Used for Settlement	8-Foot Square
Design Expansion Index	50 or less

7.7.2 The foundations should be embedded in accordance with the recommendations herein and the following Wall/Column Footing Dimension Detail. The embedment depths should be measured from the lowest adjacent pad grade for both interior and exterior footings. Footings should be deepened such that the bottom outside edge of the footing is at least 7 feet horizontally from the face of the slope (unless designed with a post-tensioned foundation system).



Wall/Column Footing Dimension Detail

7.7.3 The bearing capacity values presented herein are for dead plus live loads and may be increased by one-third when considering transient loads due to wind or seismic forces.

7.7.4 We should observe the foundation excavations prior to the placement of reinforcing steel and concrete to check that the exposed soil conditions are similar to those expected and that they have been extended to the appropriate bearing strata. Foundation modifications may be required if unexpected soil conditions are encountered.

7.7.5 Geocon should be consulted to provide additional design parameters as required by the structural engineer.

7.8 Concrete Slabs-On-Grade

7.8.1 Concrete slabs-on-grade for the structures should be constructed in accordance with Table 7.8.1.

TABLE 7.8.1
MINIMUM CONCRETE SLAB-ON-GRADE RECOMMENDATIONS

Parameter	Value
Minimum Concrete Slab Thickness	4 inches
Minimum Steel Reinforcement	No. 3 Bars at 24 Inches on Center, Both Directions
Typical Slab Underlayment	3 to 4 Inches of Sand/Gravel/Base
Design Expansion Index	50 or less

7.8.2 Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder. The vapor retarder design should be consistent with the guidelines presented in the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06). In addition, the membrane should be installed in accordance with manufacturer's recommendations and ASTM requirements and installed in a manner that prevents puncture. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed and if the structure will possess a humidity controlled environment.

7.8.3 The bedding sand thickness should be determined by the project foundation engineer, architect, and/or developer. It is common to have 3 to 4 inches of sand for 5-inch and 4-inch thick slabs, respectively, in the southern California region. However, we should be contacted to provide recommendations if the bedding sand is thicker than 6 inches. The foundation design engineer should provide appropriate concrete mix design criteria and curing measures to assure proper curing of the slab by reducing the potential for rapid moisture loss and

subsequent cracking and/or slab curl. We suggest that the foundation design engineer present the concrete mix design and proper curing methods on the foundation plans. It is critical that the foundation contractor understands and follows the recommendations presented on the foundation plans.

7.8.4 Concrete slabs should be provided with adequate crack-control joints, construction joints and/or expansion joints to reduce unsightly shrinkage cracking. The design of joints should consider criteria of the American Concrete Institute (ACI) when establishing crack-control spacing. Crack-control joints should be spaced at intervals no greater than 12 feet. Additional steel reinforcing, concrete admixtures and/or closer crack control joint spacing should be considered where concrete-exposed finished floors are planned.

7.8.5 Special subgrade presaturation is not deemed necessary prior to placing concrete; however, the exposed foundation and slab subgrade soil should be moisturized to maintain a moist condition as would be expected in any such concrete placement.

7.8.6 The concrete slab-on-grade recommendations are based on soil support characteristics only. The project structural engineer should evaluate the structural requirements of the concrete slabs for supporting residential-type loads.

7.8.7 Where exterior flatwork abuts the structure at entrant or exit areas, the exterior slab should be dowelled into the structure's foundation stemwall. This recommendation is intended to reduce the potential for differential elevations that could result from differential settlement or minor heave of the flatwork. Dowelling details should be designed by the project structural engineer.

7.8.8 The recommendations of this report are intended to reduce the potential for cracking of slabs due to expansive soil (if present), differential settlement of existing soil or soil with varying thicknesses. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade placed on such conditions may still exhibit some cracking due to soil movement and/or shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.9 Exterior Concrete Flatwork

7.9.1 Exterior concrete flatwork not subject to vehicular traffic should be constructed in accordance with the recommendations presented in Table 7.9.1. The recommended steel reinforcement would help reduce the potential for cracking.

TABLE 7.9.1
MINIMUM CONCRETE FLATWORK RECOMMENDATIONS

Expansion Index, EI	Minimum Steel Reinforcement* Options	Minimum Thickness
EI $\leq$ 50	6x6-W2.9/W2.9 (6x6-6/6) welded wire mesh	4 Inches
	No. 3 Bars 18 inches on center, Both Directions	

*In excess of 8 feet square.

7.9.2 The subgrade soil should be properly moisturized and compacted prior to the placement of steel and concrete. The subgrade soil should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content in accordance with ASTM D1557.

7.9.3 Even with the incorporation of the recommendations of this report, the exterior concrete flatwork has a potential to experience some uplift due to expansive soil beneath grade. The steel reinforcement should overlap continuously in flatwork to reduce the potential for vertical offsets within flatwork. Additionally, flatwork should be structurally connected to the curbs, where possible, to reduce the potential for offsets between the curbs and the flatwork.

7.9.4 Concrete flatwork should be provided with crack control joints to reduce and/or control shrinkage cracking. Crack control spacing should be determined by the project structural engineer based upon the slab thickness and intended usage. Criteria of the American Concrete Institute (ACI) should be taken into consideration when establishing crack control spacing. Subgrade soil for exterior slabs not subjected to vehicle loads should be compacted in accordance with criteria presented in the grading section prior to concrete placement. Subgrade soil should be properly compacted and the moisture content of subgrade soil should be verified prior to placing concrete. Base materials will not be required below concrete improvements.

7.9.5 Where exterior flatwork abuts the structure at entrant or exit points, the exterior slab should be dowelled into the structure's foundation stemwall. This recommendation is intended to reduce the potential for differential elevations that could result from differential settlement or minor heave of the flatwork. Dowelling details should be designed by the project structural engineer.

7.9.6 The recommendations presented herein are intended to reduce the potential for cracking of exterior slabs as a result of differential movement. However, even with the incorporation of the recommendations presented herein, slabs-on-grade will still crack. The occurrence of concrete shrinkage cracks is independent of the soil supporting characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, the

use of crack control joints and proper concrete placement and curing. Crack control joints should be spaced at intervals no greater than 12 feet. Literature provided by the Portland Concrete Association (PCA) and American Concrete Institute (ACI) present recommendations for proper concrete mix, construction, and curing practices, and should be incorporated into project construction.

7.10 Retaining Walls

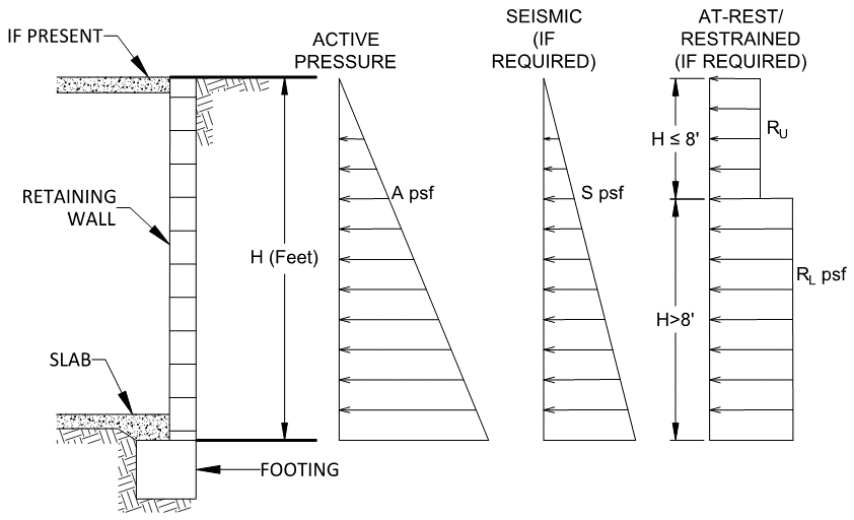
7.10.1 Retaining walls should be designed using the values presented in Table 7.10.1. Soil with an Expansion Index (EI) of greater than 50 should not be used as backfill material behind retaining walls.

TABLE 7.10.1
RETAINING WALL DESIGN RECOMMENDATIONS

Parameter	Value
Active Soil Pressure, A (Fluid Density, Level Backfill)	35 pcf
Active Soil Pressure, A (Fluid Density, 2:1 Sloping Backfill)	50 pcf
Seismic Pressure, S	15H psf
At-Rest/Restrained Walls Additional Uniform Pressure (0 to 8 Feet High)	7H psf
At-Rest/Restrained Walls Additional Uniform Pressure (8+ Feet High)	13H psf
Expected Expansion Index for the Subject Property	EI≤50

*H = height of the retaining portion of the wall

7.10.2 The project retaining walls should be designed as shown in the Retaining Wall Loading Diagram.



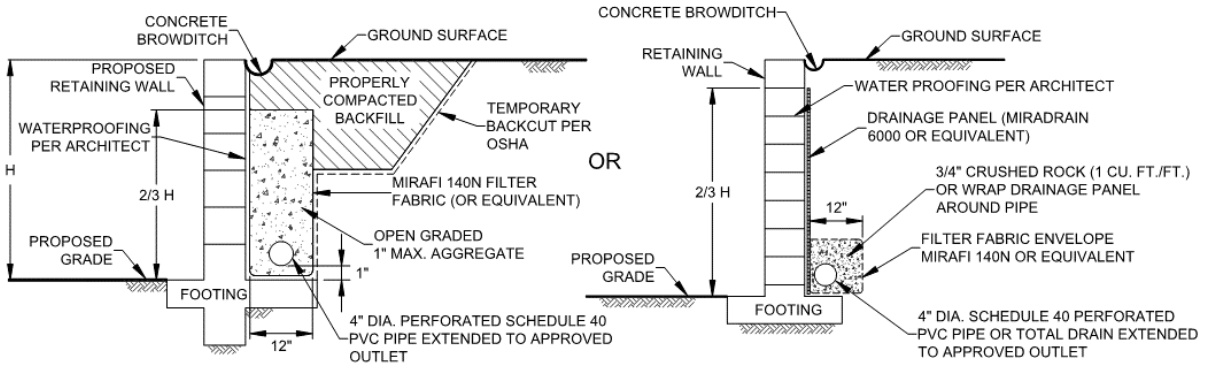
Retaining Wall Loading Diagram

7.10.3 Unrestrained walls are those that are allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall) at the top of the wall. Where walls are restrained from movement at the top (at-rest condition), an additional uniform pressure should be applied to the wall. For retaining walls subject to vehicular loads within a horizontal distance equal to two-thirds the wall height, a surcharge equivalent to 2 feet of fill soil should be added to the upper 10 feet of the retaining wall.

7.10.4 The structural engineer should determine the Seismic Design Category for the project in accordance with Section 1613.3.5 of the 2019 CBC or Section 11.6 of ASCE 7-16. For structures assigned to Seismic Design Category of D, E, or F, retaining walls that support more than 6 feet of backfill should be designed with seismic lateral pressure in accordance with Section 1803.5.12 of the 2019 CBC. The seismic load is dependent on the retained height where H is the height of the wall, in feet, and the calculated loads result in pounds per square foot (psf) exerted at the base of the wall and zero at the top of the wall.

7.10.5 Retaining walls should be designed to ensure stability against overturning sliding, and excessive foundation pressure. Where a keyway is extended below the wall base with the intent to engage passive pressure and enhance sliding stability, it is not necessary to consider active pressure on the keyway.

7.10.6 Drainage openings through the base of the wall (weep holes) should not be used where the seepage could be a nuisance or otherwise adversely affect the property adjacent to the base of the wall. The recommendations herein assume a properly compacted granular (EI of 50 or less) free-draining backfill material with no hydrostatic forces or imposed surcharge load. The retaining wall should be properly drained as shown in the Typical Retaining Wall Drainage Detail. If conditions different than those described are expected, or if specific drainage details are desired, Geocon should be contacted for additional recommendations.



Typical Retaining Wall Drainage Detail

7.10.7 The retaining walls may be designed using either the active and restrained (at-rest) loading condition or the active and seismic loading condition as suggested by the structural engineer. Typically, it appears the design of the restrained condition for retaining wall loading may be adequate for the seismic design of the retaining walls. However, the active earth pressure combined with the seismic design load should be reviewed and also considered in the design of the retaining walls.

7.10.8 In general, wall foundations should be designed in accordance with Table 7.10.8. The proximity of the foundation to the top of a slope steeper than 3:1 could impact the allowable soil bearing pressure. Therefore, retaining wall foundations should be deepened such that the bottom outside edge of the footing is at least 7 feet horizontally from the face of the slope.

TABLE 7.10.8
SUMMARY OF RETAINING WALL FOUNDATION RECOMMENDATIONS

Parameter	Value
Minimum Retaining Wall Foundation Width	12 inches
Minimum Retaining Wall Foundation Depth	12 Inches
Minimum Steel Reinforcement	Per Structural Engineer
Allowable Bearing Capacity	2,500 psf
Bearing Capacity Increase	500 psf per Foot of Depth
	250 psf per Foot of Width
Maximum Allowable Bearing Capacity	3,500 psf
Estimated Total Settlement	½ Inch
Estimated Differential Settlement	¼ Inch in 40 Feet

7.10.9 The recommendations presented herein are generally applicable to the design of rigid concrete or masonry retaining walls.

7.10.10 Unrestrained walls will move laterally when backfilled and loading is applied. The amount of lateral deflection is dependent on the wall height, the type of soil used for backfill, and loads acting on the wall. The retaining walls and improvements above the retaining walls should be designed to incorporate an appropriate amount of lateral deflection as determined by the structural engineer.

7.10.11 Soil contemplated for use as retaining wall backfill, including import materials, should be identified in the field prior to backfill. At that time, Geocon should obtain samples for laboratory testing to evaluate its suitability. Modified lateral earth pressures may be necessary if the backfill soil does not meet the required expansion index or shear strength. City or

regional standard wall designs, if used, are based on a specific active lateral earth pressure and/or soil friction angle. In this regard, on-site soil to be used as backfill may or may not meet the values for standard wall designs. Geocon should be consulted to assess the suitability of the on-site soil for use as wall backfill if standard wall designs will be used.

7.11 Lateral Loading

7.11.1 Table 7.11.1 should be used to help design the proposed structures and improvements to resist lateral loads for the design of footings or shear keys. The allowable passive pressure assumes a horizontal surface extending at least 5 feet, or three times the surface generating the passive pressure, whichever is greater. The upper 12 inches of material in areas not protected by floor slabs or pavement should not be included in design for passive resistance.

TABLE 7.11.1
SUMMARY OF LATERAL LOAD DESIGN RECOMMENDATIONS

Parameter	Value
Passive Pressure Fluid Density	250 pcf
Coefficient of Friction (Concrete and Soil)	0.35
Coefficient of Friction (Along Vapor Barrier)	0.2 to 0.25*

*Per manufacturer's recommendations.

7.11.2 The passive and frictional resistant loads can be combined for design purposes. The lateral passive pressures may be increased by one-third when considering transient loads due to wind or seismic forces.

7.12 Preliminary Pavement Recommendations

7.12.1 The final pavement design should be based on R-value testing of soils at subgrade. Streets should be designed in accordance with the City of Menifee specifications and standards when final Traffic Indices (TI) and R-Value test results of subgrade soil are completed. For preliminary design purposes, we used an estimated R-value of 30 based on the soil classifications. Pavements should meet the minimum requirement for asphalt thickness in City of Menifee *Street Design Requirements* (Standard No. 80). Preliminary flexible pavement sections are presented in Table 7.12.1 for a range of applicable TI's. Geocon should be contacted if other roadway classifications and traffic indices are appropriate for the project.

TABLE 7.12.1
PRELIMINARY FLEXIBLE PAVEMENT SECTIONS

Road Classification	Traffic Index	Assumed Subgrade R-Value	Asphalt Concrete (inches)	Crushed Aggregate Base (inches)
General Local	5.5	30	4*	6*
Collector / Enhanced Local	8.0	30	6*	9
Secondary / Major / Arterial	10.0	30	6*	15

*Minimum Section per City of Menifee *Road Standard No. 80*

7.12.2 The upper 12 inches of the subgrade soil should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density at or slightly above optimum moisture content beneath pavement sections.

7.12.3 The crushed aggregated base and asphalt concrete materials should conform to Section 200-2.2 and Section 203-6, respectively, of the *Greenbook*. Base materials should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density at or slightly above optimum moisture content. Asphalt concrete should be compacted to a density of 95 percent of the laboratory Hveem density in accordance with ASTM D1561.

7.12.4 Where prefabricated concrete pavers (80 mm thick) will be used in site roadways and parking areas, it is acceptable from a geotechnical standpoint to construct the pavers over 1 inch of sand underlain by a properly prepared subgrade and aggregate base per the following table. The aggregate base should be compacted to at least 95 percent relative compaction as evaluated by ASTM D1557 (latest edition). Pavers should be constructed in accordance with the manufacture's guidelines. Preliminary paver design sections are presented in Table 7.12.4.

TABLE 7.12.4
PAVER DESIGN SECTIONS

Road Classification/Use	Traffic Index (TI)	Prefabricated Concrete Paver (inches)	Crushed Aggregate Base (inches)
General Local	5.5	3⅛	7½

7.12.5 Where concrete pavers will be placed in pedestrian walkway areas, and will not be subject to vehicle loading, the inclusion of a 4-inch layer of base over properly compacted subgrade underlying the pavers is acceptable from a geotechnical standpoint.

7.12.6 Where different pavement sections are to be constructed adjacent to each other, we recommend that consideration be given to the use of deepened base sections to maintain a uniform base thickness and avoid stepped cuts for placement of base material. This condition is expected to occur across the transition across the areas of asphalt paving and prefabricated pavers.

7.12.7 A rigid Portland cement concrete (PCC) pavement section should be placed in roadway aprons and cross gutters. We calculated the rigid pavement section in general conformance with the procedure recommended by the American Concrete Institute report ACI 330-21 *Commercial Concrete Parking Lots and Site Paving Design and Construction – Guide*. Table 7.12.7 provides the traffic categories and design parameters used for the calculations for 20-year design life.

TABLE 7.12.7
TRAFFIC CATEGORIES

Traffic Category	Description	Reliability (%)	Slabs Cracked at End of Design Life (%)
A	Car Parking Areas and Access Lanes	60	15
B	Entrance and Truck Service Lanes	60	15
C	School or City Buses (Excluding Large Articulated Buses)	75	15
D	Heavy Duty Trucks (Gross Weight of 80 Kips)	75	15
E	Garbage or Fire Truck Lane	75	15

7.12.8 We used the parameters presented in Table 7.12.8 to calculate the pavement design sections. We should be contacted to provide updated design sections, if necessary.

TABLE 7.12.8
RIGID PAVEMENT DESIGN PARAMETERS

Design Parameter	Design Value
Modulus of Subgrade Reaction, k	100 pci
Modulus of Rupture for Concrete, M_R	500 psi
Concrete Compressive Strength	3,000 psi
Concrete Modulus of Elasticity, E	3,150,000 psi

7.12.9 Based on the criteria presented herein, the PCC pavement sections should have a minimum thickness as presented in Table 7.12.9.

TABLE 7.12.9
RIGID VEHICULAR PAVEMENT RECOMMENDATIONS

Traffic Category	Trucks Per Day	Portland Cement Concrete, T (Inches)
A = Car Parking Areas and Access Lanes	10	5½
B = Entrance and Truck Service Lanes	10	6
	50	6½
	100	6½
C = School or City Buses	50	9½
	100	9½
D = Heavy Duty Trucks	50	6½
	100	7
E = Garbage or Fire Truck Lanes	5	6½
	10	7

7.12.10 The PCC vehicular pavement should be placed over subgrade soil that is compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content. The garbage truck pad should be large enough such that all wheels are on the concrete pad during the loading operations.

7.12.11 Adequate joint spacing should be incorporated into the design and construction of the rigid pavement in accordance with Table 7.12.11.

TABLE 7.12.11
MAXIMUM JOINT SPACING

Pavement Thickness, T (Inches)	Maximum Joint Spacing (Feet)
$4<T<5$	10
$5\leq T<6$	12.5
$6\leq T$	15

7.12.12 The rigid pavement should also be designed and constructed incorporating the parameters presented in Table 7.12.12.

TABLE 7.12.12
ADDITIONAL RIGID PAVEMENT RECOMMENDATIONS

Subject	Value
Thickened Edge	1.2 Times Slab Thickness Adjacent to Structures
	1.5 Times Slab Thickness Adjacent to Soil
	Minimum Increase of 2 Inches
	4 Feet Wide
Crack Control Joint Depth	Early Entry Sawn = T/6 to T/5, 1.25 Inch Minimum
	Conventional (Tooled or Conventional Sawing) = T/4 to T/3
Crack Control Joint Width	¼-Inch for Sealed Joints and Per Sealer Manufacturer's Recommendations
	$^{1}/_{16}$- to $^{1}/_{4}$-Inch is Common for Unsealed Joints

7.12.13 Reinforcing steel will not be necessary within the concrete for geotechnical purposes with the possible exception of dowels at construction joints as discussed herein.

7.12.14 To control the location and spread of concrete shrinkage cracks, crack-control joints (weakened plane joints) should be included in the design of the concrete pavement slab. Crack-control joints should be sealed with an appropriate sealant to prevent the migration of water through the control joint to the subgrade materials. The depth of the crack-control joints should be in accordance with the referenced ACI guide.

7.12.15 To provide load transfer between adjacent pavement slab sections, a butt-type construction joint should be constructed. The butt-type joint should be thickened by at least 20 percent at the edge and taper back at least 4 feet from the face of the slab.

7.12.16 Concrete curb/gutter should be placed on soil subgrade compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content. Cross-gutters that receives vehicular should be placed on subgrade soil compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content. Base materials should not be placed below the curb/gutter, or cross-gutters so water is not able to migrate from the adjacent parkways to the pavement sections. Where flatwork is located directly adjacent to the curb/gutter, the concrete flatwork should be structurally connected to the curbs to help reduce the potential for offsets between the curbs and the flatwork.

7.13 Excavation Slopes, Shoring and Tiebacks

7.13.1 The recommendations included herein are provided for stable excavations. It is the responsibility of the contractor and their competent person to ensure all excavations, temporary slopes and trenches are properly constructed and maintained in accordance with applicable OSHA guidelines in order to maintain safety and the stability of the excavations and adjacent improvements. These excavations should not be allowed to become saturated or to dry out. Surcharge loads should not be permitted to a distance equal to the height of the excavation from the top of the excavation. The top of the excavation should be a minimum of 15 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 15 feet from an existing surface improvement should be shored in accordance with applicable OSHA codes and regulations.

7.13.2 The stability of the excavations is dependent on the design and construction of the shoring system and site conditions. Therefore, Geocon cannot be responsible for site safety and the stability of the proposed excavations.

7.13.3 The design of temporary shoring is governed by soil and groundwater conditions, and by the depth and width of the excavated area. Continuous support of the excavation face can be provided by a system of soldier piles and wood lagging or other applicable techniques. Excavations exceeding 15 feet may require soil nails, tieback anchors or internal bracing to provide additional wall restraint.

7.13.4 The condition of existing buildings, streets, sidewalks, and other structures/improvements around the perimeter of the planned excavation should be documented prior to the start of shoring and excavation work. Special attention should be given to documenting existing cracks or other indications of differential settlement within these adjacent structures, pavements and other improvements. Underground utilities sensitive to settlement should be videorecorded (i.e. CCTV) prior to construction to check the integrity of pipes. In addition, monitoring points should be established indicating location and elevation around the excavation and upon existing buildings. These points should be monitored on a weekly basis during excavation work and on a monthly basis thereafter.

7.13.5 Temporary shoring should be designed using a lateral pressure envelope acting on the back of the shoring. The project shoring engineer should determine the applicable soil distribution for the design of the temporary shoring system. Additional lateral earth pressure due to the surcharging effects from construction equipment, sloping backfill, planned stockpiles, adjacent structures and/or traffic loads should be considered, where appropriate, during design of the shoring system.

7.14 Site Drainage and Moisture Protection

7.14.1 Adequate site drainage is critical to reduce the potential for differential soil movement, erosion and subsurface seepage. Under no circumstances should water be allowed to pond adjacent to footings. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2019 CBC 1804.4 or other applicable standards. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices. Roof and pavement drainage should be directed into conduits that carry runoff away from the proposed structure.

7.14.2 Underground utilities should be leak free. Utility and irrigation lines should be checked periodically for leaks and detected leaks should be repaired promptly. Detrimental soil movement could occur if water can infiltrate the soil for prolonged periods of time.

7.14.3 Landscaping planters adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. We recommend that area drains to collect excess irrigation water and transmit it to drainage structures or impervious above-grade planter boxes be used. In addition, where landscaping is planned adjacent to the pavement, we recommend construction of a cutoff wall or the use of an impermeable geosynthetic along the edge of the pavement that extends at least 6 inches below the bottom of the base material.

7.14.4 Infiltration systems should be located a minimum of 20 feet laterally from the outside edge of structural foundations, so that the percolation of water through the soil does not intersect a 1:1 (horizontal:vertical) structural load projection from the outside bottom edge of foundations.

7.14.5 If not properly constructed, there is a potential for distress to improvements and properties located hydrologically down gradient or adjacent to infiltration areas. Factors such as the amount of water to be detained, its residence time, and soil permeability have an important effect on seepage transmission and the potential adverse impacts that may occur if the storm water management features are not properly designed and constructed. We have not performed a hydrogeology study at the site. Down-gradient and adjacent structures may be subjected to seeps, movement of foundations and slabs, or other impacts as a result of water infiltration.

7.15 Plan Review

7.15.1 Grading, shoring, and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations, if necessary.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that expected herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous materials was not part of the scope of services provided by Geocon West, Inc.

This report is issued with the understanding that it is the responsibility of the owner, or of their representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of humans on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

LIST OF REFERENCES

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SOURCE: Google Earth 2022

VICINITY MAP

GEOCON
WEST, INC.
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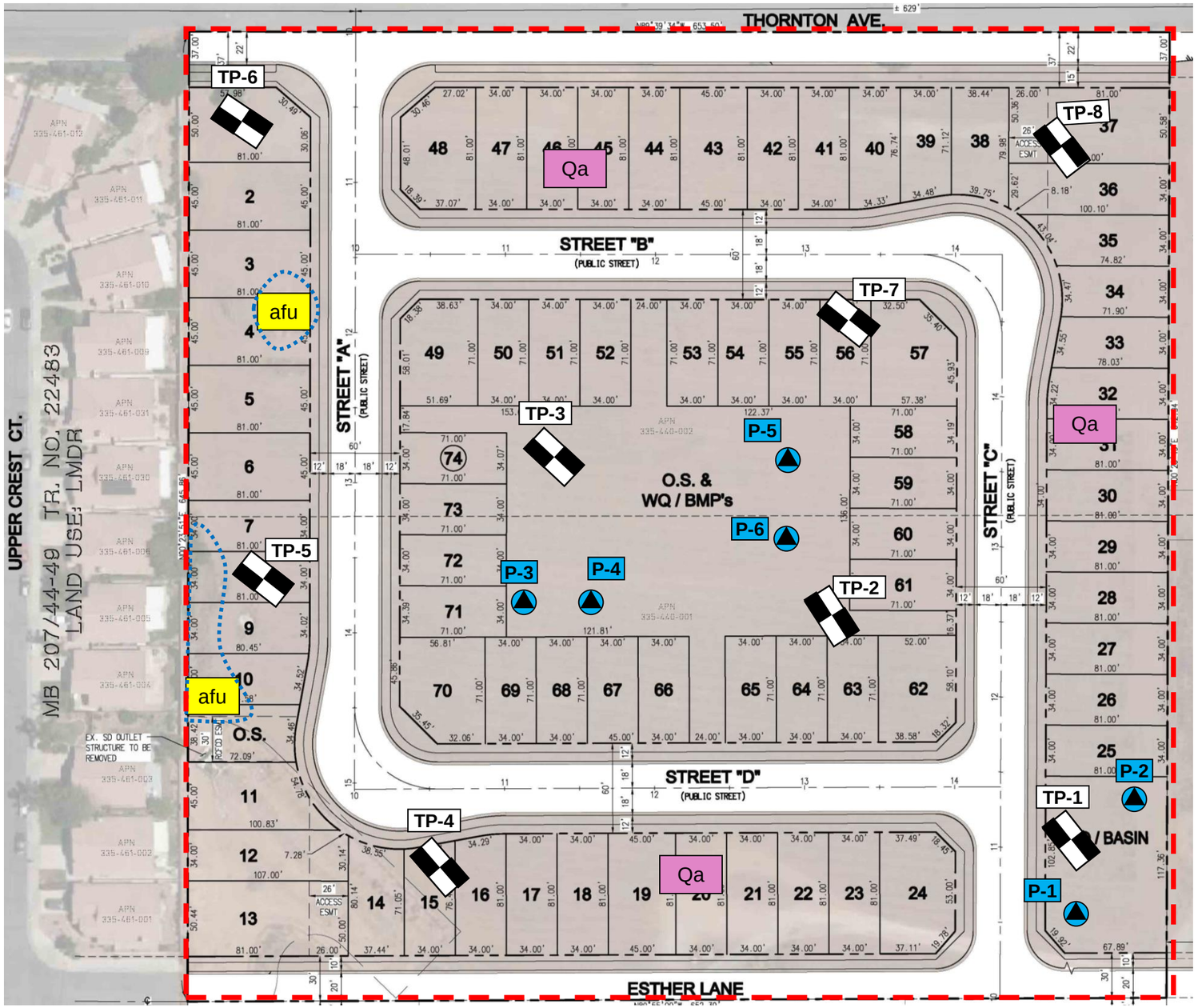
PHONE 951-304-2300 FAX 951-304-2392

HD		

CORONADO RESIDENTIAL
THORNTON AVENUE
MENIFEE, CALIFORNIA

MAY 2022	PROJECT NO. T2974-22-01	FIG. 1



GEOCON LEGEND

Locations are approximate

TP-8 .....GEOTEHCNICAL TEST PIT LOCATION

P-6 ..... PERCOLATION TEST LOCATION

.....PROJECT LIMITS

..... GEOLOGIC CONTACT

afu ..... UNDOCUMENTED FILL

Qa ..... ALLUVIUM

N

40 20 0 40 80 120

SCALE: 1"=40'

Source: FM Civil Engineers, Inc., *City of Menifee Coronado Site Plan*, dated March 28, 2022.

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GEOLOGIC MAP

CORONADO RESIDENTIAL
THORNTON AVENUE
MENIFEE, CALIFORNIA

HD			MAY 2022	PROJECT NO. T2974-22-01	FIG. 2

APPENDIX A

APPENDIX A

EXPLORATORY EXCAVATIONS

Geocon performed the field investigation on April 19 and 20, 2022. Our subsurface exploration consisted of excavating eight geotechnical test pits and six percolation test pits utilizing a Case 580 backhoe. Geotechnical test pits TP-1 through TP-8 were excavated to depths ranging from 8 and 18 feet. Percolation test pits were excavated to depths of 4 to 8 feet at the direction of the project civil engineer.

We collected bulk samples from the test pits and performed in place moisture and density testing with a nuclear density gage per ASTM D6938. We estimated elevations shown on the test pit logs using Google Earth. The soil conditions encountered in the test pits were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS).

Percolation testing was performed in accordance with Riverside County Flood Control and Water Conservation District *Low Impact Development Best Management Practices Handbook*.

Logs of the test pits are presented on Figures A-1 through A-14. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The percolation data sheets are presented on Figures A-15 through A-20. The approximate locations of the test pits and percolation tests are depicted on the *Geologic Map*, Figure 2.

PROJECT NO. T2974-22-01

TEST PIT TP-1

ELEV. (MSL.) **1448** DATE COMPLETED **4/19/2022**

EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	TP-1@0-5			SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		92.3	4.5
2								
4					-Becomes slightly moist; less porosity		93.1	2.5
6								
8				SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
10								
12								
14					Total Depth = 14' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-1,
Log of Test Pit TP-1, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

TEST PIT TP-2

ELEV. (MSL.) **1455** DATE COMPLETED **4/19/2022**

EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		104.7	1.7
2					-Becomes slightly moist; less porosity		106.3	5.5
4								
6	TP-2@6-10			SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
8								
10								
12								
14								
16								
18					Total Depth = 18' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-2,
Log of Test Pit TP-2, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-3 ELEV. (MSL.) **1455** DATE COMPLETED **4/19/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		94.2	3.3
2					-Becomes slightly moist; less porosity		91.1	1.6
4								
6								
8	TP-3@7-10			SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
10								
12								
14					-Becomes fine to coarse sand			
16								
					Total Depth = 17' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-3,
Log of Test Pit TP-3, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ... SAMPLING UNSUCCESSFUL
- ... STANDARD PENETRATION TEST
- ... DRIVE SAMPLE (UNDISTURBED)
- ... DISTURBED OR BAG SAMPLE
- ... CHUNK SAMPLE
- ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. T2974-22-01

TEST PIT TP-4

ELEV. (MSL.) **1454** DATE COMPLETED **4/19/2022**

EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	TP-4@0-5			SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		94.2	1.8
2					-Becomes slightly moist; less porosity		95.0	4.9
4								
6				SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
8					Total Depth = 8' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-4,
Log of Test Pit TP-4, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-5 ELEV. (MSL.) **1461** DATE COMPLETED **4/19/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		102.7	2.0
2					-Becomes slightly moist; less porosity		105.3	4.7
4								
6				SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
8					Total Depth = 8' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-5,
Log of Test Pit TP-5, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**TEST PIT TP-6** ELEV. (MSL.) **1459** DATE COMPLETED **4/19/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0	TP-6@0-5			SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		104.1	2.3
2					-Becomes slightly moist; less porosity		106.3	5.1
4								
6								
8				SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 8' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-6,
Log of Test Pit TP-6, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-7 ELEV. (MSL.) **1455** DATE COMPLETED **4/19/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0	TP-7@0-3			SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4								
6								
8					-Becomes moist			
10				SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 8' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-7,
Log of Test Pit TP-7, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

TEST PIT TP-8

ELEV. (MSL.) **1451** DATE COMPLETED **4/19/2022**

EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity		104.6	2.1
2					-Becomes slightly moist; less porosity		106.9	5.0
4								
6								
8								
10	TP-8@9-11			SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 8' No Groundwater encountered Backfilled with cuttings 4/19/2022			

Figure A-8,
Log of Test Pit TP-8, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-1** ELEV. (MSL.) **1448** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4	P-1@4				Total Depth = 4' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-9,
Log of Boring P-1, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-2** ELEV. (MSL.) **1448** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4	P-2@4				Total Depth = 4' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-10,
Log of Boring P-2, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-3** ELEV. (MSL.) **1455** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4								
6	P-3@7			SM	**VERY OLD ALLUVIUM (Qvof)** Silty SAND, dense, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 7' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-11,
Log of Boring P-3, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◹ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-4** ELEV. (MSL.) **1455** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4								
6	P-4@7							
					Total Depth = 7' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-12,
Log of Boring P-4, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-5** ELEV. (MSL.) **1455** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4								
6								
8	P-5@8			ML	**VERY OLD ALLUVIUM (Qvof)** Sandy SILT, hard, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 8' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-13,
Log of Boring P-5, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2974-22-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING P-6** ELEV. (MSL.) **1455** DATE COMPLETED **4/20/2022** EQUIPMENT **Case 580 Backhoe w/bucket 24"** BY: **L. WEIDMAN**	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0				SM	**ALLUVIUM (Qa)** Silty SAND, medium dense, dry, yellowish strong brown; fine to coarse sand; some porosity			
2					-Becomes slightly moist; less porosity			
4								
6								
8	P-6@8			ML	**VERY OLD ALLUVIUM (Qvof)** Sandy SILT, hard, slightly moist, red brown; fine to medium sand; some coarse sand; calcite stringers; clay development; slightly oxidized			
					Total Depth = 8' No Groundwater encountered Percolation Test Equipment set Presaturated with 5 gallons of water Backfilled with cuttings 4/20/2022			

Figure A-14,
Log of Boring P-6, Page 1 of 1

T2974-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PERCOLATION TEST REPORT

Project Name:		Coronado Condos			**Project No.:**		T2974-22-01
Test Hole No.:		P-1			**Date Excavated:**		4/19/2022
Length of Test Pipe:			60.0	inches	**Soil Classification:**		SM
Height of Pipe above Ground:			12.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:			60.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:				Weidman	**Percolation Tested by:**		Weidman
Water level measured from BOTTOM of hole							

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:30 AM 8:55 AM	25	25	12.0	0.0	12.0	2.1
2	8:55 AM 9:20 AM	25	50	12.0	0.0	12.0	2.1

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	9:00 AM 9:10 AM	10	10	12.0	5.9	6.1	1.6
2	9:10 AM 9:20 AM	10	20	12.0	5.6	6.4	1.6
3	9:20 AM 9:30 AM	10	30	12.0	6.6	5.4	1.9
4	9:30 AM 9:40 AM	10	40	12.0	6.7	5.3	1.9
5	9:40 AM 9:50 AM	10	50	12.0	6.8	5.2	1.9
6	9:50 AM 10:00 AM	10	60	12.0	6.6	5.4	1.9

Infiltration Rate (in/hr):		5.7				
Radius of test hole (in):		4				**Figure A-15**
Average Head (in):		9.3				

PERCOLATION TEST REPORT

Project Name:	Coronado Condos		**Project No.:**		T2974-22-01
Test Hole No.:	P-2		**Date Excavated:**		4/19/2022
Length of Test Pipe:	60.0	inches	**Soil Classification:**		SM
Height of Pipe above Ground:	12.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:	60.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:	Weidman		**Percolation Tested by:**		Weidman

Water level measured from BOTTOM of hole

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:31 AM 8:56 AM	25	25	12.0	0.0	12.0	2.1
2	8:56 AM 9:21 AM	25	50	12.0	0.0	12.0	2.1

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	9:01 AM 9:11 AM	10	10	12.0	7.1	4.9	2.0
2	9:11 AM 9:21 AM	10	20	12.0	7.6	4.4	2.3
3	9:21 AM 9:31 AM	10	30	12.0	8.4	3.6	2.8
4	9:31 AM 9:41 AM	10	40	12.0	8.8	3.2	3.1
5	9:41 AM 9:51 AM	10	50	12.0	7.8	4.2	2.4
6	9:51 AM 10:01 AM	10	60	12.0	8.2	3.8	2.6

Infiltration Rate (in/hr):	3.8					
Radius of test hole (in):	4					**Figure A-16**
Average Head (in):	10.1					

PERCOLATION TEST REPORT

Project Name:	Coronado Condos		**Project No.:**		T2974-22-01
Test Hole No.:	P-3		**Date Excavated:**		4/19/2022
Length of Test Pipe:	120.0	inches	**Soil Classification:**		SM
Height of Pipe above Ground:	0.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:	120.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:		Weidman	**Percolation Tested by:**		Weidman

Water level measured from BOTTOM of hole

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:32 AM 8:57 AM	25	25	12.0	0.0	12.0	2.1
2	8:57 AM 9:22 AM	25	50	12.0	0.0	12.0	2.1

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	10:15 AM 10:25 AM	10	10	12.0	6.6	5.4	1.9
2	10:25 AM 10:35 AM	10	20	12.0	6.7	5.3	1.9
3	10:35 AM 10:45 AM	10	30	12.0	7.8	4.2	2.4
4	10:45 AM 10:55 AM	10	40	12.0	7.8	4.2	2.4
5	10:55 AM 11:05 AM	10	50	12.0	8.8	3.2	3.1
6	11:05 AM 11:15 AM	10	60	12.0	8.6	3.4	3.0

Infiltration Rate (in/hr):	3.3				
Radius of test hole (in):	4				**Figure A-17**
Average Head (in):	10.3				

PERCOLATION TEST REPORT

Project Name:	Coronado Condos		**Project No.:**		T2974-22-01
Test Hole No.:	P-4		**Date Excavated:**		4/19/2022
Length of Test Pipe:	120.0	inches	**Soil Classification:**		SMg
Height of Pipe above Ground:	0.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:	120.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:		Weidman	**Percolation Tested by:**		Weidman

Water level measured from BOTTOM of hole

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:33 AM 8:58 AM	25	25	12.0	0.6	11.4	2.2
2	8:58 AM 9:23 AM	25	50	12.0	5.0	7.0	3.6

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	10:16 AM 10:26 AM	10	10	12.0	5.9	6.1	1.6
2	10:26 AM 10:36 AM	10	20	12.0	6.6	5.4	1.9
3	10:36 AM 10:46 AM	10	30	12.0	6.4	5.6	1.8
4	10:46 AM 10:56 AM	10	40	12.0	6.0	6.0	1.7
5	10:56 AM 11:06 AM	10	50	12.0	6.0	6.0	1.7
6	11:06 AM 11:16 AM	10	60	12.0	6.5	5.5	1.8

Infiltration Rate (in/hr):	5.9				
Radius of test hole (in):	4				**Figure A-18**
Average Head (in):	9.2				

PERCOLATION TEST REPORT

Project Name:	Coronado Condos		**Project No.:**		T2974-22-01
Test Hole No.:	P-5		**Date Excavated:**		4/19/2022
Length of Test Pipe:	84.0	inches	**Soil Classification:**		ML
Height of Pipe above Ground:	0.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:	84.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:		Weidman	**Percolation Tested by:**		Weidman

Water level measured from BOTTOM of hole

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:33 AM 8:58 AM	25	25	24.0	0.0	24.0	1.0
2	8:58 AM 9:23 AM	25	50	24.0	0.0	24.0	1.0

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	11:40 AM 11:50 AM	10	10	24.0	17.4	6.6	1.5
2	11:50 AM 12:00 PM	10	20	24.0	14.2	9.8	1.0
3	12:00 PM 12:10 PM	10	30	24.0	14.4	9.6	1.0
4	12:10 PM 12:20 PM	10	40	24.0	14.2	9.8	1.0
5	12:20 PM 12:30 PM	10	50	24.0	14.5	9.5	1.1
6	12:30 PM 12:40 PM	10	60	24.0	14.4	9.6	1.0

Infiltration Rate (in/hr):	5.4				
Radius of test hole (in):	4				**Figure A-19**
Average Head (in):	19.2				

PERCOLATION TEST REPORT

Project Name:	Coronado Condos		**Project No.:**		T2974-22-01
Test Hole No.:	P-6		**Date Excavated:**		4/19/2022
Length of Test Pipe:	96.0	inches	**Soil Classification:**		ML
Height of Pipe above Ground:	0.0	inches	**Presoak Date:**		4/19/2022
Depth of Test Hole:	96.0	inches	**Perc Test Date:**		4/20/2022
Check for Sandy Soil Criteria Tested by:		Weidman	**Percolation Tested by:**		Weidman

Water level measured from BOTTOM of hole

Sandy Soil Criteria Test

Trial No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	8:35 AM 9:00 AM	25	25	24.0	0.0	24.0	1.0
2	9:00 AM 9:25 AM	25	50	24.0	5.6	18.4	1.4

Soil Criteria: Sandy

Percolation Test

Reading No.	Time	Time Interval (min)	Total Elapsed Time (min)	Initial Water Head (in)	Final Water Head (in)	Δ in Water Level (in)	Percolation Rate (min/inch)
1	11:42 AM 11:52 AM	10	10	24.0	15.6	8.4	1.2
2	11:52 AM 12:02 PM	10	20	24.0	16.0	8.0	1.2
3	12:02 PM 12:12 PM	10	30	24.0	15.6	8.4	1.2
4	12:12 PM 12:22 PM	10	40	24.0	15.6	8.4	1.2
5	12:22 PM 12:32 PM	10	50	24.0	16.3	7.7	1.3
6	12:32 PM 12:42 PM	10	60	24.0	16.6	7.4	1.3

Infiltration Rate (in/hr):	4.0				
Radius of test hole (in):	4				**Figure A-20**
Average Head (in):	20.3				

APPENDIX B

APPENDIX B

LABORATORY TESTING

We performed laboratory tests in accordance with current, generally accepted test methods of ASTM International (ASTM) or other suggested procedures. We analyzed selected soil samples for maximum dry density and optimum moisture content, expansion potential, corrosion, grain size distribution, and direct shear. The results of the laboratory tests are presented on Figures B-1 through B-12. The in-place moisture content of the samples tested are presented on the boring logs in *Appendix A*.

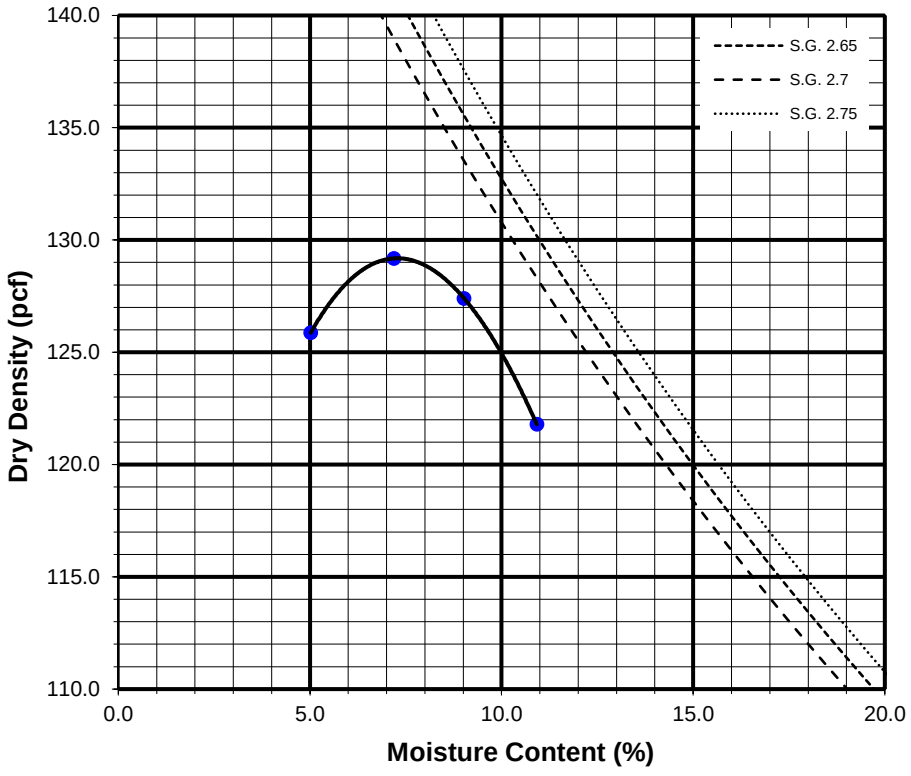
Sample No:

TP-1@0-5	Silty SAND (SM), yellowish brown

TEST NO.		1	2	3	4	5	6
Wt. Compacted Soil + Mold	(g)	6358	6364	6306	6263		
Weight of Mold	(g)	4266	4266	4266	4266		
Net Weight of Soil	(g)	2092	2098	2041	1997		
Wet Weight of Soil + Cont.	(g)	716.8	691.9	721.9	721.7		730.5
Dry Weight of Soil + Cont.	(g)	685.9	655.9	676.2	699.6		725.4
Weight of Container	(g)	256.2	256.9	257.7	259.5		257.4
Moisture Content	(%)	7.2	9.0	10.9	5.0		1.1
Wet Density	(pcf)	138.5	138.9	135.1	132.2		
Dry Density	(pcf)	129.2	127.4	121.8	125.9		0.0

Maximum Dry Density (pcf)	**130.0**

Optimum Moisture Content (%)	**8.0**



Preparation Method: A

GEOCON

COMPACTION CHARACTERISTICS USING MODIFIED EFFORT TEST RESULTS

ASTM D-1557

Checked by:

Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May 22 Figure B1

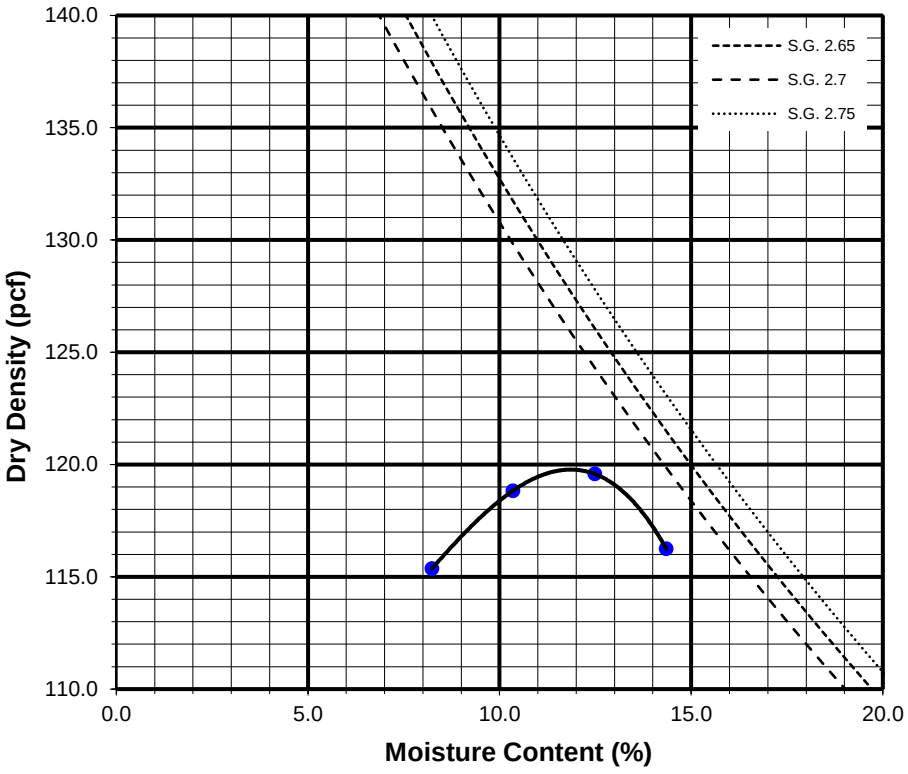
Sample No:

TP-2@6-10	Silty SAND (SM), yellowish brown

TEST NO.		1	2	3	4	5	6
Wt. Compacted Soil + Mold	(g)	6298	6274	6247	6152		
Weight of Mold	(g)	4266	4266	4266	4266		
Net Weight of Soil	(g)	2032	2008	1981	1886		
Wet Weight of Soil + Cont.	(g)	712.6	717.4	720.2	712.1		723.4
Dry Weight of Soil + Cont.	(g)	662.1	659.5	676.8	677.6		686.9
Weight of Container	(g)	257.5	255.9	257.4	258.7		259.3
Moisture Content	(%)	12.5	14.3	10.3	8.2		8.5
Wet Density	(pcf)	134.5	132.9	131.1	124.9		
Dry Density	(pcf)	119.6	116.3	118.8	115.4		0.0

Maximum Dry Density (pcf)	**120.0**

Optimum Moisture Content (%)	**11.5**



Preparation Method: A

GEOCON

COMPACTION CHARACTERISTICS USING MODIFIED EFFORT TEST RESULTS

ASTM D-1557

Checked by:

Project No.: T2974-22-01

Coronado Residential
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Menifee, California

May 22 Figure B2

TP-6@0-5'

MOLDED SPECIMEN		BEFORE TEST	AFTER TEST
Specimen Diameter	(in.)	4.0	4.0
Specimen Height	(in.)	1.0	1.0
Wt. Comp. Soil + Mold	(gm)	611.5	629.5
Wt. of Mold	(gm)	194.9	194.9
Specific Gravity	(Assumed)	2.7	2.7
Wet Wt. of Soil + Cont.	(gm)	557.6	629.5
Dry Wt. of Soil + Cont.	(gm)	534.1	384.0
Wt. of Container	(gm)	257.6	194.9
Moisture Content	(%)	8.5	13.2
Wet Density	(pcf)	125.7	130.9
Dry Density	(pcf)	115.8	115.7
Void Ratio		0.5	0.5
Total Porosity		0.3	0.3
Pore Volume	(cc)	64.8	64.6
Degree of Saturation	(%) [S_{meas}]	50.8	78.3

Date	Time	Pressure (psi)	Elapsed Time (min)	Dial Readings (in.)
5/3/2022	10:00	1.0	0	0.3581
5/3/2022	10:10	1.0	10	0.3579
Add Distilled Water to the Specimen				
5/4/2022	10:00	1.0	1430	0.3572
5/4/2022	11:00	1.0	1490	0.3572

Expansion Index (EI meas) =	-0.7
Expansion Index (Report) =	**0**

Expansion Index, EI_{50}	CBC CLASSIFICATION *	UBC CLASSIFICATION **
0-20	Non-Expansive	Very Low
21-50	Expansive	Low
51-90	Expansive	Medium
91-130	Expansive	High
>130	Expansive	Very High

* Reference: 2019 California Building Code, Section 1803.5.3

** Reference: 1997 Uniform Building Code, Table 18-I-B.

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EXPANSION INDEX TEST RESULTS

ASTM D-4829

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May 22 Figure B3

SUMMARY OF LABORATORY
POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS
AASHTO T289 ASTM D4972 and AASHTO T288 ASTM G187

Sample No.	**pH**	**Resistivity (ohm centimeters)**
TP-4@0-5	7.7	5400

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS
AASHTO T291 ASTM C1218

Sample No.	Chloride Ion Content (%)
TP-4@0-5	0.004

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS
AASHTO T290 ASTM C1580

Sample No.	**Water Soluble Sulfate (% SO_4)**	**Sulfate Exposure**
TP-4@0-5	0.000	S0

GEOCON

CORROSIVITY TEST RESULTS

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Project No.: T2974-22-01

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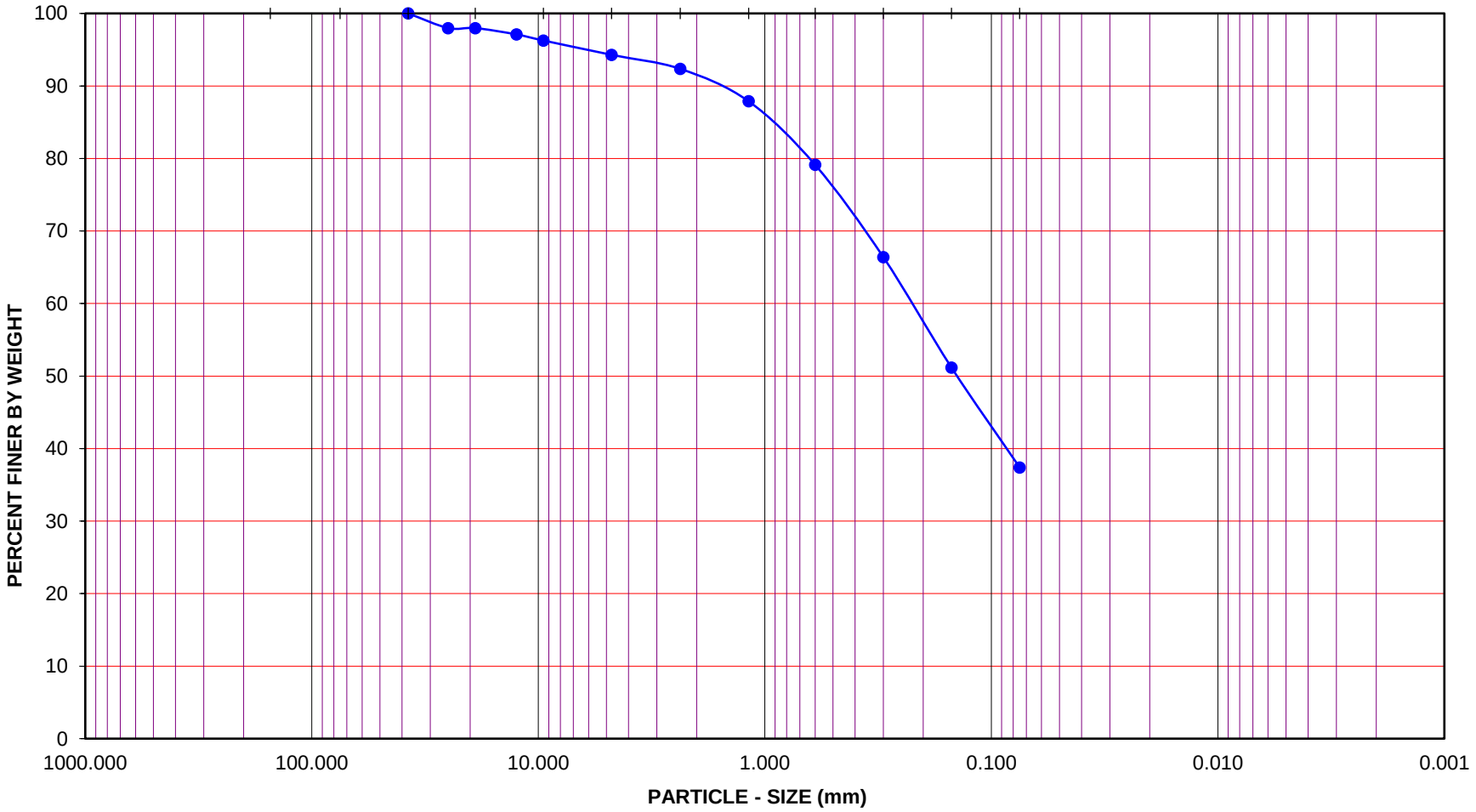
May 22 Figure B4

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



GEOCON WEST, INC.

PARTICLE - SIZE DISTRIBUTION

ASTM C-136

Checked by:

Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May-22 Figure B5

Exploration No.: P-1 Sample No.: P-1@4

Depth (feet): 4 Soil Type: SM

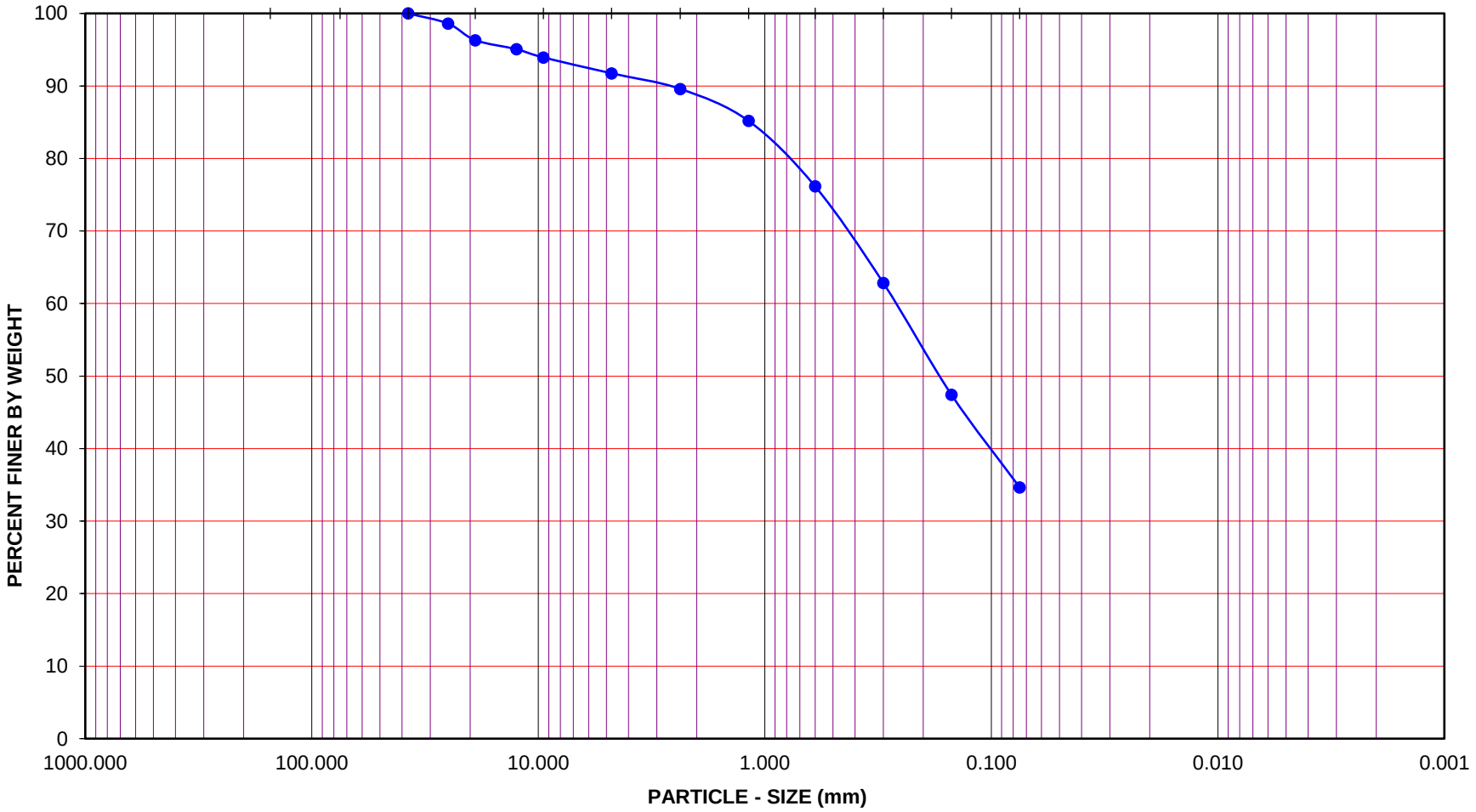
Soil Identification: Silty SAND (SM), yellowish brown

GR:SA:FI : (%) 6 : 57 : 37

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



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Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May-22 Figure B6

Exploration No.: P-2 Sample No.: P-2@4

Depth (feet): 4 Soil Type: SM

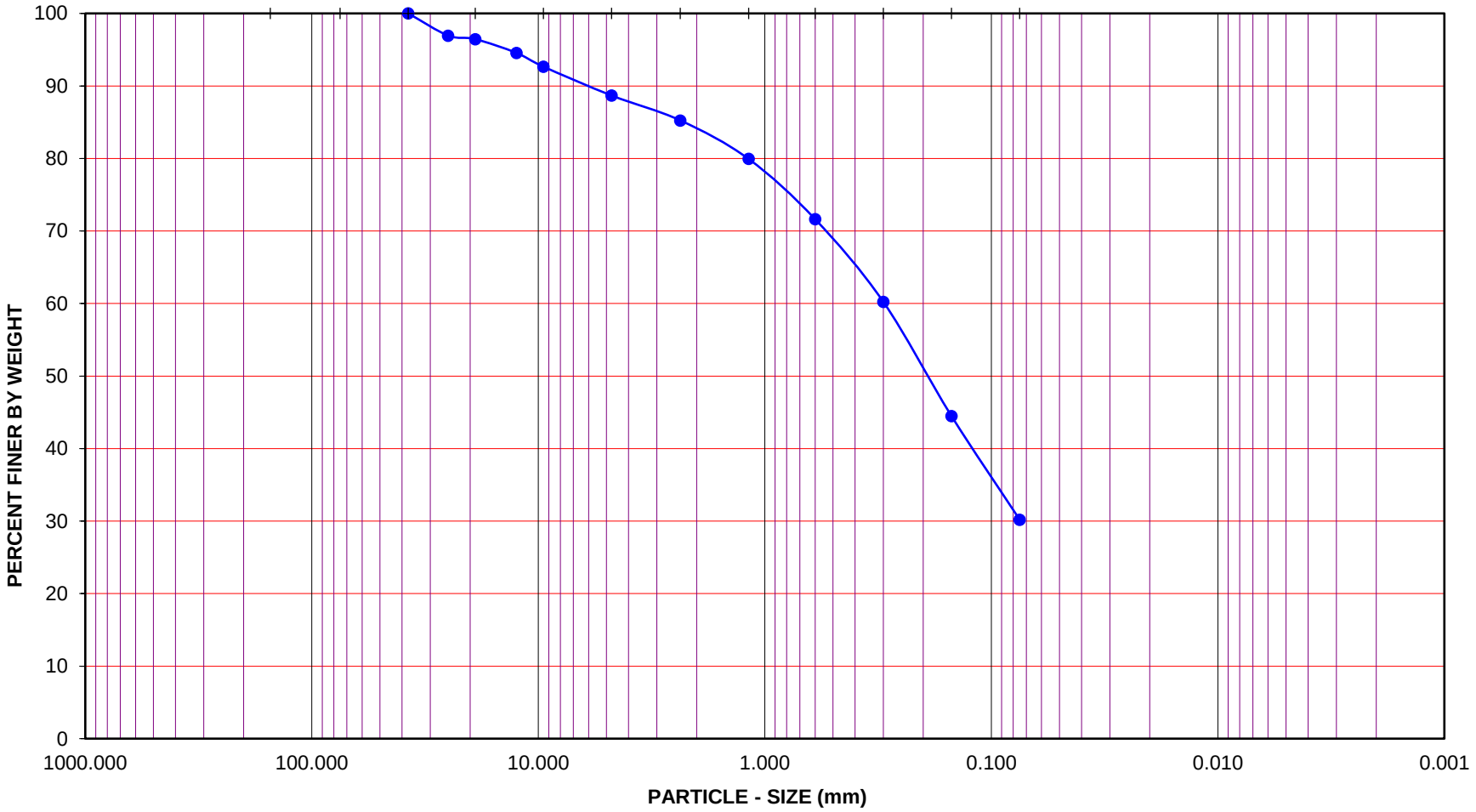
Soil Identification: Silty SAND (SM), yellowish brown

GR:SA:FI : (%) 8 : 57 : 35

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Exploration No.: P-3 Sample No.: P-3@7

Depth (feet): 7 Soil Type: SM

Soil Identification: Silty SAND (SM), yellowish brown

GR:SA:FI : (%) 11 : 58 : 30

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Checked by:

Project No.: T2974-22-01

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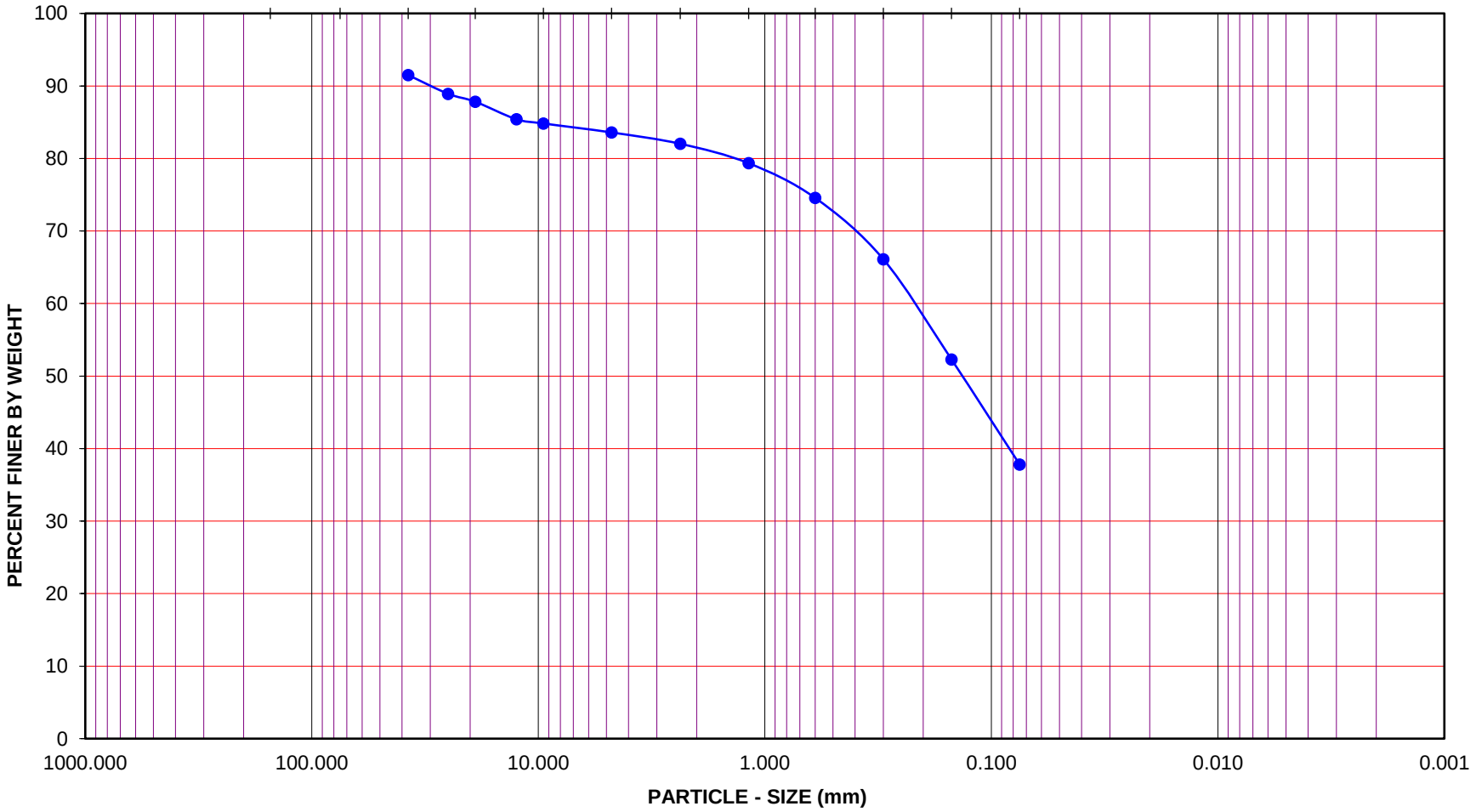
May-22 Figure B7

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



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PARTICLE - SIZE DISTRIBUTION

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Project No.: T2974-22-01

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Menifee, California

May-22 Figure B8

Exploration No.: P-4 Sample No.: P-4@7

Depth (feet): 7 Soil Type: SMg

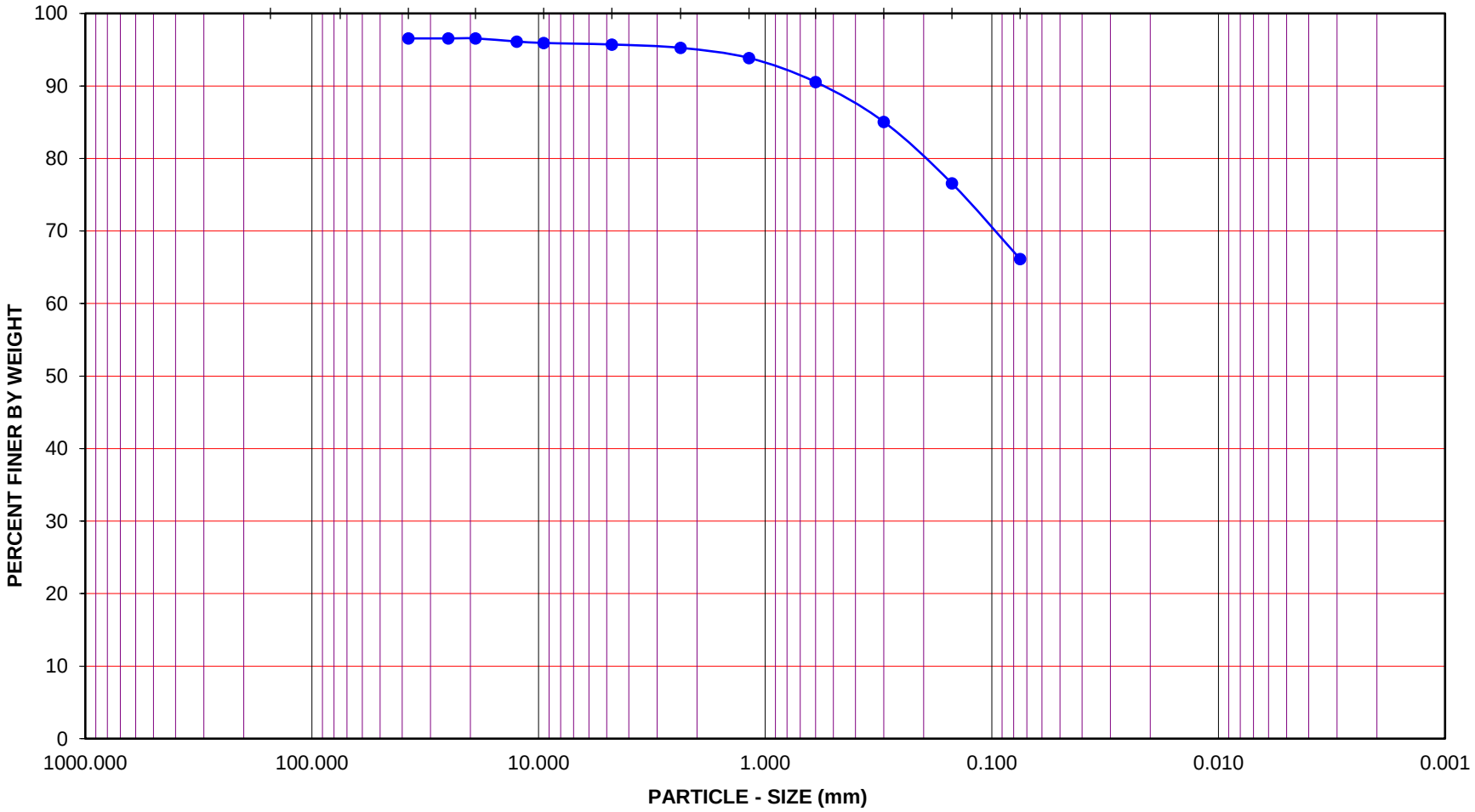
Soil Identification: Silty SAND with Gravel (SM)g, yellowish brown

GR:SA:FI : (%) 16 : 46 : 38

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



GEOCON WEST, INC.

PARTICLE - SIZE DISTRIBUTION

ASTM C-136

Checked by:

Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May-22 Figure B9

Exploration No.: P-5 Sample No.: P-5@8

Depth (feet): 8 Soil Type: ML

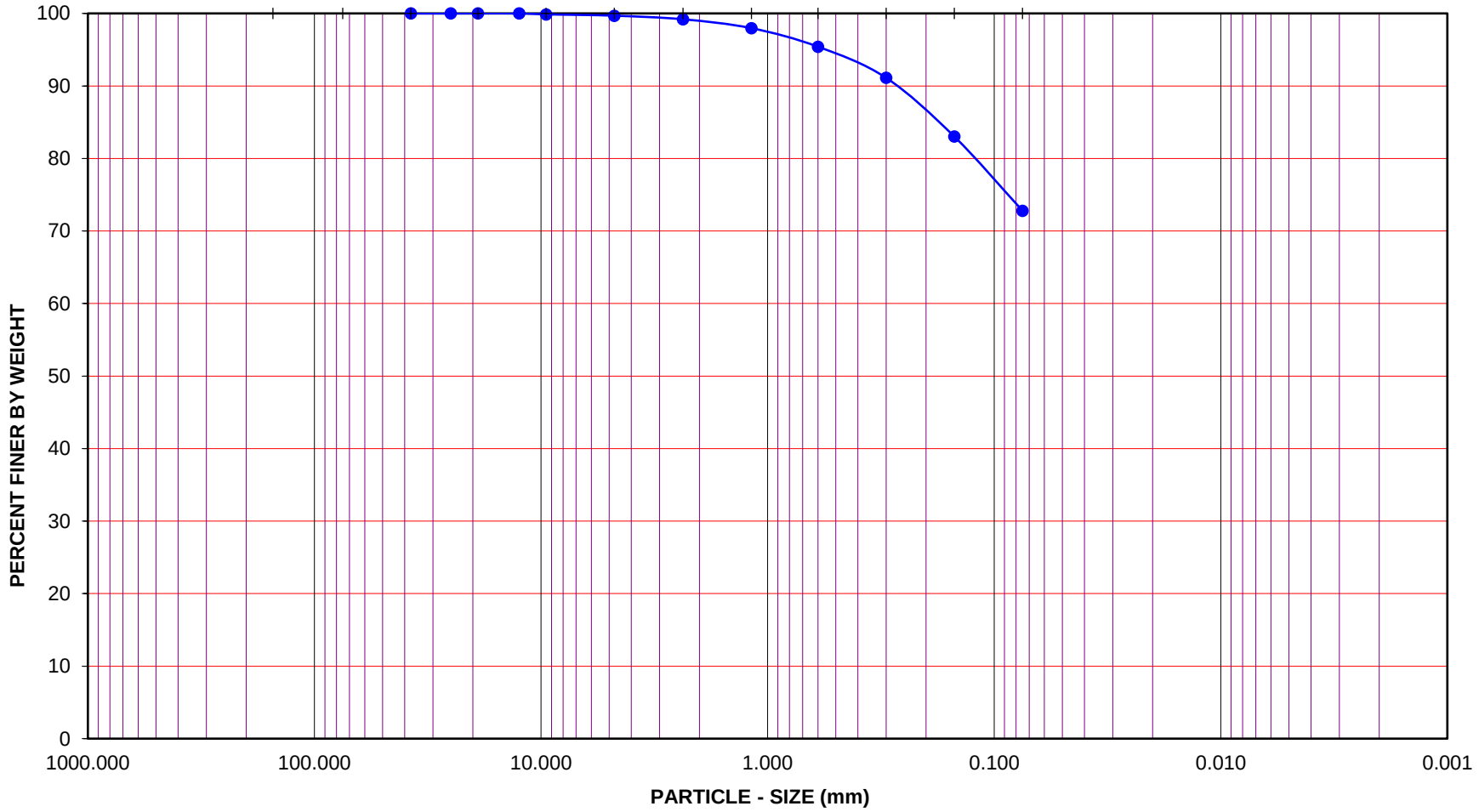
Soil Identification: SILT with Sand (ML), brown

GR:SA:FI : (%) 4 : 30 : 66

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER

6.0" 3.0" 1 ½" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



GEOCON WEST, INC.

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Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

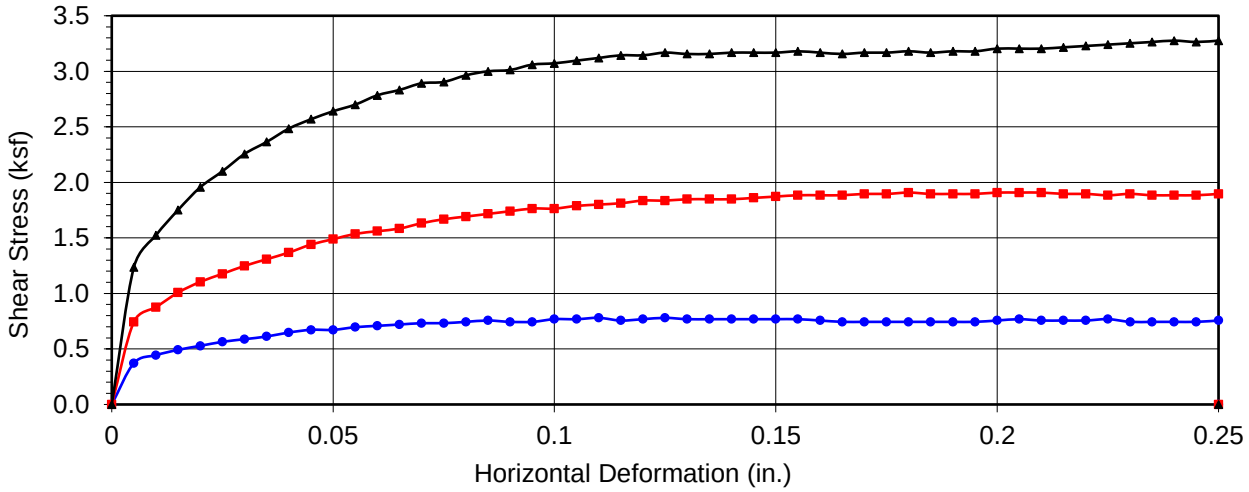
May-22 Figure B10

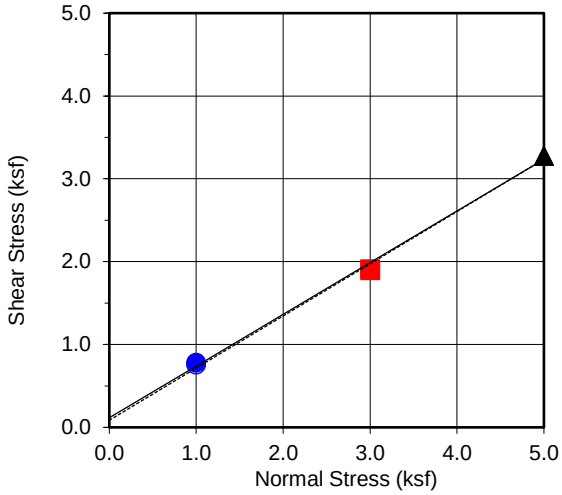
Exploration No.: P-6 Sample No.: P-6@8

Depth (feet): 8 Soil Type: ML

Soil Identification: SILT with Sand (ML), brown

GR:SA:FI : (%) 0 : 27 : 73





Boring No.	**TP-1**
Sample No.	**TP-1@0-5**
Depth (ft)	**Bulk**
Sample Type:	0-5

Soil Identification:

Silty SAND (SM), yellowish brown

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	116	32.0
Ultimate	86	32.2

Normal Strest (kip/ft2)	1	3	5
Peak Shear Stress (kip/ft²)	● 0.78	■ 1.91	▲ 3.28
Shear Stress @ End of Test (ksf)	○ 0.76	□ 1.90	△ 3.28
Deformation Rate (in./min.)	0.05	0.05	0.05
Initial Sample Height (in.)	1.0	1.0	1.0
Ring Inside Diameter (in.)	2.375	2.375	2.375
Initial Moisture Content (%)	8.1	8.1	8.1
Initial Dry Density (pcf)	117.0	117.0	117.0
Initial Degree of Saturation (%)	49.4	49.5	49.5
Soil Height Before Shearing (in.)	1.2	1.2	1.2
Final Moisture Content (%)	11.9	10.9	12.5

GEOCON

DIRECT SHEAR TEST RESULTS

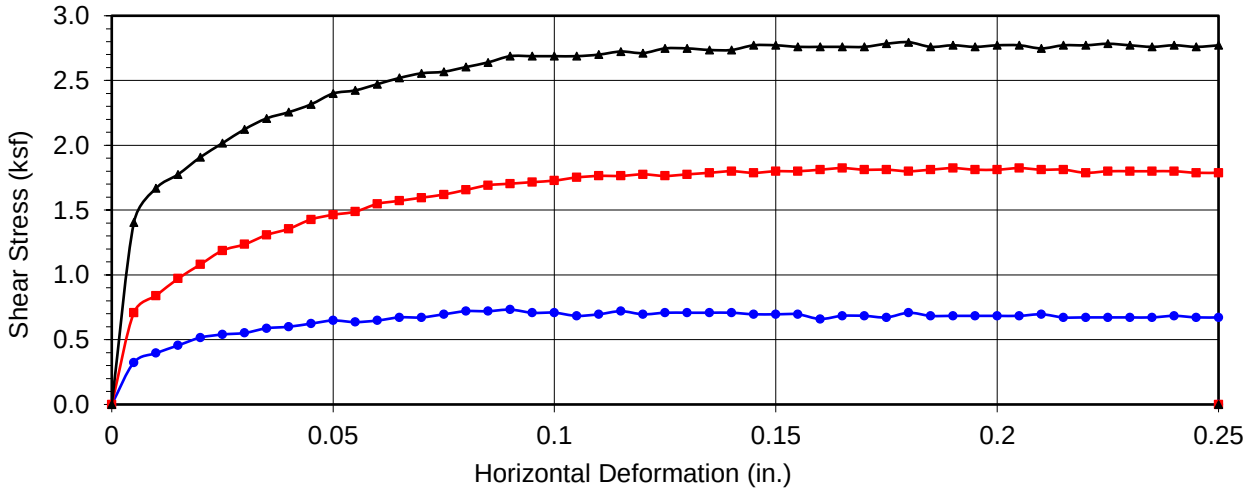
Consolidated Drained ASTM D-3080

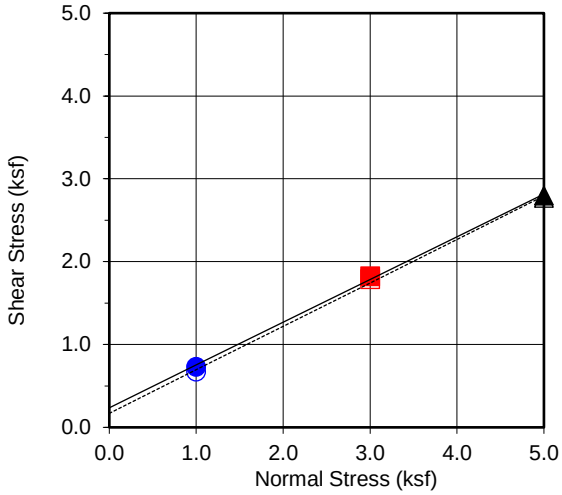
Checked by:

Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May 22 Figure B11





Boring No.	**TP-2**
Sample No.	**TP-2@6-10**
Depth (ft)	**Bulk**
Sample Type:	6-10

Soil Identification:
Silty SAND (SM), yellowish brown

Strength Parameters

	C (psf)	ϕ (°)
Peak	236	27.3
Ultimate	169	27.7

Normal Strest (kip/ft2)	1	3	5
Peak Shear Stress (kip/ft²)	● 0.73	■ 1.82	▲ 2.80
Shear Stress @ End of Test (ksf)	○ 0.67	□ 1.79	△ 2.77
Deformation Rate (in./min.)	0.05	0.05	0.05
Initial Sample Height (in.)	1.0	1.0	1.0
Ring Inside Diameter (in.)	2.375	2.375	2.375
Initial Moisture Content (%)	11.4	11.5	11.6
Initial Dry Density (pcf)	107.9	108.0	108.1
Initial Degree of Saturation (%)	54.8	55.1	56.1
Soil Height Before Shearing (in.)	1.2	1.2	1.2
Final Moisture Content (%)	18.0	18.1	16.0

GEOCON

DIRECT SHEAR TEST RESULTS

Consolidated Drained ASTM D-3080

Checked by:

Project No.: T2974-22-01

Coronado Residential
Thornton Avenue
Menifee, California

May 22 Figure B12

APPENDIX C

APPENDIX C

RECOMMENDED GRADING SPECIFICATIONS

FOR

CORONADO RESIDENTIAL
THORNTON AVENUE
MENIFEE, CALIFORNIA

PROJECT NO. T2974-22-01

RECOMMENDED GRADING SPECIFICATIONS

1. GENERAL

1.1 These Recommended Grading Specifications shall be used in conjunction with the Geotechnical Report for the project prepared by Geocon. The recommendations contained in the text of the Geotechnical Report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict.

1.2 Prior to the commencement of grading, a geotechnical consultant (Consultant) shall be employed for the purpose of observing earthwork procedures and testing the fills for substantial conformance with the recommendations of the Geotechnical Report and these specifications. The Consultant should provide adequate testing and observation services so that they may assess whether, in their opinion, the work was performed in substantial conformance with these specifications. It shall be the responsibility of the Contractor to assist the Consultant and keep them apprised of work schedules and changes so that personnel may be scheduled accordingly.

1.3 It shall be the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and the approved grading plans. If, in the opinion of the Consultant, unsatisfactory conditions such as questionable soil materials, poor moisture condition, inadequate compaction, and/or adverse weather result in a quality of work not in conformance with these specifications, the Consultant will be empowered to reject the work and recommend to the Owner that grading be stopped until the unacceptable conditions are corrected.

2. DEFINITIONS

2.1 **Owner** shall refer to the owner of the property or the entity on whose behalf the grading work is being performed and who has contracted with the Contractor to have grading performed.

2.2 **Contractor** shall refer to the Contractor performing the site grading work.

2.3 **Civil Engineer** or **Engineer of Work** shall refer to the California licensed Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topography.

2.4 **Consultant** shall refer to the soil engineering and engineering geology consulting firm retained to provide geotechnical services for the project.

2.5 **Soil Engineer** shall refer to a California licensed Civil Engineer retained by the Owner, who is experienced in the practice of geotechnical engineering. The Soil Engineer shall be responsible for having qualified representatives on-site to observe and test the Contractor's work for conformance with these specifications.

2.6 **Engineering Geologist** shall refer to a California licensed Engineering Geologist retained by the Owner to provide geologic observations and recommendations during the site grading.

2.7 **Geotechnical Report** shall refer to a soil report (including all addenda) which may include a geologic reconnaissance or geologic investigation that was prepared specifically for the development of the project for which these Recommended Grading Specifications are intended to apply.

3. MATERIALS

3.1 Materials for compacted fill shall consist of any soil excavated from the cut areas or imported to the site that, in the opinion of the Consultant, is suitable for use in construction of fills. In general, fill materials can be classified as *soil* fills, *soil-rock* fills or *rock* fills, as defined below.

3.1.1 **Soil fills** are defined as fills containing no rocks or hard lumps greater than 12 inches in maximum dimension and containing at least 40 percent by weight of material smaller than ¾ inch in size.

3.1.2 **Soil-rock fills** are defined as fills containing no rocks or hard lumps larger than 4 feet in maximum dimension and containing a sufficient matrix of soil fill to allow for proper compaction of soil fill around the rock fragments or hard lumps as specified in Paragraph 6.2. **Oversize rock** is defined as material greater than 12 inches.

3.1.3 **Rock fills** are defined as fills containing no rocks or hard lumps larger than 3 feet in maximum dimension and containing little or no fines. Fines are defined as material smaller than ¾ inch in maximum dimension. The quantity of fines shall be less than approximately 20 percent of the rock fill quantity.

3.2 Material of a perishable, spongy, or otherwise unsuitable nature as determined by the Consultant shall not be used in fills.

3.3 Materials used for fill, either imported or on-site, shall not contain hazardous materials as defined by the California Code of Regulations, Title 22, Division 4, Chapter 30, Articles 9

and 10; 40CFR; and any other applicable local, state or federal laws. The Consultant shall not be responsible for the identification or analysis of the potential presence of hazardous materials. However, if observations, odors or soil discoloration cause Consultant to suspect the presence of hazardous materials, the Consultant may request from the Owner the termination of grading operations within the affected area. Prior to resuming grading operations, the Owner shall provide a written report to the Consultant indicating that the suspected materials are not hazardous as defined by applicable laws and regulations.

3.4 The outer 15 feet of *soil-rock* fill slopes, measured horizontally, should be composed of properly compacted *soil* fill materials approved by the Consultant. *Rock* fill may extend to the slope face, provided that the slope is not steeper than 2:1 (horizontal:vertical) and a soil layer no thicker than 12 inches is track-walked onto the face for landscaping purposes. This procedure may be utilized provided it is acceptable to the governing agency, Owner and Consultant.

3.5 Samples of soil materials to be used for fill should be tested in the laboratory by the Consultant to determine the maximum density, optimum moisture content, and, where appropriate, shear strength, expansion, and gradation characteristics of the soil.

3.6 During grading, soil or groundwater conditions other than those identified in the Geotechnical Report may be encountered by the Contractor. The Consultant shall be notified immediately to evaluate the significance of the unanticipated condition

4. CLEARING AND PREPARING AREAS TO BE FILLED

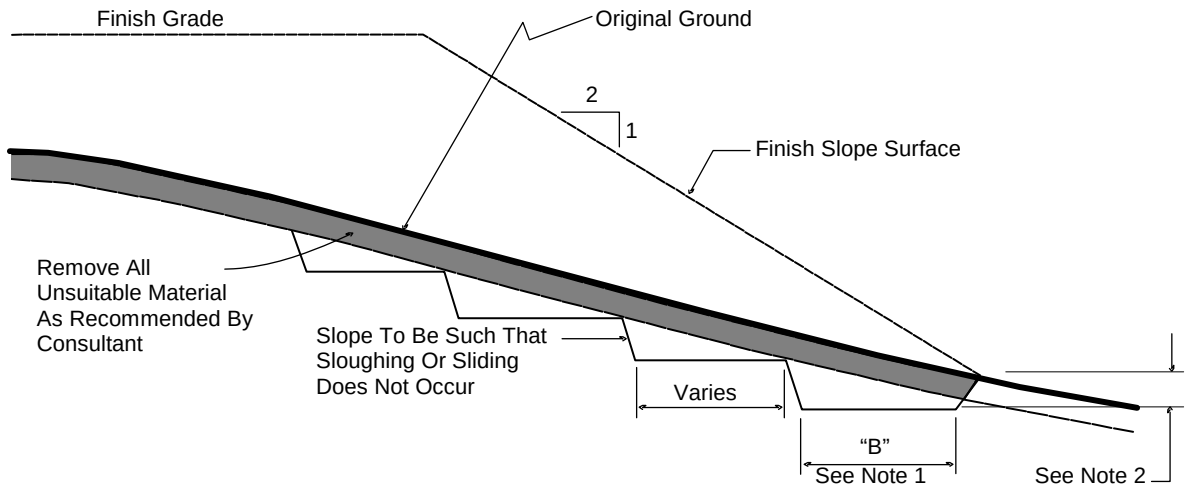
4.1 Areas to be excavated and filled shall be cleared and grubbed. Clearing shall consist of complete removal above the ground surface of trees, stumps, brush, vegetation, man-made structures, and similar debris. Grubbing shall consist of removal of stumps, roots, buried logs and other unsuitable material and shall be performed in areas to be graded. Roots and other projections exceeding 1½ inches in diameter shall be removed to a depth of 3 feet below the surface of the ground. Borrow areas shall be grubbed to the extent necessary to provide suitable fill materials.

4.2 Asphalt pavement material removed during clearing operations should be properly disposed at an approved off-site facility or in an acceptable area of the project evaluated by Geocon and the property owner. Concrete fragments that are free of reinforcing steel may be placed in fills, provided they are placed in accordance with Section 6.2 or 6.3 of this document.

4.3 After clearing and grubbing of organic matter and other unsuitable material, loose or porous soils shall be removed to the depth recommended in the Geotechnical Report. The depth of removal and compaction should be observed and approved by a representative of the Consultant. The exposed surface shall then be plowed or scarified to a minimum depth of 6 inches and until the surface is free from uneven features that would tend to prevent uniform compaction by the equipment to be used.

4.4 Where the slope ratio of the original ground is steeper than 5:1 (horizontal:vertical), or where recommended by the Consultant, the original ground should be benched in accordance with the following illustration.

TYPICAL BENCHING DETAIL



No Scale

DETAIL NOTES: (1) Key width "B" should be a minimum of 10 feet, or sufficiently wide to permit complete coverage with the compaction equipment used. The base of the key should be graded horizontal, or inclined slightly into the natural slope.

(2) The outside of the key should be below the topsoil or unsuitable surficial material and at least 2 feet into dense formational material. Where hard rock is exposed in the bottom of the key, the depth and configuration of the key may be modified as approved by the Consultant.

4.5 After areas to receive fill have been cleared and scarified, the surface should be moisture conditioned to achieve the proper moisture content, and compacted as recommended in Section 6 of these specifications.

5. COMPACTION EQUIPMENT

5.1 Compaction of *soil* or *soil-rock* fill shall be accomplished by sheepsfoot or segmented-steel wheeled rollers, vibratory rollers, multiple-wheel pneumatic-tired rollers, or other types of acceptable compaction equipment. Equipment shall be of such a design that it will be capable of compacting the *soil* or *soil-rock* fill to the specified relative compaction at the specified moisture content.

5.2 Compaction of *rock* fills shall be performed in accordance with Section 6.3.

6. PLACING, SPREADING AND COMPACTION OF FILL MATERIAL

6.1 *Soil* fill, as defined in Paragraph 3.1.1, shall be placed by the Contractor in accordance with the following recommendations:

6.1.1 *Soil* fill shall be placed by the Contractor in layers that, when compacted, should generally not exceed 8 inches. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to obtain uniformity of material and moisture in each layer. The entire fill shall be constructed as a unit in nearly level lifts. Rock materials greater than 12 inches in maximum dimension shall be placed in accordance with Section 6.2 or 6.3 of these specifications.

6.1.2 In general, the *soil* fill shall be compacted at a moisture content at or above the optimum moisture content as determined by ASTM D 1557.

6.1.3 When the moisture content of *soil* fill is below that specified by the Consultant, water shall be added by the Contractor until the moisture content is in the range specified.

6.1.4 When the moisture content of the *soil* fill is above the range specified by the Consultant or too wet to achieve proper compaction, the *soil* fill shall be aerated by the Contractor by blading/mixing, or other satisfactory methods until the moisture content is within the range specified.

6.1.5 After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted by the Contractor to a relative compaction of at least 90 percent. Relative compaction is defined as the ratio (expressed in percent) of the in-place dry density of the compacted fill to the maximum laboratory dry density as determined in accordance with ASTM D 1557. Compaction shall be continuous over the entire area, and compaction equipment shall make sufficient passes so that the specified minimum relative compaction has been achieved throughout the entire fill.

6.1.6 Where practical, soils having an Expansion Index greater than 50 should be placed at least 3 feet below finish pad grade and should be compacted at a moisture content generally 2 to 4 percent greater than the optimum moisture content for the material.

6.1.7 Properly compacted *soil* fill shall extend to the design surface of fill slopes. To achieve proper compaction, it is recommended that fill slopes be over-built by at least 3 feet and then cut to the design grade. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.

6.1.8 As an alternative to over-building of slopes, slope faces may be back-rolled with a heavy-duty loaded sheepsfoot or vibratory roller at maximum 4-foot fill height intervals. Upon completion, slopes should then be track-walked with a D-8 dozer or similar equipment, such that a dozer track covers all slope surfaces at least twice.

6.2 *Soil-rock* fill, as defined in Paragraph 3.1.2, shall be placed by the Contractor in accordance with the following recommendations:

6.2.1 Rocks larger than 12 inches but less than 4 feet in maximum dimension may be incorporated into the compacted *soil* fill, but shall be limited to the area measured 15 feet minimum horizontally from the slope face and 5 feet below finish grade or 3 feet below the deepest utility, whichever is deeper.

6.2.2 Rocks or rock fragments up to 4 feet in maximum dimension may either be individually placed or placed in windrows. Under certain conditions, rocks or rock fragments up to 10 feet in maximum dimension may be placed using similar methods. The acceptability of placing rock materials greater than 4 feet in maximum dimension shall be evaluated during grading as specific cases arise and shall be approved by the Consultant prior to placement.

6.2.3 For individual placement, sufficient space shall be provided between rocks to allow for passage of compaction equipment.

6.2.4 For windrow placement, the rocks should be placed in trenches excavated in properly compacted *soil* fill. Trenches should be approximately 5 feet wide and 4 feet deep in maximum dimension. The voids around and beneath rocks should be filled with approved granular soil having a Sand Equivalent of 30 or greater and should be compacted by flooding. Windrows may also be placed utilizing an "open-face" method in lieu of the trench procedure, however, this method should first be approved by the Consultant.

6.2.5 Windrows should generally be parallel to each other and may be placed either parallel to or perpendicular to the face of the slope depending on the site geometry. The minimum horizontal spacing for windrows shall be 12 feet center-to-center with a 5-foot stagger or offset from lower courses to next overlying course. The minimum vertical spacing between windrow courses shall be 2 feet from the top of a lower windrow to the bottom of the next higher windrow.

6.2.6 Rock placement, fill placement and flooding of approved granular soil in the windrows should be continuously observed by the Consultant.

6.3 *Rock* fills, as defined in Section 3.1.3, shall be placed by the Contractor in accordance with the following recommendations:

6.3.1 The base of the *rock* fill shall be placed on a sloping surface (minimum slope of 2 percent). The surface shall slope toward suitable subdrainage outlet facilities. The *rock* fills shall be provided with subdrains during construction so that a hydrostatic pressure buildup does not develop. The subdrains shall be permanently connected to controlled drainage facilities to control post-construction infiltration of water.

6.3.2 *Rock* fills shall be placed in lifts not exceeding 3 feet. Placement shall be by rock trucks traversing previously placed lifts and dumping at the edge of the currently placed lift. Spreading of the *rock* fill shall be by dozer to facilitate *seating* of the rock. The *rock* fill shall be watered heavily during placement. Watering shall consist of water trucks traversing in front of the current rock lift face and spraying water continuously during rock placement. Compaction equipment with compactive energy comparable to or greater than that of a 20-ton steel vibratory roller or other compaction equipment providing suitable energy to achieve the required compaction or deflection as recommended in Paragraph 6.3.3 shall be utilized. The number of passes to be made should be determined as described in Paragraph 6.3.3. Once a *rock* fill lift has been covered with *soil* fill, no additional *rock* fill lifts will be permitted over the *soil* fill.

6.3.3 Plate bearing tests, in accordance with ASTM D 1196, may be performed in both the compacted *soil* fill and in the *rock* fill to aid in determining the required minimum number of passes of the compaction equipment. If performed, a minimum of three plate bearing tests should be performed in the properly compacted *soil* fill (minimum relative compaction of 90 percent). Plate bearing tests shall then be performed on areas of *rock* fill having two passes, four passes and six passes of the compaction equipment, respectively. The number of passes required for the *rock* fill shall be determined by comparing the results of the plate bearing tests for the *soil* fill and the *rock* fill and by evaluating the deflection

variation with number of passes. The required number of passes of the compaction equipment will be performed as necessary until the plate bearing deflections are equal to or less than that determined for the properly compacted *soil* fill. In no case will the required number of passes be less than two.

6.3.4 A representative of the Consultant should be present during *rock* fill operations to observe that the minimum number of "passes" have been obtained, that water is being properly applied and that specified procedures are being followed. The actual number of plate bearing tests will be determined by the Consultant during grading.

6.3.5 Test pits shall be excavated by the Contractor so that the Consultant can state that, in their opinion, sufficient water is present and that voids between large rocks are properly filled with smaller rock material. In-place density testing will not be required in the *rock* fills.

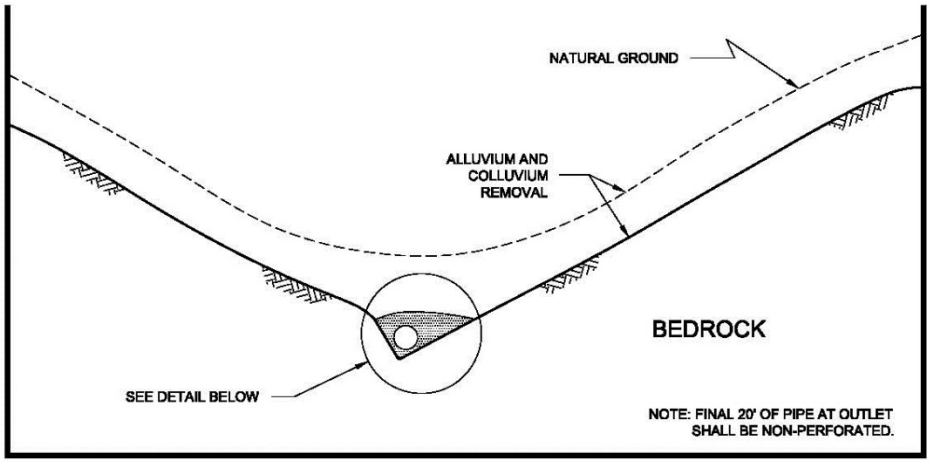
6.3.6 To reduce the potential for "piping" of fines into the *rock* fill from overlying *soil* fill material, a 2-foot layer of graded filter material shall be placed above the uppermost lift of *rock* fill. The need to place graded filter material below the *rock* should be determined by the Consultant prior to commencing grading. The gradation of the graded filter material will be determined at the time the *rock* fill is being excavated. Materials typical of the *rock* fill should be submitted to the Consultant in a timely manner, to allow design of the graded filter prior to the commencement of *rock* fill placement.

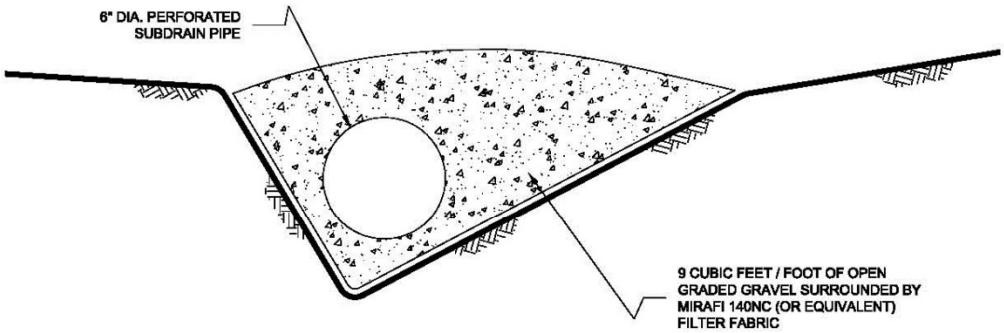
6.3.7 *Rock* fill placement should be continuously observed during placement by the Consultant.

7. SUBDRAINS

7.1 The geologic units on the site may have permeability characteristics and/or fracture systems that could be susceptible under certain conditions to seepage. The use of canyon subdrains may be necessary to mitigate the potential for adverse impacts associated with seepage conditions. Canyon subdrains with lengths in excess of 500 feet or extensions of existing offsite subdrains should use 8-inch-diameter pipes. Canyon subdrains less than 500 feet in length should use 6-inch-diameter pipes.

TYPICAL CANYON DRAIN DETAIL





NOTES:

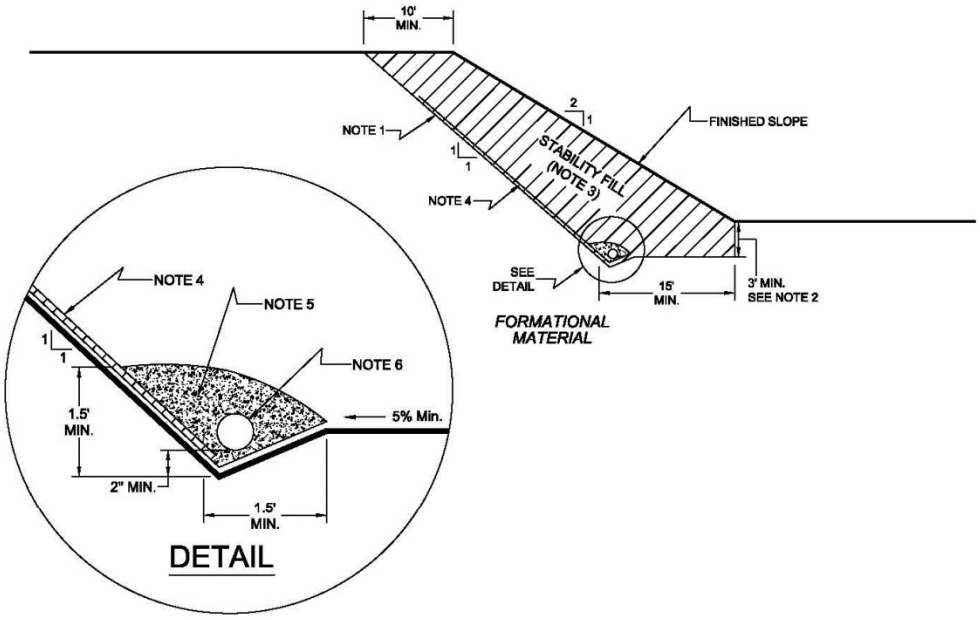
1.....6-INCH DIAMETER, SCHEDULE 80 PVC PERFORATED PIPE FOR FILLS
IN EXCESS OF 100-FEET IN DEPTH OR A PIPE LENGTH OF LONGER THAN 500 FEET.

2.....6-INCH DIAMETER, SCHEDULE 40 PVC PERFORATED PIPE FOR FILLS
LESS THAN 100-FEET IN DEPTH OR A PIPE LENGTH SHORTER THAN 500 FEET.

NO SCALE

7.2 Slope drains within stability fill keyways should use 4-inch-diameter (or lager) pipes.

TYPICAL STABILITY FILL DETAIL



NOTES:

1.....EXCAVATE BACKCUT AT 1:1 INCLINATION (UNLESS OTHERWISE NOTED).

2.....BASE OF STABILITY FILL TO BE 3 FEET INTO FORMATIONAL MATERIAL, SLOPING A MINIMUM 5% INTO SLOPE.

3.....STABILITY FILL TO BE COMPOSED OF PROPERLY COMPACTED GRANULAR SOIL.

4.....CHIMNEY DRAINS TO BE APPROVED PREFABRICATED CHIMNEY DRAIN PANELS (MIRADRAIN G200N OR EQUIVALENT) SPACED APPROXIMATELY 20 FEET CENTER TO CENTER AND 4 FEET WIDE. CLOSER SPACING MAY BE REQUIRED IF SEEPAGE IS ENCOUNTERED.

5.....FILTER MATERIAL TO BE 3/4-INCH, OPEN-GRADED CRUSHED ROCK ENCLOSED IN APPROVED FILTER FABRIC (MIRAFI 140NC).

6.....COLLECTOR PIPE TO BE 4-INCH MINIMUM DIAMETER, PERFORATED, THICK-WALLED PVC SCHEDULE 40 OR EQUIVALENT, AND SLOPED TO DRAIN AT 1 PERCENT MINIMUM TO APPROVED OUTLET.

NO SCALE

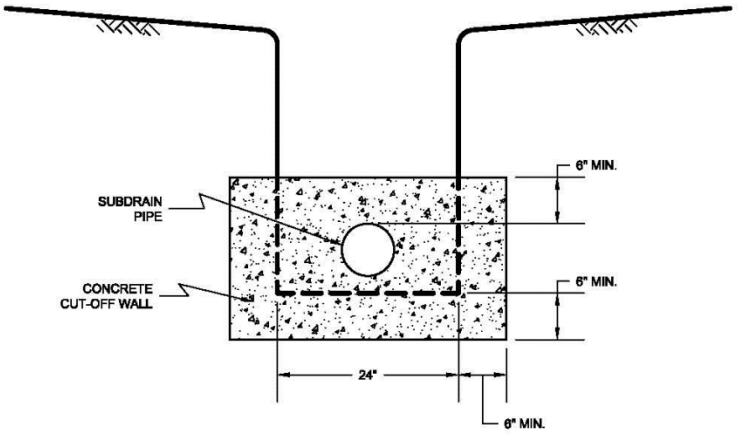
7.3 The actual subdrain locations will be evaluated in the field during the remedial grading operations. Additional drains may be necessary depending on the conditions observed and the requirements of the local regulatory agencies. Appropriate subdrain outlets should be evaluated prior to finalizing 40-scale grading plans.

7.4 *Rock* fill or *soil-rock* fill areas may require subdrains along their down-slope perimeters to mitigate the potential for buildup of water from construction or landscape irrigation. The subdrains should be at least 6-inch-diameter pipes encapsulated in gravel and filter fabric. *Rock* fill drains should be constructed using the same requirements as canyon subdrains.

7.5 Prior to outletting, the final 20-foot segment of a subdrain that will not be extended during future development should consist of non-perforated drainpipe. At the non-perforated/ perforated interface, a seepage cutoff wall should be constructed on the downslope side of the pipe.

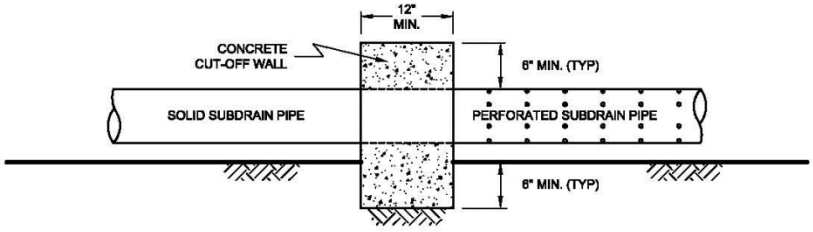
TYPICAL CUT OFF WALL DETAIL

FRONT VIEW



NO SCALE

SIDE VIEW

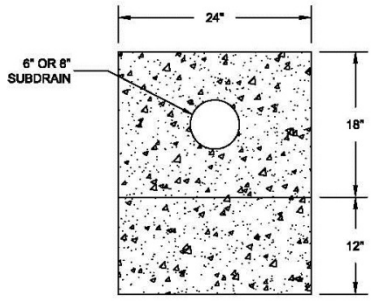


NO SCALE

7.6 Subdrains that discharge into a natural drainage course or open space area should be provided with a permanent headwall structure.

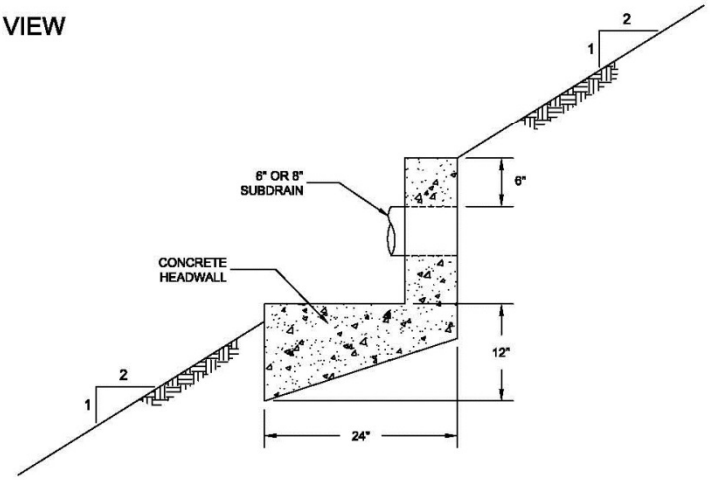
TYPICAL HEADWALL DETAIL

FRONT VIEW



NO SCALE

SIDE VIEW



NOTE: HEADWALL SHOULD OUTLET AT TOE OF FILL SLOPE OR INTO CONTROLLED SURFACE DRAINAGE

NO SCALE

7.7 The final grading plans should show the location of the proposed subdrains. After completion of remedial excavations and subdrain installation, the project civil engineer should survey the drain locations and prepare an "as-built" map showing the drain locations. The final outlet and connection locations should be determined during grading operations. Subdrains that will be extended on adjacent projects after grading can be placed on formational material and a vertical riser should be placed at the end of the subdrain. The grading contractor should consider videoing the subdrains shortly after burial to check proper installation and functionality. The contractor is responsible for the performance of the drains.

8. OBSERVATION AND TESTING

8.1 The Consultant shall be the Owner's representative to observe and perform tests during clearing, grubbing, filling, and compaction operations. In general, no more than 2 feet in vertical elevation of *soil* or *soil-rock* fill should be placed without at least one field density test being performed within that interval. In addition, a minimum of one field density test should be performed for every 2,000 cubic yards of *soil* or *soil-rock* fill placed and compacted.

8.2 The Consultant should perform a sufficient distribution of field density tests of the compacted *soil* or *soil-rock* fill to provide a basis for expressing an opinion whether the fill material is compacted as specified. Density tests shall be performed in the compacted materials below any disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof is below that specified, the particular layer or areas represented by the test shall be reworked until the specified density has been achieved.

8.3 During placement of *rock* fill, the Consultant should observe that the minimum number of passes have been obtained per the criteria discussed in Section 6.3.3. The Consultant should request the excavation of observation pits and may perform plate bearing tests on the placed *rock* fills. The observation pits will be excavated to provide a basis for expressing an opinion as to whether the *rock* fill is properly seated and sufficient moisture has been applied to the material. When observations indicate that a layer of *rock* fill or any portion thereof is below that specified, the affected layer or area shall be reworked until the *rock* fill has been adequately seated and sufficient moisture applied.

8.4 A settlement monitoring program designed by the Consultant may be conducted in areas of *rock* fill placement. The specific design of the monitoring program shall be as recommended in the Conclusions and Recommendations section of the project Geotechnical Report or in the final report of testing and observation services performed during grading.

8.5 We should observe the placement of subdrains, to check that the drainage devices have been placed and constructed in substantial conformance with project specifications.

8.6 Testing procedures shall conform to the following Standards as appropriate:

8.6.1 Soil and Soil-Rock Fills:

8.6.1.1 Field Density Test, ASTM D 1556, *Density of Soil In-Place By the Sand-Cone Method.*

8.6.1.2 Field Density Test, Nuclear Method, ASTM D 6938, *Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth).*

8.6.1.3 Laboratory Compaction Test, ASTM D 1557, *Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Pound Hammer and 18-Inch Drop*.

8.6.1.4. Expansion Index Test, ASTM D 4829, *Expansion Index Test*.

9. PROTECTION OF WORK

9.1 During construction, the Contractor shall properly grade all excavated surfaces to provide positive drainage and prevent ponding of water. Drainage of surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site. The Contractor shall take remedial measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been installed. Areas subjected to erosion or sedimentation shall be properly prepared in accordance with the Specifications prior to placing additional fill or structures.

9.2 After completion of grading as observed and tested by the Consultant, no further excavation or filling shall be conducted except in conjunction with the services of the Consultant.

10. CERTIFICATIONS AND FINAL REPORTS

10.1 Upon completion of the work, Contractor shall furnish Owner a certification by the Civil Engineer stating that the lots and/or building pads are graded to within 0.1 foot vertically of elevations shown on the grading plan and that all tops and toes of slopes are within 0.5 foot horizontally of the positions shown on the grading plans. After installation of a section of subdrain, the project Civil Engineer should survey its location and prepare an *as-built* plan of the subdrain location. The project Civil Engineer should verify the proper outlet for the subdrains and the Contractor should ensure that the drain system is free of obstructions.

10.2 The Owner is responsible for furnishing a final as-graded soil and geologic report satisfactory to the appropriate governing or accepting agencies. The as-graded report should be prepared and signed by a California licensed Civil Engineer experienced in geotechnical engineering and by a California Certified Engineering Geologist, indicating that the geotechnical aspects of the grading were performed in substantial conformance with the Specifications or approved changes to the Specifications.

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

CORONADO CONDOS
RIVERSIDE COUNTY
ASSESSOR PARCEL NUMBERS 335-440-001 AND -002
MENIFEE, CALIFORNIA

PREPARED FOR:

QUINN COMMUNITIES
C/O FM CIVIL ENGINEERS, INC.
29995 TECHNOLOGY DRIVE, SUITE 306
MURRIETA, CALIFORNIA 92563

PREPARED BY:

GEOCON WEST, INC.
41571 CORNING PLACE #101
MURRIETA CA 92562

GEOCON

GEOCON PROJECT NO. T2974-77-02 **APRIL 2022**

GEOCON
WEST, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. T2974-77-02
April 20, 2022

Quinn Communities
c/o FM Civil Engineers, Inc.
29995 Technology Drive, Suite 306
Murrieta, California 92563

Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
CORONADO CONDOS
RIVERSIDE COUNTY ASSESSOR PARCEL NUMBERS 335-440-001 AND -002
MENIFEE, CALIFORNIA

Mr. Martinez:

Following our agreement (Geocon West, Inc. Proposal No. IE-2962e dated March 9, 2021), Geocon West Inc. has performed a Phase I Environmental Site Assessment (ESA) of the Coronado Condos project (the Site) located south of Thornton Avenue and north of Esther Lane in Menifee, California. We performed the Phase I ESA for Quinn Communities as part of their due diligence.

The enclosed report summarizes the findings of the Phase I ESA including the potential presence of recognized environmental conditions in connection with the Site as defined by the American Society for Testing and Materials *Designation E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

We appreciate the opportunity to have performed this Phase I ESA for Quinn Communities. Please contact us if you have any questions concerning the report or if we may be of further service.

Sincerely,

GEOCON WEST, INC.

Adrian Escobar
Staff Geologist

Cole E. Mikesell
Senior Staff Geologist

Troy K. Reist, CEG, MBA
Senior Geologist

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PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT PAGE

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

1.0 INTRODUCTION

Geocon West, Inc. (Geocon) has performed a Phase I Environmental Site Assessment (ESA) of the Coronado Condos project (the Site) located south of Thornton Avenue and north of Esther Lane in Menifee, California. We performed the Phase I ESA for Quinn Communities (the Client) as part of their due diligence. This report summarizes the methodology and presents the findings of the Phase I ESA.

1.1 Purpose and Objectives

The purpose of the Phase I ESA was to identify evidence or indications of 'recognized environmental conditions' (REC) as defined by the American Society for Testing and Materials (ASTM) *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* Section 1.1.1 of ASTM *Designation E 1527-13* defines an REC as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions." De minimis conditions are those that generally do not present a threat to human health or the environment and that generally would not be the subject of the enforcement action if brought to the attention of appropriate governmental agencies.

ASTM *Designation E1527-13* also defines 'Historical' and 'Controlled' RECs (HREC and CREC, respectively). A 'Historical REC' is defined as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." A 'Controlled REC' is defined as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." An HREC is not an REC if a property meets current standards for unrestricted residential use. A CREC remains an REC by definition when a property does not meet the unrestricted residential use requirement unconditionally.

We also conducted the Phase I ESA in general accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an all appropriate inquiries investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

The following principles are an integral part of ASTM *Designation E1527-13*:

- "**Uncertainty Not Eliminated** - No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost."
- "**Not Exhaustive** - All Appropriate Inquiries does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information."
- "**Level of Inquiry is Variable** - Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry."

1.2 Scope of Services

Our Proposal No. IE-2962e dated March 9, 2021, describes the scope of services for this Phase I ESA. We performed the services outlined in the proposal with the exception that we did not review Sanborn fire insurance maps as EDR, the provider of these maps, indicated that there are none for the Site and vicinity. The main components of the Phase I ESA and their objectives, as specified by the referenced standards, include the following:

- **Physical Setting:** We reviewed physical setting references to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.
- **Records Review:** We reviewed publicly available Federal, State, and local regulatory agency records to obtain information that could potentially help identify RECs at or potentially affecting the Site.

- **Site History:** We reviewed historical references to assess the history of previous uses of the Site and surrounding area to identify those that could have led to RECs on or near the Site. Historical sources reviewed included aerial photographs, topographic maps, and city directories. In addition, we conducted interviews with persons who were expected to be reasonably knowledgeable about historical and/or current conditions at and uses of the Site.
- **Site Reconnaissance:** We performed a site reconnaissance to observe site conditions and activities for indications of evidence of RECs. The site reconnaissance was for the Site only. Offsite properties and features were viewed solely from the vantage of the Site and public thoroughfares.

1.3 Report Limitations

We prepared this Phase I ESA report exclusively for Quinn Communities. The information obtained is only relevant for the dates of the records reviewed and the latest site visit. Therefore, the information contained herein is only valid as of the date of the report and will require an update after 180 days to reflect updated records and another site reconnaissance to assess current site conditions.

Quinn Communities should recognize that a Phase I ESA is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance, information in the specified regulatory records, and information regarding the historical usage of the Site, as presented in this report. Quinn Communities should also understand that we did not assess the Site for wetlands, asbestos-containing building materials, lead-containing paint, lead in drinking water, radon, mercury related to mining activities, methane, mold or naturally-occurring hazards such as asbestos and arsenic as part of this Phase I ESA.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the Phase I ESA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either express or implied. We strove to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

1.4 Data Gaps

A data gap is defined by ASTM *Designation E 1527-13* as "a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information." Data gaps could include such things as insufficient historical information, the inability to interview persons with direct site knowledge (e.g., the owner(s), past owner(s), tenants, workers, etc.) or the lack of access to all parts of a site during the site reconnaissance.

As indicated in Section 1.2, we did not review Sanborn fire insurance maps because EDR indicated that there are none for the Site and vicinity. We do not consider this to be significant data gaps, however, because of other available historical information we reviewed.

2.0 SITE DESCRIPTION

This section describes the location and physical characteristics of the Site including its size and topography, as well as geologic, soil, and hydrologic/hydrogeologic conditions.

2.1 Location and Legal Description

The Site is located south of Thornton Avenue and west of Murrieta Road in the City of Menifee in Riverside County, California (Figure 1). The Public Land Survey System of California includes the Site is within the southeastern quarter of the northeastern quarter of Section 20 of Township 5 South, Range 3 West, San Bernardino Base and Meridian.

Information obtained from Parcel Quest indicates that the Site is currently owned by "Coronado on Thornton." The Site is identified by Riverside County assessor's parcel numbers (APNs) 335-440-001 and -002. Copies of the parcel characteristics/ownership information are in Appendix A.

2.2 Site and Vicinity General Characteristics

The 10.14-acre Site is currently vacant and essentially undeveloped (Figure 2). The site vicinity consists mainly of single-family residential and commercial properties.

2.2.1 Topography

The Site is situated in the northern portion of the Peninsular Ranges, which is a group of mountain ranges stretching from southern California to the southern portion of Baja California. The United States Geological Survey *Romoland, California* topographic map shows elevations on the Site ranging from approximately 1,450 feet above mean sea level in the northeastern portion of the Site to 1,465 feet above mean sea level in the southwestern portion of the Site. Regionally, the Site is situated in the central portion of the Temecula Valley where the land surface slopes gently down to the south.

2.2.2 Geologic Conditions

We obtained geologic information from a variety of sources including *Geology of California* (Norris and Webb, 1990), *Geologic Map of the Romoland 7.5' Quadrangle, Riverside County, California* (Morton, 2003), and the California Geologic Survey's Compilation of Quaternary Surficial Deposits webpage (CGS, https://maps.conservation.ca.gov/cgs/qsd/app/). Following are summaries of pertinent information obtained.

2.2.2.1 Geomorphic Region

The Site is located within the northern portion of the Peninsular Ranges geomorphic province of Southern California. The Peninsular Ranges extend 900 miles from their northern terminus against the Transverse ranges, north of the Los Angeles Basin, southward to the tip of Baja California. The province varies in width from approximately 30 to 100 miles and is traversed by a group of faults and fault zones trending roughly northwest-southeast. In general, the province consists of rugged

northwest-southeast trending mountain ranges with intervening valleys. The ranges are composed of predominantly Cretaceous-age rocks with lesser amounts of Jurassic-age rocks. Post-Cretaceous marine sedimentary formations up to 40,000 feet in thickness can be found in the northernmost portion of the ranges (Norris and Webb, 1990).

2.2.2.2 Geologic Formations/Stratigraphy

The referenced geologic maps indicate that the Site is underlain by very old (middle to early Pleistocene) alluvial fan deposits (Morton, 2003), which are mostly well-dissected, well-indurated, reddish-brown sands and gravels.

2.2.3 Soil Conditions

We obtained general information concerning surficial soil conditions at the Site from the United States Department of Agriculture - Natural Resources Conservation Service Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm). Web Soil Survey information indicates that surficial onsite soil is composed of the following soils:

- **Garretson very fine sandy loam** – fine sandy loam, which formed in residuum weathered from metasedimentary rock.
- **Porterville clay –** clay, which formed in residuum weathered from igneous rock.

2.2.4 Hydrologic and Hydrogeologic Conditions

There are no surface water bodies on the Site. The nearest surface water is Canyon Lake approximately 3.7 miles to the southwest of the Site.

To further assess local groundwater conditions for the site vicinity we searched the California State Water Resources Control Board's GeoTracker online environmental data management system (http://geotracker.waterboards.ca.gov) for groundwater information at the nearest facility with a groundwater monitoring array such as leaking underground storage tank (LUST) facilities or other agency-regulated cleanup sites. A total of 19 groundwater monitoring wells were installed at a Shell Oil Company service station approximately 1 mile to the southeast of the Site related to Regional Board Case Number: 083300360T. Groundwater depths at this facility ranged from approximately 37 to 46 feet below existing grade. Groundwater depth at the Site is anticipated to be similar or deeper with groundwater flow direction likely to be generally consistent with the topography.

2.3 Current and Planned Uses of the Site

The Site is currently not used for any purpose. Quinn Communities plans to redevelop the Site for residential use.

2.4 Descriptions of Structures, Roads, and Other Improvements on the Site

Esther Lane is located in the southeastern portion of the Site. No other structures, roads, or other improvements were identified at the Site, except for a drainage culvert located along the western boundary of the Site. Further description of site conditions is in Section 6.0.

2.5 Current Uses of Adjoining Properties

The current uses of the adjoining properties include Thornton Avenue and Esther Lane to the north and south, respectively, with undeveloped properties and single family residences surrounding the Site. Further description of the surrounding vicinity of the Site is provided in Section 6.0.

3.0 USER–PROVIDED INFORMATION

This section summarizes information provided by the Client regarding the Site. Stefan LaCasse of Quinn Communities completed the *User Questionnaire* (Appendix B).

3.1 Title, Appraisal and Sale Agreement Records

Mr. LaCasse did not provide a title report, appraisal, or sale agreement records for the Site.

3.2 Environmental Liens or Activity and Use Limitations

Mr. LaCasse indicated that he is not aware of any environmental liens or activity and use limitations for the Site.

3.3 Specialized Knowledge

Mr. LaCasse indicated that he does not have any specialized knowledge of the Site.

3.4 Commonly Known or Reasonably Ascertainable Information

Mr. LaCasse indicated that he is not aware of any commonly known or reasonably ascertainable information regarding past or current uses of the Site that could potentially impair or could have impaired the environmental conditions of the Site.

3.5 Valuation Reduction for Environmental Issues

Mr. LaCasse is not aware of any environmental conditions on the Site, which could lead to a potential valuation reduction for the Site.

3.6 Owner, Property Manager, and Occupant Information

We also provided the Client with a *Site Owner/Occupant Questionnaire* to forward to the current site owner or owner representative, regarding their knowledge of the Site and surrounding properties. Information from this questionnaire is summarized in Section 7.0.

3.7 Reason for Performing Phase I ESA

Quinn Communities requested the Phase I ESA to obtain information regarding the potential for existing hazardous substance and/or petroleum product impacts at the Site as part of their due diligence.

4.0 RECORDS REVIEW

This section summarizes information we obtained from readily available agency records pertaining to the Site and properties and facilities in the surrounding vicinity.

4.1 Standard Environmental Record Sources

EDR searched federal, state, and local environmental databases for the Site and properties/facilities within one mile of the Site. The following table lists the databases EDR searched, the properties/facilities listed, and the number of properties/facilities listed. Other databases searched that do not list any properties/facilities are not included in the table. A copy of the report *The EDR Radius Map Report with GeoCheck*, dated March 25, 2022, is in Appendix C.

Database	Search Radius (Miles)	Number of Listings
STANDARD ENVIRONMENTAL RECORDS		
State and tribal equivalent CERCLIS		
Department of Toxic Substances Control's (DTSC) Online Data Management System (EnviroStor)	1	2
ADDITIONAL ENVIRONMENTAL RECORDS		
Other Ascertainable Records		
Resource Conservation and Recovery Act - Non Generators/No Longer Regulated (RCRA NonGen/NLR)	1	2
	TOTAL	**4**

4.1.1 Site

The Site is not listed on any of the databases searched by EDR.

4.1.2 Offsite Properties

Two facilities within ¼ mile of the Site are listed on various non-release-related databases[1] and therefore are unlikely to have caused an REC at the Site. No properties/facilities within 1/4 mile of the Site are listed on one or more release-related databases.

4.2 Orphan Summary

The Orphan Summary identifies facilities that have incomplete address information and therefore could not be accurately plotted by EDR. No properties are identified in the Orphan Summary.

[1] "Release" refers to an unauthorized release of a petroleum product or hazardous substance to the environment (i.e., the ground surface, soil, soil vapor, groundwater, or surface water on a property). "Release-related database" refers to databases that provide information regarding an unauthorized release. "Non-release-related database" refers to databases that may report use, storage, or disposal of hazardous substances and/or petroleum products or other environmental conditions but do not report releases of such.

4.3 Other Environmental Record Sources

4.3.1 GeoTracker and EnviroStor

We reviewed information available on GeoTracker and the California Department of Toxic Substances Control's (DTSC) EnviroStor environmental data management system (http://www.envirostor.dtsc.ca.gov/public/) for information regarding documented environmental assessment and cleanup at the Site and/or properties/facilities within 1/4 mile of the Site. No information for the Site or properties/facilities within 1/4 mile of the Site is available on EnviroStor or GeoTracker.

4.3.2 CalGEM

We reviewed the California Geologic Energy Management Division (CalGem) website (https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspxt) to evaluate the potential for existing/former oil, gas, or geothermal wells on the Site or properties proximal to the Site. CalGem information indicates that no former or current wells are or were located within one mile of the Site.

4.3.3 Well Completion Report Map Application

We reviewed records available on the CDWR's Well Completion Report Map Application for documentation of the onsite well. No records were found for the Site.

4.3.4 Riverside County Agricultural Commissioner's Office

We requested records from the County of Riverside Agricultural Commissioner's Office regarding the use of restricted pesticides at the Site. To date, a response to our inquiry has not been received.

5.0 HISTORICAL USE

We evaluated the historical use of the Site and adjacent properties through review of aerial photographs, topographic maps, and city directories provided by EDR. This section summarizes information obtained from these sources.

5.1 Aerial Photographs

We reviewed the historical aerial photographs provided by EDR for the years 1938, 1949, 1953, 1961, 1967, 1974, 1978, 1985, 1989, 1997, 2002, 2006, 2009, 2012 and 2016 (Appendix D) for indications of past land uses that could have potentially impacted the Site through the use, storage, or disposal of hazardous substances and/or petroleum. The following table summarizes our observations of the Site and adjacent properties on the historical aerial photographs.

Year	Observations	
	Site	Adjacent
1938 (1" = 500')	The Site was undeveloped open space likely used for dry-farming.	Dry-farming was observed in all directions within 1/4 mile of the Site.
1949 (1" = 500')	Conditions were similar to those observed on the 1938 photograph.	Conditions were similar to those observed on the 1938 photograph.
1953 (1" = 500')	Conditions were similar to those observed on the 1949 photograph.	Conditions were similar to those observed on the 1949 photograph.
1961 (1" = 500')	Conditions were similar to those observed on the 1953 photograph.	Two structures were present within 1/4 mile of the Site to the northeast and southeast.
1967 (1" = 500')	Conditions were similar to those observed on the 1961 photograph.	Conditions were similar to those observed on the 1961 photograph with the exception that multiple structures are now present to the south and east of the Site.
1974 (1" = 500')	The resolution of the image is very poor. Conditions appear to be similar to those observed on the 1967 photograph.	The resolution of the image is very poor. Conditions appear to be similar to those observed on the 1967 photograph. The adjacent properties to the east are not mapped.
1978 (1" = 500')	Conditions were similar to those observed in 1967 and 1974 with the exception that it appears the use of the Site for dry-farming has ceased.	Conditions were similar to those observed on the 1967 and 1974 photograph with the exception that single-family residential development appears to have been started beyond the adjacent properties to the south and southeast.
1985 (1" = 500')	Conditions were similar to those observed on the 1978 photograph.	Conditions were similar to those observed on the 1978 photograph with the exception that single-family residences appear to have been partially developed to the south and southwest of the Site.
1989 (1" = 500')	Conditions were similar to those observed on the 1985 photograph.	Conditions were similar to those observed on the 1985 photograph with the exception that the adjacent property to the west of the Site appears to have begun development for single-family residences. A commercial facility appears to have been developed adjacent to the southeast of the Site.

Year	Observations	
	Site	Adjacent
1997 (1" = 500')	Conditions were similar to those observed on the 1989 photograph with the exception that multiple dirt roads are present across the majority of the Site.	Conditions were similar to those observed on the 1989 photograph with the exception that the adjacent residential development to the west of the Site appears to have been completed.
2002 (1" = 500')	Conditions were similar to those observed on the 1997 photograph.	Conditions were similar to those observed on the 1997 photograph.
2006 (1" = 500')	Conditions were similar to those observed on the 2002 photograph with the exception that the dirt roads are no longer present throughout the majority of the Site.	Conditions were similar to those observed on the 2002 photograph with the exception that the adjacent property to the north appears to have been developed with single-family residences.
2009 (1" = 500')	Conditions were similar to those observed on the 2006 photograph.	Conditions were similar to those observed on the 2006 photograph.
2012 (1" = 500')	Conditions were similar to those observed on the 2009 photograph.	Conditions were similar to those observed on the 2009 photograph.
2016 (1" = 500')	Conditions were similar to those observed on the 2012 photograph.	Conditions were similar to those observed on the 2012 photograph.

We did not observe conditions or features that would be considered direct evidence of RECs for the Site in the aerial photographs.

Dry-farming operations, defined as the practice of growing crops without irrigation, appears to have occurred on the Site from sometime prior to 1938. However, no information was obtained indicating evidence of improper storage, disposal or application of these materials and available aerial photographs do not show improvements such as hangers, runways or large barns that would indicate significant storage, formulation and handling of pesticides. In addition, the DTSC's *Interim Guidance for Sampling Agricultural Properties (Third Revision)* indicates that "dry-farming fields are not treated with pesticides or infrequently treated", therefore, "do not need further investigation for pesticides". The historical dry-farming use of the Site is not considered an REC.

5.2 Topographic Maps

We reviewed historical topographic maps for the years 1901, 1942, 1943, 1947, 1953, 1973, 1979, 2012, 2015, and 2018 (Appendix E). The following table summarizes our observations of the Site and adjacent properties on the historical topographic maps.

Year	Observations	
	Site	Adjacent
1901 (1:125,000)	No structures or land uses are depicted at the Site.	No structures or land uses are depicted on the adjacent properties.
1942, (1:62,500)	Conditions depicted are similar to those on the 1901 topographic map.	A road is depicted east within 1/4 mile of the Site. Three structures are depicted adjacent to the southeast of the Site.
1943, (1:62,500)	Conditions depicted are similar to those on the 1942 topographic map.	Conditions depicted are similar to those on the 1942 topographic map.
1947 (1:50,000)	Conditions depicted are similar to those on the 1943 topographic map.	Conditions depicted are similar to those on the 1943 topographic map.
1953 (1:24,000)	Conditions depicted are similar to those on the 1947 topographic map.	Conditions depicted are similar to those on the 1942, 1943, and 1947 topographic maps, with the exception that the three structures are no longer depicted.
1973 (1:24,000)	Conditions depicted are similar to those on the 1953 topographic map.	Conditions depicted are similar to those on the 1953 topographic map with the exception that properties to the south and southeast are shaded pink indicating an urban environment.
1979 (1:24,000)	Conditions depicted are similar to those on the 1973 topographic map.	Conditions depicted are similar to those on the 1973 topographic map.
2012 (1:24,000)	No structures are depicted at the Site. Esther Lane is depicted along the southern boundary of the Site.	No structures are depicted on the topographic map.
2015 (1:24,000)	No roads or structures are depicted at the Site.	No structures or shading are depicted on the topographic map.
2018 (1:24,000)	No structures are depicted at the Site. Esther Lane is depicted along the southern boundary of the Site.	No structures or shading are depicted on the topographic map.

The topographic maps do not depict any features or land uses that directly suggest the presence of RECs on the Site or adjacent properties.

5.3 City Directories

EDR prepared an abstract of city directories including city, cross reference, and a telephone directory, which are summarized in the *EDR-City Directory Image Report* dated March 29, 2022 for the Site. The directories were reviewed at approximately 5-year intervals, if available, from 1971 to 2017. A copy of the EDR city directory abstract, including information regarding offsite facilities, is in Appendix F.

The Site is not listed in the city directories dating back to 1971. The city directories list individual homeowners and a few businesses for the adjacent properties. None of the businesses identified in the city directories for offsite properties suggest uses that would have caused an REC at the Site.

6.0 SITE RECONNAISSANCE

This section summarizes our observations of the Site and surrounding properties made during the site reconnaissance.

6.1 Methodology and Limiting Conditions

Adrian Escobar, Staff Geologist with Geocon, performed the site reconnaissance unaccompanied on March 23, 2022 by walking throughout the Site to observe site features and conditions. Mr. Escobar observed offsite (adjoining and adjacent) properties from the Site and public roads. Weather on the day of the site reconnaissance was sunny with temperatures in the mid-80s°F. Photographs of various site features and offsite properties are appended.

6.2 Site Settings

The Site is situated in an area of predominantly single-family residential use properties.

6.3 Onsite Survey

The Site is essentially an undeveloped lot that has been relatively well maintained (Photos 1 through 3). A drainage culvert and surrounding chain-link fencing were observed in the southwestern portion of the Site (Photo 3). Some minor amounts of trash and debris was observed on the Site. We observed no evidence, or conditions that would suggest the potential presence, of RECs at the Site.

6.4 Offsite Survey

Adjoining and adjacent properties consist of the following:

- North – Thornton Avenue beyond which are single-family residential properties (Photo 4),
- East – undeveloped property and a single-family residence (Photo 5),
- South – a single-family residence and undeveloped property (Photo 6),
- West – single-family residential properties (Photo 3).

We observed no evidence of conditions on adjoining or adjacent properties with the potential to cause or have caused an REC at the Site.

7.0 INTERVIEWS

Stefan LaCasse, President of Quinn Communities, completed the provided *Site Owner/Occupant Questionnaire* regarding the past and present use of the Site and the potential for impacts related to the use, storage, or disposal of hazardous substances and/or petroleum products on the Site. A copy of the owner/occupant questionnaire is in Appendix G.

Mr. LaCasse indicated that the Site is currently vacant and has been so for an unknown length of time. Mr. LaCasse reported that they have owned the Site for approximately 1 month. The Site is described as two vacant flat parcels totaling 10 acres located north and south of Thorton Avenue and Esther Lane and east of Uppercrest Court. Mr. LaCasse also indicated that they are not aware of any environmental issues related to the Site or the adjacent properties. No further information was provided.

8.0 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I ESA in general conformance with the scope and limitations of ASTM *Designation E 1527-13* of the Coronado Condos project located south of Thornton Avenue and north of Esther Lane, in Menifee, California. The Riverside County APNs for the Site are 335-440-001 and -002.

This Phase I ESA identified no RECs in connection with the Site. No further environmental assessment of the Site is warranted at this time.

Any undocumented USTs, septic systems, water wells, or other subsurface structures encountered during site grading operations should be properly removed or abandoned in place in accordance with applicable regulatory agency reporting/permitting requirements.

9.0 REFERENCES

American Society for Testing and Materials, *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2013.

California Department of Toxic Substances, EnviroStor website, (https://www.envirostor.dtsc.ca.gov), accessed April 2022.

California Department of Water Resources, *Well Completion Report Map Application*, https://data.cnra.ca.gov/showcase/well-completion-report-map-app, accessed April 2022.

California Geologic Survey, *Compilation of Quaternary Surficial Deposits Website*, https://maps.conservation.ca.gov/cgs/qsd/app/, accessed April 2022.

California State Water Resources Control Board, *GeoTracker Website*, http://geotracker.swrcb.ca.gov/, accessed April 2022.

Riverside County Information Technology Map My County System, https://gis1.countyofriverside.us/Html5Viewer/?viewer=MMC_Public, accessed April 2022.

Norris, R.M. and Webb, R. W., *Geology of California*: 2nd Edition, 1990.

Morton D.M., *Geologic Map of the Romoland 7.5' Quadrangle, Riverside County, California, 2003.*

State of California Department of Conservation, California Geologic Energy Management Division – Well Finder, http://www.conservation.ca.gov/, accessed April 2022.

United States Department of Agriculture, Natural Resources Conservation Service, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed April 2022.

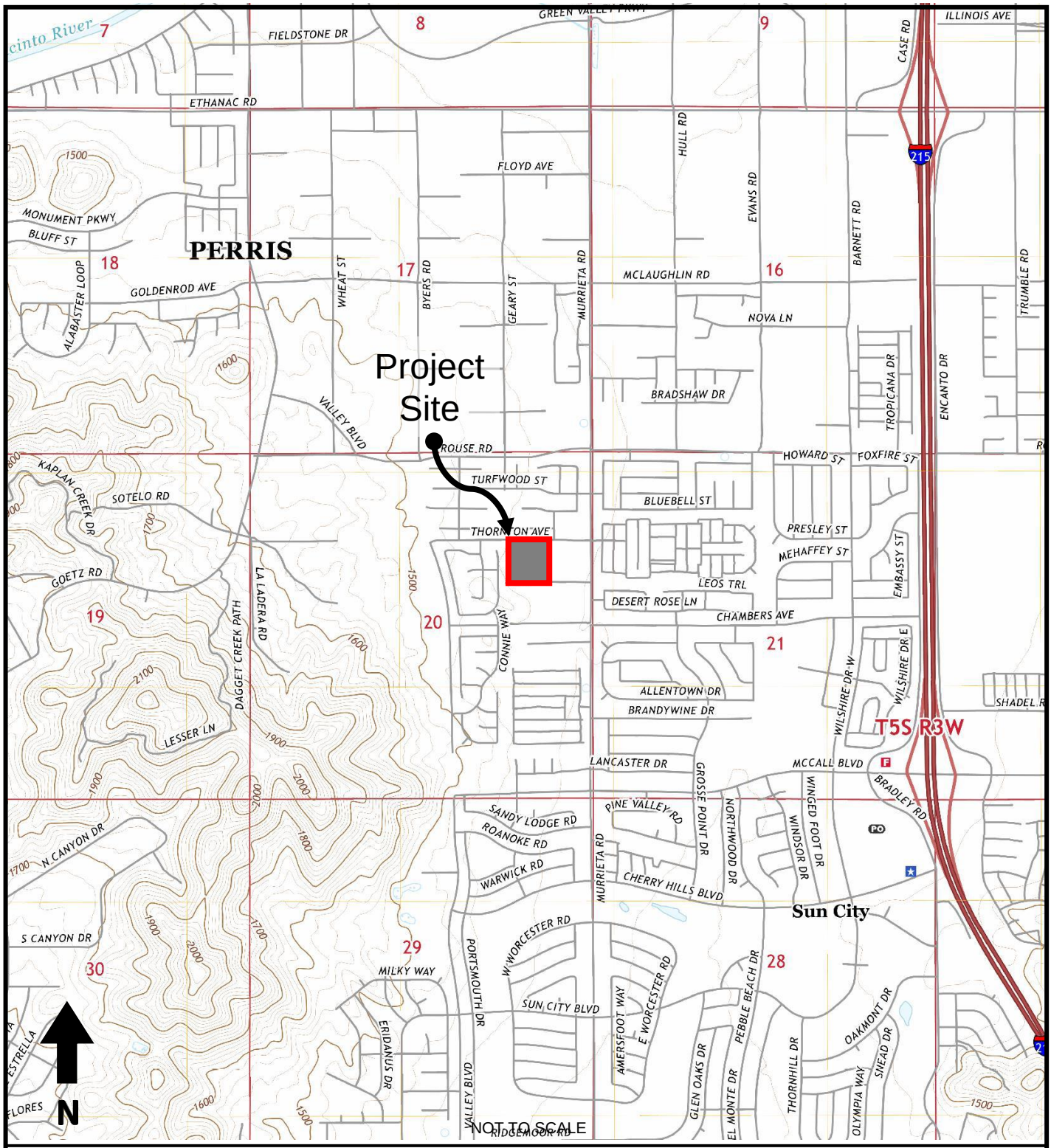
United States Geological Survey (USGS), *Romoland, California, 7.5-minute Topographic Quadrangle Map*, Scale 1:24,000, 2018.

10.0 QUALIFICATIONS

This ESA report was prepared by Cole E. Mikesell, Adrian Escobar and reviewed by Troy K. Reist. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience, to assess a property of the nature, history, and setting of the subject property. We have developed and performed the proper inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Mr. Mikesell has a BS degree in Geology with an emphasis in Environmental Geosciences and is a certified Geologist-In-Training in the State of California. Mr. Mikesell has 5 years of experience in the geotechnical and environmental consulting industry. He has performed exploratory drilling, infiltration testing, foundation and earthworks observation, and prepared Phase I and Phase II ESAs throughout southern California.

Mr. Reist is a Professional Geologist and Certified Engineering Geologist, with a BS degree in Geology and has over 24 years of experience in the geotechnical and environmental consulting industry in California. Mr. Reist investigates, remediates and manages geotechnical and environmental issues on residential, commercial, industrial, and agricultural properties throughout southern California.



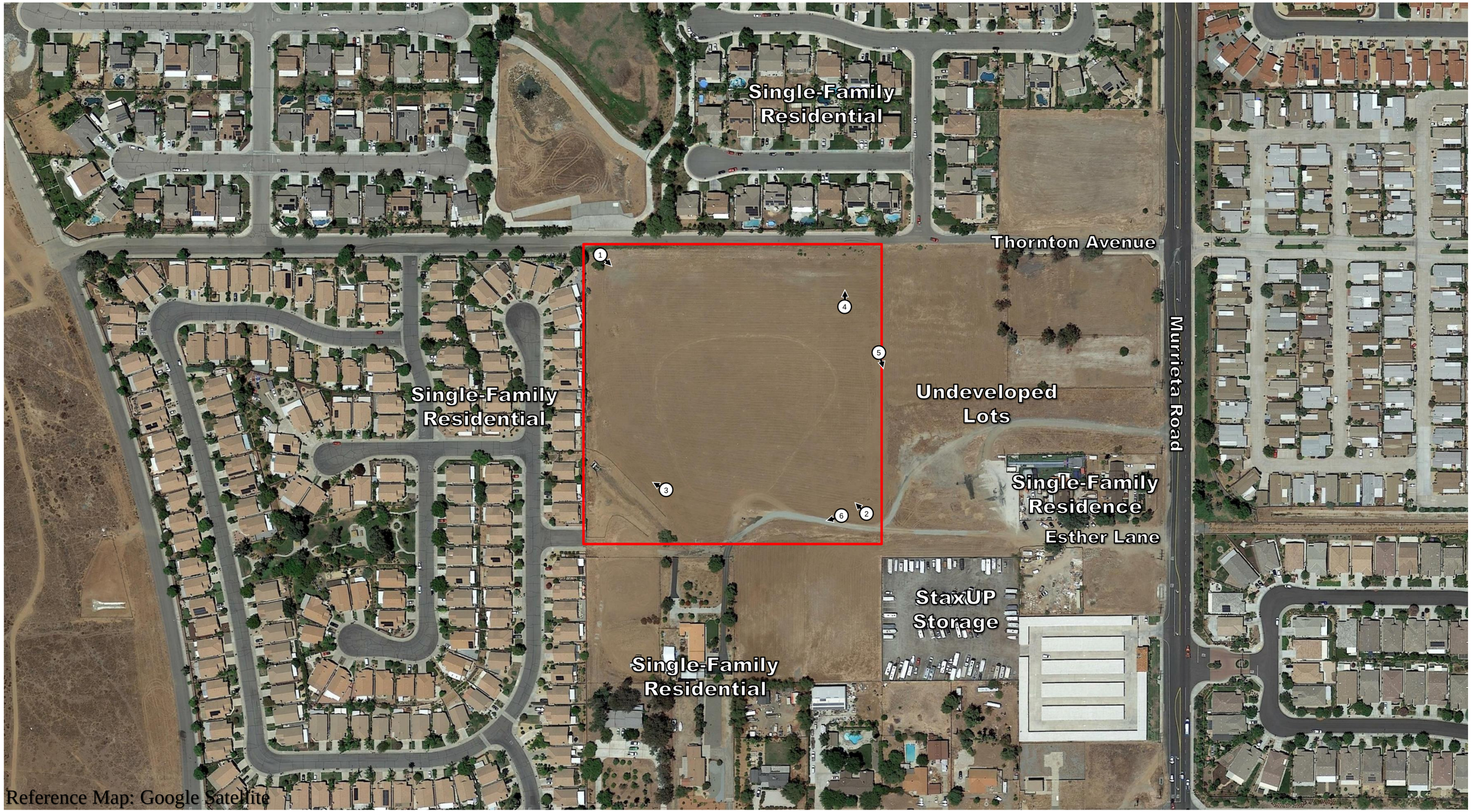
VICINITY MAP

GEOCON
WEST, INC.
GEOTECHNICAL ENVIRONMENTAL MATERIALS
41571 CORNING PLACE, SUITE 101, MURRIETA, CA 92562-7065
PHONE 951-304-2300 FAX 951-304-2392

CEM		

CORONADO CONDOS
MENIFEE, CALIFORNIA

APRIL 2022	PROJECT NO. T2974-77-02	FIG. 1



Reference Map: Google Satellite

LEGEND

Approximate Site Boundary

Approximate Photo Location and Direction (1)

0 200 400 ft

N

GEOCON WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
41571 CORNING PLACE #101 MURRIETA, CA 92562-7065
PHONE (651) 304-2300- FAX (951) 304-2392

SITE PLAN

CORONADO CONDOS
MENIFEE, CALIFORNIA

DRAFTED BY: ARE	CHECKED BY: TR	APRIL 2022	PROJECT NO. T2974-77-02	FIG. 2

Photo 1 — View to the southeast from northwestern site boundary

Photo 2 — View to the northwest from southeastern site boundary

GEOCON
WEST, INC.
41571 CORNING PLACE, SUITE 101 MURRIETA, CALIFORNIA 92562
PHONE 951.304.2300 – FAX 951.304.2392

SITE PHOTOGRAPHS

CORONADO CONDOS
MENIFEE, CALIFORNIA

Photo 3 — Drainage culvert in western portion of Site beyond which are single-family residential properties.

Photo 4 — View to the north of Thornton Avenue beyond which are single-family residential properties.

Photo 5 — View to the east of undeveloped property and a single-family residence

Photo 6 — View to the southwest of Esther Lane beyond which is undeveloped property and a single-family residence

APPENDIX A

335-08

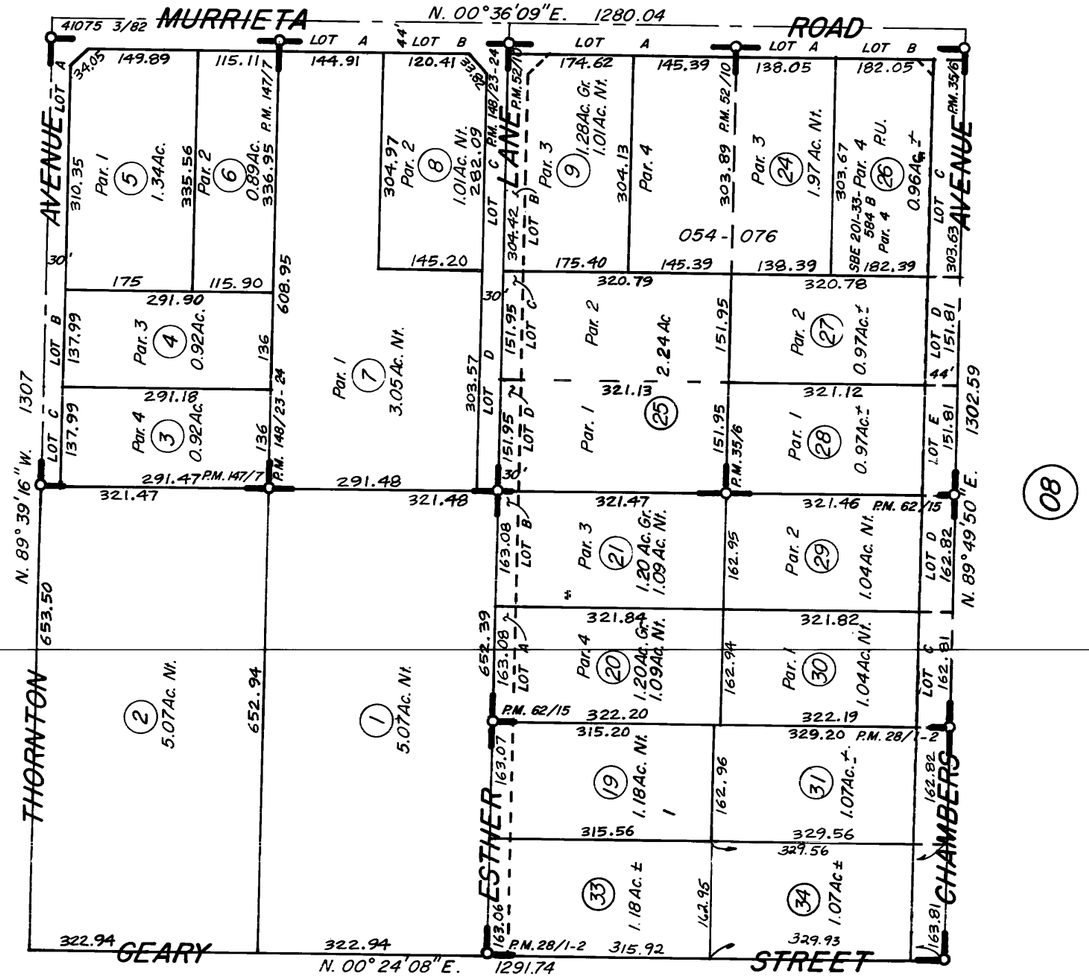
335-44

T.R.A. 054-076
054-066

1" = 200'

THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

SE 1/4 NE 1/4 SEC. 20, T.5S., R.3W.



DATE	OLD NO.	NEW NO.
9/88	10, 11	24
9/90	22, 23	25
4/92	12	26, ST.
"	13	27, ST.
"	14	28, ST.
"	15	29, ST.
"	16	30, ST.
"	17	31, ST.
"	18	32, ST.
9/92	32	33, 34

P.M. 62/15 Parcel Map 12575
P.M. 28/1-2 Parcel Map 7529
P.M. 35/6 Parcel Map 9001
P.M. 52/10 Parcel Map 11133
P.M. 147/7 Parcel Map 18923
P.M. 148/23-24 Parcel Map 22726

DATA: G.L.O.
R.S. 27/100
M.B. 60/26 Tract No. 3838
MERG. NO 322, P.M. 62/15, P.M. 28/1-2, P.M. 35/6, P.M. 52/10
" 548

J.P.H. MAR. 1988

ASSESSOR'S MAP BK. 335 PG. 44
RIVERSIDE COUNTY, CALIF.

APPENDIX B

User Questionnaire

1. What is the purpose of the Phase I Environmental Site Assessment?

   support home development project

2. Who is the property owner(s)?

   Dan Floit

3. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law?

   no

4. Are you aware of any activity and land use limitations, such as engineering controls, land use restrictions or institutional controls that are in place for the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

   no

5. Do you have any specialized knowledge related to the property or nearby properties?

   no

6. Does the purchase price reasonably reflect the fair market value of the property?

   yes

7. Do you know the past uses of the property?

   no

8. Do you know of specific chemicals that are present or once were present at the property?

   no

9. Do you know of spills or other chemical releases that have taken place at the property?

   no

10. Do you know of any environmental cleanups that have taken place at the property?

    no

11. Do you know whether any helpful documents exist and, if so, whether copies can and will be provided for this assessment? These documents may include: Phase I or II Environmental Site Assessment reports, environmental compliance audit reports, environmental permits, registrations for underground or aboveground storage tanks, registrations for underground injection systems, or any other documents related to the property.

    no

This questionnaire was completed by:

Name:	stefan lacasse
Title:	President - Quinn Communities
Phone number:	760 942-9991 x101
Date:	3/25/22

Signature: _____

APPENDIX C

Quinn Communities
Thornton Ave
Sun City, CA 92585

Inquiry Number: 6914037.2s
March 25, 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

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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

THORNTON AVE
SUN CITY, CA 92585

COORDINATES

Latitude (North):	33.7236590 - 33ˆ 43' 25.17''
Longitude (West):	117.2094660 - 117ˆ 12' 34.07''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	480593.4
UTM Y (Meters):	3731342.8
Elevation:	1451 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	12015913 ROMOLAND, CA
Version Date:	2018

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
THORNTON AVE
SUN CITY, CA 92585

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	SYED AHMED	25670 FELICIA AVE	RCRA NonGen / NLR	Higher	894, 0.169, SW
A2	SYED AHMED	25670 FELICIA AVE	RCRA NonGen / NLR	Higher	894, 0.169, SW
3	ELEMENTARY SCHOOL NO	FENCE POST DRIVE/RAM	ENVIROSTOR, SCH	Higher	3498, 0.663, WNW
4	THE CLUB K-8 SCHOOL	EVANS ROAD/NOVA LANE	ENVIROSTOR, SCH, CERS	Lower	4612, 0.873, NE

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-SQG ---- RCRA - Small Quantity Generators
RCRA-VSQG ---- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ..... State Response Sites

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ..... Solid Waste Information System

Lists of state and tribal leaking storage tanks

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
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
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
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

HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
CERS HAZ WASTE	CERS HAZ WASTE
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing
AQUEOUS FOAM	Former Fire Training Facility Assessments Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
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
HIST CORTESE	Hazardous Waste & Substance Site List
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

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/25/2021 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELEMENTARY SCHOOL NO Facility Id: 60000776 Status: Inactive - Withdrawn	***FENCE POST DRIVE/RAM***	***WNW 1/2 - 1 (0.663 mi.)***	***3***	***14***

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE CLUB K-8 SCHOOL Facility Id: 33010067 Status: No Further Action	***EVANS ROAD/NOVA LANE***	***NE 1/2 - 1 (0.873 mi.)***	***4***	***16***

ADDITIONAL ENVIRONMENTAL RECORDS

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.

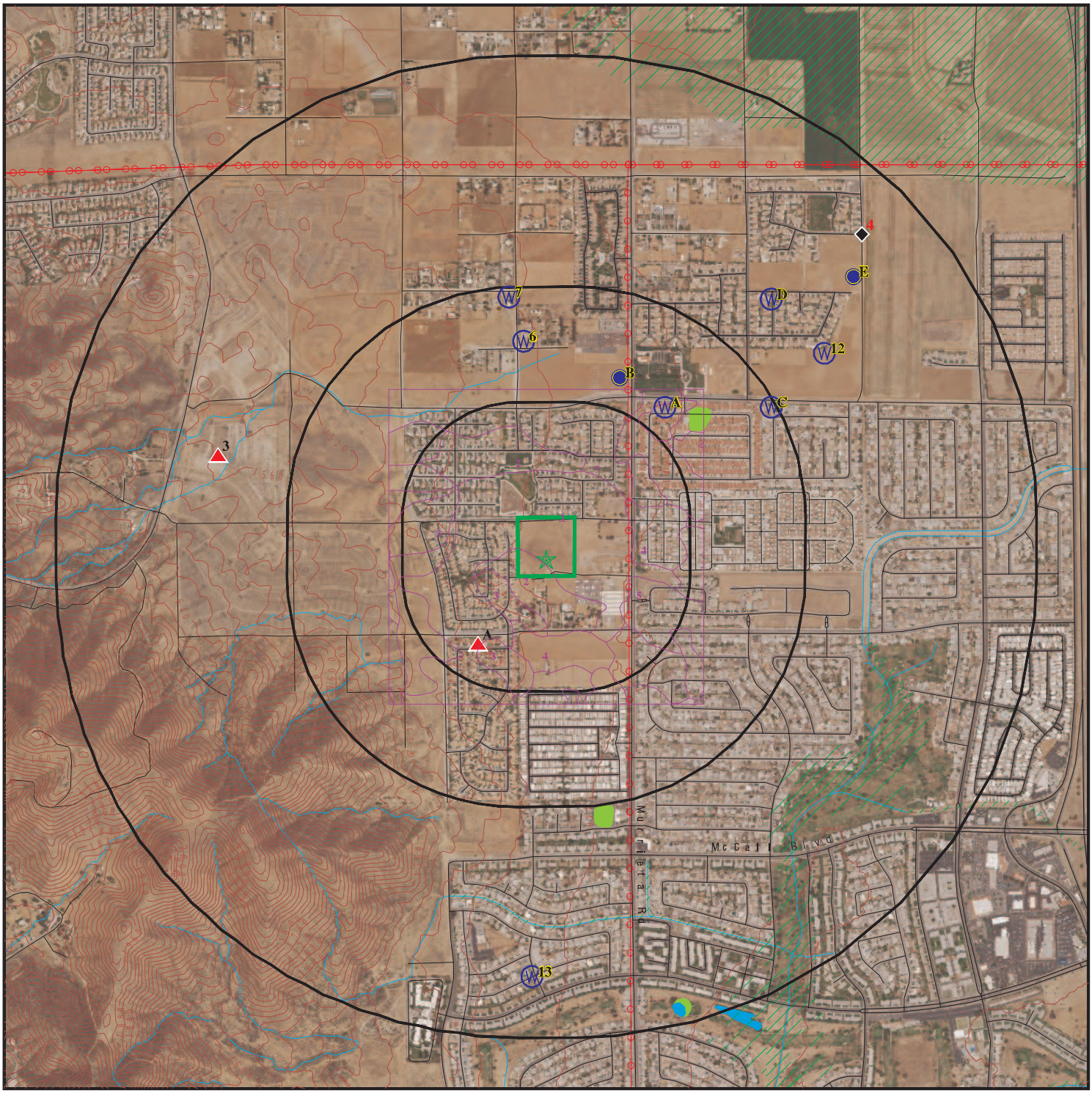
A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 02/28/2022 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SYED AHMED	25670 FELICIA AVE	SW 1/8 - 1/4 (0.169 mi.)	A1	9
SYED AHMED	25670 FELICIA AVE	SW 1/8 - 1/4 (0.169 mi.)	A2	11

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6914037.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

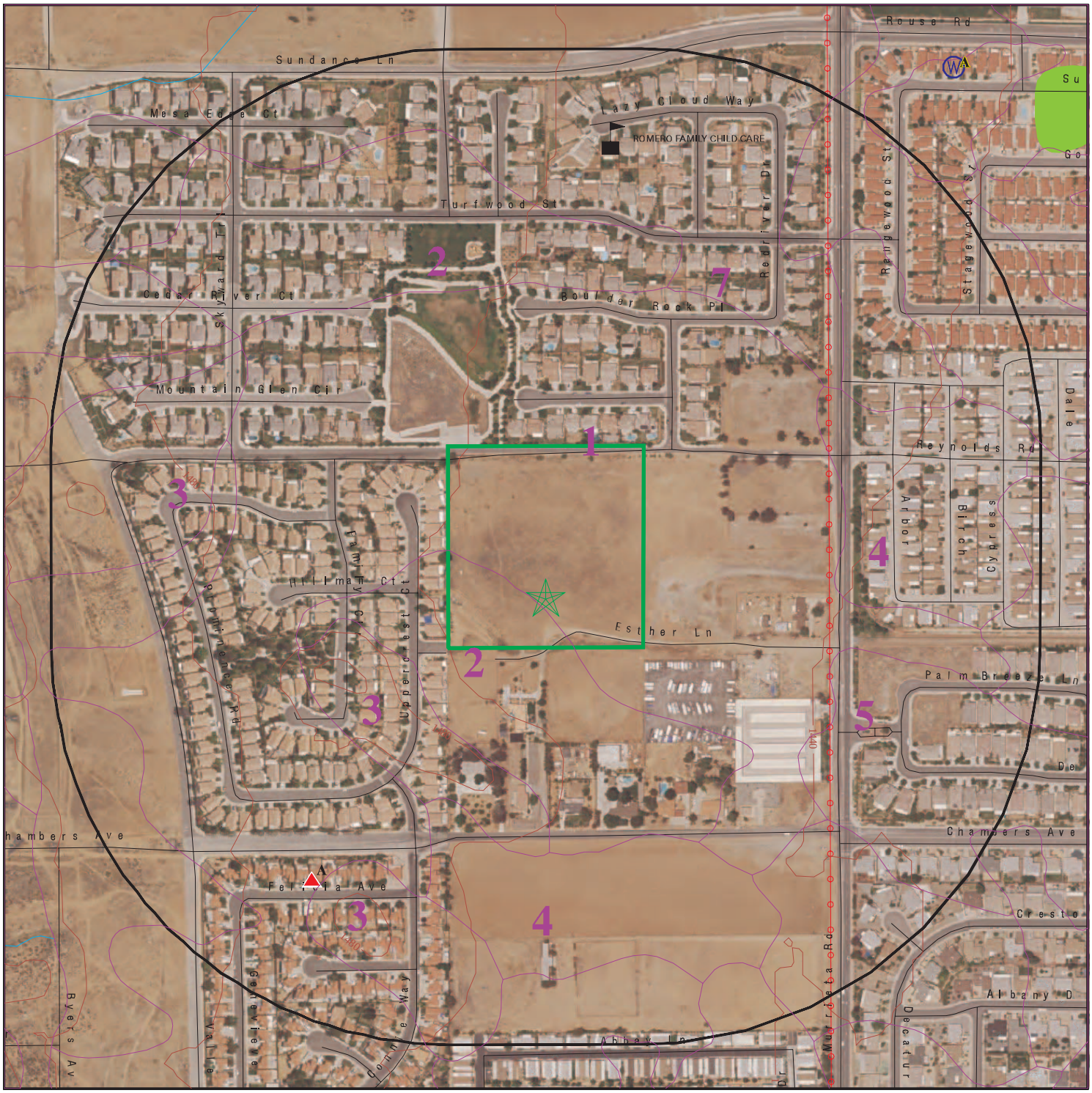
0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Quinn Communities	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	Thornton Ave Sun City CA 92585	CONTACT:	Adrian Rene Escobar
LAT/LONG:	33.723659 / 117.209466	INQUIRY #:	6914037.2s
		DATE:	March 25, 2022 12:57 pm

DETAIL MAP - 6914037.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Quinn Communities	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	Thornton Ave Sun City CA 92585	CONTACT:	Adrian Rene Escobar
LAT/LONG:	33.723659 / 117.209466	INQUIRY #:	6914037.2s
		DATE:	March 25, 2022 12:58 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								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	2	NR	2
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
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
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
AQUEOUS FOAM	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0

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
CA FID UST	0.250		0	0	NR	NR	NR	0
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		0	2	NR	NR	NR	2
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
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0

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
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	2	0	2	0	4

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

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
SW
1/8-1/4
0.169 mi.
894 ft.

SYED AHMED
25670 FELICIA AVE
SUN CITY, CA 92586

Site 1 of 2 in cluster A

RCRA NonGen / NLR **1026467020**
CAC003072346

Relative:
Higher

Actual:
1474 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:		20200625
Handler Name:	SYED AHMED	
Handler Address:		25670 FELICIA AVE
Handler City,State,Zip:		SUN CITY, CA 92586-2626
EPA ID:		CAC003072346
Contact Name:		ASBESTOS ABATEMENT INC
Contact Address:		2296 E VIA BURTON
Contact City,State,Zip:		ANAHEIM, CA 92806
Contact Telephone:		714-780-1701
Contact Fax:		Not reported
Contact Email:		ELENA@ABGCONSTRUCTIONCO.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:		2296 E VIA BURTON
Mailing City,State,Zip:		ANAHEIM, CA 92806
Owner Name:		SYED AHMED
Owner Type:		Other
Operator Name:		ASBESTOS ABATEMENT INC
Operator Type:		Other
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		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

SYED AHMED (Continued) **1026467020**

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:	20200710
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:	SYED AHMED
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	25670 FELICIA AVE
Owner/Operator City,State,Zip:	SUN CITY, CA 92586-2626
Owner/Operator Telephone:	714-780-1701
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	ASBESTOS ABATEMENT INC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	2296 E VIA BURTON
Owner/Operator City,State,Zip:	ANAHEIM, CA 92806
Owner/Operator Telephone:	714-780-1701
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

SYED AHMED (Continued) **1026467020**

Historic Generators:
Receive Date: 20200625
Handler Name: SYED AHMED
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

A2 **SYED AHMED** **RCRA NonGen / NLR** **1026465920**
SW **25670 FELICIA AVE** **CAC003071179**
1/8-1/4 **SUN CITY, CA 92586**
0.169 mi.
894 ft. **Site 2 of 2 in cluster A**

Relative: **Higher**
Actual: **1474 ft.**

RCRA NonGen / NLR:
Date Form Received by Agency: 20200617
Handler Name: SYED AHMED
Handler Address: 25670 FELICIA AVE
Handler City,State,Zip: SUN CITY, CA 92586-2626
EPA ID: CAC003071179
Contact Name: ASBESTOS ABATEMENT INC
Contact Address: 2296 E VIA BURTON
Contact City,State,Zip: ANAHEIM, CA 92806
Contact Telephone: 714-780-1701
Contact Fax: Not reported
Contact Email: ELENA@ABGCONSTRUCTIONCO.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: 2296 E VIA BURTON
Mailing City,State,Zip: ANAHEIM, CA 92806
Owner Name: SYED AHMED

SYED AHMED (Continued) **1026465920**

Owner Type:	Other
Operator Name:	ASBESTOS ABATEMENT INC
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	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:	20200710
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

SYED AHMED (Continued) **1026465920**

Sub-Part P Indicator: No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	ASBESTOS ABATEMENT INC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	2296 E VIA BURTON
Owner/Operator City,State,Zip:	ANAHEIM, CA 92806
Owner/Operator Telephone:	714-780-1701
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SYED AHMED
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	2296 E VIA BURTON
Owner/Operator City,State,Zip:	ANAHEIM, CA 92806
Owner/Operator Telephone:	714-780-1701
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20200617
Handler Name: SYED AHMED	
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

3 ELEMENTARY SCHOOL NO. 14 **ENVIROSTOR S108974351**
WNW FENCE POST DRIVE/RAM DRIVE **SCH N/A**
1/2-1 SUN CITY, CA 92585
0.663 mi.
3498 ft.

Relative: Higher

Actual: 1557 ft.

ENVIROSTOR:

Name:	ELEMENTARY SCHOOL NO. 14
Address:	FENCE POST DRIVE/RAM DRIVE
City,State,Zip:	SUN CITY, CA 92585
Facility ID:	60000776
Status:	Inactive - Withdrawn
Status Date:	10/22/2008
Site Code:	404764
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	12.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Angela Garcia
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	67
Senate:	23
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.727
Longitude:	-117.2218
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	DDD DDE DDT
Confirmed COC:	30006-NO 30007-NO 30008-NO
Potential Description:	SOIL
Alias Name:	404764
Alias Type:	Project Code (Site Code)
Alias Name:	60000776
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	10/22/2008
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	03/10/2008
Comments:	DTSC determined that a Preliminary Environmental Assessment is required based on the Phase I report
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported

ELEMENTARY SCHOOL NO. 14 (Continued) **S108974351**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: ELEMENTARY SCHOOL NO. 14
Address: FENCE POST DRIVE/RAM DRIVE
City,State,Zip: SUN CITY, CA 92585
Facility ID: 60000776
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 12.5
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Angela Garcia
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404764
Assembly: 67
Senate: 23
Special Program Status: Not reported
Status: Inactive - Withdrawn
Status Date: 10/22/2008
Restricted Use: NO
Funding: School District
Latitude: 33.727
Longitude: -117.2218
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: DDD, DDE, DDT
Confirmed COC: 30006-NO, 30007-NO, 30008-NO
Potential Description: SOIL
Alias Name: 404764
Alias Type: Project Code (Site Code)
Alias Name: 60000776
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/22/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 03/10/2008
Comments: DTSC determined that a Preliminary Environmental Assessment is required based on the Phase I report

Future Area Name: Not reported

ELEMENTARY SCHOOL NO. 14 (Continued) **S108974351**

Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

4
NE
1/2-1
0.873 mi.
4612 ft.

THE CLUB K-8 SCHOOL
EVANS ROAD/NOVA LANE
ROMOLAND, CA 92586

ENVIROSTOR **S105628774**
SCH **N/A**
CERS

Relative:
Lower

Actual:
1425 ft.

ENVIROSTOR:

Name:	THE CLUB K-8 SCHOOL
Address:	EVANS ROAD/NOVA LANE
City,State,Zip:	ROMOLAND, CA 92586
Facility ID:	33010067
Status:	No Further Action
Status Date:	04/17/2003
Site Code:	404389
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	19.08
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	67
Senate:	23
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.73257
Longitude:	-117.1943
APN:	331-080-008, 331-080-009, 331-080-010, 331-080-011
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	DDE Lead Chromium VI Cobalt Copper and compounds Nickel (soluble salts
Confirmed COC:	Chromium VI Cobalt Copper and compounds Nickel (soluble salts DDE Lead
Potential Description:	SOIL
Alias Name:	CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	ROMOLAND ELEMENTARY SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	ROMOLAND SD-THE CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	THE CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	331-080-008
Alias Type:	APN
Alias Name:	331-080-009

THE CLUB K-8 SCHOOL (Continued) **S105628774**

Alias Type: APN
Alias Name: 331-080-010
Alias Type: APN
Alias Name: 331-080-011
Alias Type: APN
Alias Name: 404389
Alias Type: Project Code (Site Code)
Alias Name: 33010067
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 10/28/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 04/18/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/17/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 09/27/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 12/24/2002
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: THE CLUB K-8 SCHOOL
Address: EVANS ROAD/NOVA LANE
City,State,Zip: ROMOLAND, CA 92586
Facility ID: 33010067

THE CLUB K-8 SCHOOL (Continued) **S105628774**

Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	19.08
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404389
Assembly:	67
Senate:	23
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	04/17/2003
Restricted Use:	NO
Funding:	School District
Latitude:	33.73257
Longitude:	-117.1943
APN:	331-080-008, 331-080-009, 331-080-010, 331-080-011
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	DDE, Lead, Chromium VI, Cobalt, Copper and compounds, Nickel (soluble salts
Confirmed COC:	Chromium VI, Cobalt, Copper and compounds, Nickel (soluble salts, DDE, Lead
Potential Description:	SOIL
Alias Name:	CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	ROMOLAND ELEMENTARY SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	ROMOLAND SD-THE CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	THE CLUB K-8 SCHOOL
Alias Type:	Alternate Name
Alias Name:	331-080-008
Alias Type:	APN
Alias Name:	331-080-009
Alias Type:	APN
Alias Name:	331-080-010
Alias Type:	APN
Alias Name:	331-080-011
Alias Type:	APN
Alias Name:	404389
Alias Type:	Project Code (Site Code)
Alias Name:	33010067
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	10/28/2002
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

THE CLUB K-8 SCHOOL (Continued) **S105628774**

Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 04/18/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/17/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 09/27/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 12/24/2002
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CERS:
Name: THE CLUB K-8 SCHOOL
Address: EVANS ROAD/NOVA LANE
City,State,Zip: ROMOLAND, CA 92586
Site ID: 343858
CERS ID: 33010067
CERS Description: School Investigation

Affiliation:
Affiliation Type Desc: Supervisor
Entity Name: JAVIER HINOJOSA
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: ,

Count: 0 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: N/A
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/11/2022
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 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

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: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: N/A
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/11/2022
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.

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: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: N/A
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/11/2022
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: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
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 know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/25/2022
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: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 11/15/2021
Date Data Arrived at EDR: 11/16/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 84

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/07/2022
Next Scheduled EDR Contact: 05/23/2022
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: 11/19/2021
Date Data Arrived at EDR: 11/19/2021
Date Made Active in Reports: 02/14/2022
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/23/2022
Next Scheduled EDR Contact: 06/06/2022
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: 11/19/2021
Date Data Arrived at EDR: 11/19/2021
Date Made Active in Reports: 02/14/2022
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/23/2022
Next Scheduled EDR Contact: 06/06/2022
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/01/2022
Date Made Active in Reports: 03/10/2022
Number of Days to Update: 9

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/22/2022
Next Scheduled EDR Contact: 07/04/2022
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: 10/25/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/14/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/25/2022
Next Scheduled EDR Contact: 05/09/2022
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 identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/25/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/14/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/25/2022
Next Scheduled EDR Contact: 05/09/2022
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 inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/08/2021
Date Data Arrived at EDR: 11/09/2021
Date Made Active in Reports: 01/28/2022
Number of Days to Update: 80

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/08/2022
Next Scheduled EDR Contact: 05/23/2022
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Quarterly

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 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 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/12/2021
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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021
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 1
Telephone: 617-918-1313
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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 8
Telephone: 303-312-6271
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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: 214-665-6597
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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 5
Telephone: 312-886-7439
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 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: 02/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/01/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 03/02/2022
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 03/10/2022
Next Scheduled EDR Contact: 06/27/2022
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
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: 404-562-9424
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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: 02/09/2022
Next Scheduled EDR Contact: 05/02/2022
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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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 8
Telephone: 303-312-6137
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
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 9
Telephone: 415-972-3368
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/14/2021
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 1
Telephone: 617-918-1313
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/16/2022
Next Scheduled EDR Contact: 07/04/2022
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

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: 10/25/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/14/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/25/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/15/2021
Date Data Arrived at EDR: 12/16/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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
Date Data Arrived at EDR: 03/10/2022
Date Made Active in Reports: 03/10/2022
Number of Days to Update: 0

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/15/2022
Next Scheduled EDR Contact: 06/27/2022
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.

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: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/14/2021
Date Data Arrived at EDR: 11/11/2021
Date Made Active in Reports: 11/23/2021
Number of Days to Update: 12

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 05/23/2022
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: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
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: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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 Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 11/16/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/23/2022
Next Scheduled EDR Contact: 06/06/2022
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: 10/25/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/14/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/25/2022
Next Scheduled EDR Contact: 05/09/2022
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: 01/13/2022
Next Scheduled EDR Contact: 04/18/2022
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.

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/12/2022
Number of Days to Update: 85

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/19/2022
Next Scheduled EDR Contact: 05/02/2022
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: 11/16/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/23/2022
Next Scheduled EDR Contact: 06/06/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 03/11/2022
Next Scheduled EDR Contact: 06/20/2022
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

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 11/04/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 80

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/12/2022
Number of Days to Update: 85

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/19/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 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: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/30/2021
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/16/2022
Number of Days to Update: 78

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
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: 12/15/2021
Date Data Arrived at EDR: 12/16/2021
Date Made Active in Reports: 03/10/2022
Number of Days to Update: 84

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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: 09/30/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/12/2022
Number of Days to Update: 85

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/19/2022
Next Scheduled EDR Contact: 05/02/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 02/28/2022
Date Data Arrived at EDR: 03/02/2022
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 10/26/2021
Date Data Arrived at EDR: 11/16/2021
Date Made Active in Reports: 02/08/2022
Number of Days to Update: 84

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/15/2022
Next Scheduled EDR Contact: 05/30/2022
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
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 04/25/2022
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
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
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.

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: 02/08/2022
Next Scheduled EDR Contact: 05/23/2022
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: 12/13/2021
Date Data Arrived at EDR: 12/17/2021
Date Made Active in Reports: 03/17/2022
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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: 02/01/2022
Next Scheduled EDR Contact: 05/16/2022
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: 02/03/2022
Next Scheduled EDR Contact: 05/16/2022
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: 03/18/2022
Next Scheduled EDR Contact: 06/27/2022
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.

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: 02/18/2022
Next Scheduled EDR Contact: 05/30/2022
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: 10/18/2021
Date Data Arrived at EDR: 10/20/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 82

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/19/2022
Next Scheduled EDR Contact: 05/02/2022
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: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 06/13/2022
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: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/25/2022
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 05/16/2022
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: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
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
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
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
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/24/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 87

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 84
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
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
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
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
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/04/2022
Next Scheduled EDR Contact: 05/16/2022
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
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/27/2021
Next Scheduled EDR Contact: 04/11/2022
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
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/24/2022
Next Scheduled EDR Contact: 05/08/2022
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: 09/30/2021
Date Data Arrived at EDR: 10/13/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 89

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2022
Next Scheduled EDR Contact: 04/18/2022
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: 09/15/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 90

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 07/04/2022
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: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
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: 01/31/2022
Next Scheduled EDR Contact: 05/16/2022
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.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 05/30/2022
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/25/2022
Date Data Arrived at EDR: 02/03/2022
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 19

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/03/2022
Next Scheduled EDR Contact: 04/11/2022
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 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 03/14/2022
Next Scheduled EDR Contact: 06/13/2022
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.

Date of Government Version: 11/02/2021
Date Data Arrived at EDR: 11/22/2021
Date Made Active in Reports: 02/14/2022
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/23/2022
Next Scheduled EDR Contact: 06/06/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/06/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/06/2022
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: 12/14/2021
Date Data Arrived at EDR: 12/15/2021
Date Made Active in Reports: 03/10/2022
Number of Days to Update: 85

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/04/2022
Next Scheduled EDR Contact: 06/20/2022
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: 11/04/2021
Date Data Arrived at EDR: 11/22/2021
Date Made Active in Reports: 02/25/2022
Number of Days to Update: 95

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/11/2022
Date Made Active in Reports: 02/14/2022
Number of Days to Update: 34

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/11/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/01/2022
Date Data Arrived at EDR: 01/04/2022
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/22/2022
Next Scheduled EDR Contact: 06/06/2022
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: 11/15/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/01/2022
Number of Days to Update: 78

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 05/30/2022
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
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/16/2021
Date Data Arrived at EDR: 12/16/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 77

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/08/2022
Next Scheduled EDR Contact: 05/23/2022
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.

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: 02/07/2022
Next Scheduled EDR Contact: 06/13/2022
Data Release Frequency: Annually

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 11/17/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 02/07/2022
Number of Days to Update: 81

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 06/06/2022
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/29/2021
Date Data Arrived at EDR: 11/29/2021
Date Made Active in Reports: 02/14/2022
Number of Days to Update: 77

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 03/18/2022
Next Scheduled EDR Contact: 06/27/2022
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: 11/10/2021
Date Data Arrived at EDR: 11/11/2021
Date Made Active in Reports: 02/03/2022
Number of Days to Update: 84

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/03/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/05/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 11/18/2021
Date Data Arrived at EDR: 11/19/2021
Date Made Active in Reports: 02/07/2022
Number of Days to Update: 80

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 05/23/2022
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/15/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/03/2022
Number of Days to Update: 80

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/15/2022
Next Scheduled EDR Contact: 05/30/2022
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 [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/15/2021
Date Data Arrived at EDR: 11/15/2021
Date Made Active in Reports: 02/03/2022
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/15/2022
Next Scheduled EDR Contact: 05/30/2022
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: 01/03/2022
Date Data Arrived at EDR: 01/04/2022
Date Made Active in Reports: 03/18/2022
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/18/2021
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/17/2022
Number of Days to Update: 79

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 11/09/2021
Date Made Active in Reports: 01/27/2022
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/08/2022
Next Scheduled EDR Contact: 05/23/2022
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: 11/30/2021
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/17/2022
Number of Days to Update: 79

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 11/29/2021
Date Data Arrived at EDR: 11/29/2021
Date Made Active in Reports: 02/11/2022
Number of Days to Update: 74

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 12/13/2021
Date Data Arrived at EDR: 12/14/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/09/2022
Next Scheduled EDR Contact: 06/26/2022
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: 12/03/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/24/2022
Number of Days to Update: 79

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
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: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 03/16/2022
Next Scheduled EDR Contact: 07/04/2022
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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.

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 11/30/2021
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/16/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
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: 10/18/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/12/2022
Number of Days to Update: 85

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/19/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 12/06/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/23/2022
Number of Days to Update: 78
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
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: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

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: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/06/2022
Data Release Frequency: Varies

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: 07/13/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 84
Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
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

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 12/28/2021
Date Data Arrived at EDR: 12/28/2021
Date Made Active in Reports: 03/18/2022
Number of Days to Update: 80

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 11/01/2021
Date Data Arrived at EDR: 11/02/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 83

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/28/2021
Date Data Arrived at EDR: 12/28/2021
Date Made Active in Reports: 03/18/2022
Number of Days to Update: 80

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/17/2022
Next Scheduled EDR Contact: 07/04/2022
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: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
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: 10/22/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 85

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 10/01/2021
Date Data Arrived at EDR: 11/02/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 83

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/30/2021
Date Data Arrived at EDR: 12/01/2021
Date Made Active in Reports: 02/16/2022
Number of Days to Update: 77

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/07/2022
Next Scheduled EDR Contact: 05/09/2022
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: 12/21/2021
Next Scheduled EDR Contact: 04/11/2022
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: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/20/2021
Date Made Active in Reports: 01/12/2022
Number of Days to Update: 84

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 11/10/2021
Date Data Arrived at EDR: 11/12/2021
Date Made Active in Reports: 02/02/2022
Number of Days to Update: 82

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 11/10/2021
Date Data Arrived at EDR: 11/12/2021
Date Made Active in Reports: 02/02/2022
Number of Days to Update: 82

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
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: 03/24/2022
Next Scheduled EDR Contact: 05/30/2022
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 11/04/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 80

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 03/10/2022
Next Scheduled EDR Contact: 05/02/2022
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: 03/10/2022
Next Scheduled EDR Contact: 06/27/2022
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/14/2021
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 Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/08/2021
Date Data Arrived at EDR: 10/08/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 82

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/11/2022
Next Scheduled EDR Contact: 04/25/2022
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: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
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: 03/23/2022
Next Scheduled EDR Contact: 07/04/2022
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 10/12/2021
Date Data Arrived at EDR: 10/13/2021
Date Made Active in Reports: 01/04/2022
Number of Days to Update: 83

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
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: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/21/2022
Next Scheduled EDR Contact: 07/04/2022
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
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 04/24/2022
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
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
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
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/23/2022
Next Scheduled EDR Contact: 07/11/2022
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
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/17/2022
Next Scheduled EDR Contact: 06/06/2022
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/24/2021
Date Data Arrived at EDR: 11/29/2021
Date Made Active in Reports: 02/11/2022
Number of Days to Update: 74

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 03/17/2022
Next Scheduled EDR Contact: 06/06/2022
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: 03/24/2022
Next Scheduled EDR Contact: 07/11/2022
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: 02/17/2022
Next Scheduled EDR Contact: 06/06/2022
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: 02/17/2022
Next Scheduled EDR Contact: 06/06/2022
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/26/2021
Date Data Arrived at EDR: 10/27/2021
Date Made Active in Reports: 01/20/2022
Number of Days to Update: 85

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/08/2021
Date Data Arrived at EDR: 11/04/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 81

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 01/31/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/08/2021
Date Data Arrived at EDR: 11/02/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 01/31/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/29/2021
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/20/2022
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 05/16/2022
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: 12/01/2021
Date Data Arrived at EDR: 12/02/2021
Date Made Active in Reports: 02/25/2022
Number of Days to Update: 85

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 09/29/2021
Date Data Arrived at EDR: 09/30/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/14/2022
Next Scheduled EDR Contact: 06/27/2022
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 09/29/2021
Date Data Arrived at EDR: 09/30/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 76
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/14/2022
Next Scheduled EDR Contact: 06/27/2022
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: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
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: 08/02/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 11/02/2021
Number of Days to Update: 90
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 11/04/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 01/24/2022
Number of Days to Update: 80
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
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: 12/01/2021
Date Data Arrived at EDR: 12/02/2021
Date Made Active in Reports: 02/17/2022
Number of Days to Update: 77
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 01/31/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 11/30/2021
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/16/2022
Number of Days to Update: 78

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 02/28/2022
Next Scheduled EDR Contact: 06/13/2022
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/25/2022
Next Scheduled EDR Contact: 05/02/2022
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: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
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: 11/10/2021
Date Data Arrived at EDR: 11/11/2021
Date Made Active in Reports: 02/02/2022
Number of Days to Update: 83

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/10/2022
Next Scheduled EDR Contact: 06/27/2022
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/15/2021
Date Data Arrived at EDR: 11/16/2021
Date Made Active in Reports: 02/03/2022
Number of Days to Update: 79

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/23/2022
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: 03/11/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/02/2022
Next Scheduled EDR Contact: 06/20/2022
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: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/19/2021
Date Data Arrived at EDR: 11/22/2021
Date Made Active in Reports: 02/07/2022
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 02/17/2022
Next Scheduled EDR Contact: 06/06/2022
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: 02/24/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 02/11/2022
Next Scheduled EDR Contact: 05/30/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 03/16/2022
Next Scheduled EDR Contact: 07/04/2022
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: 03/16/2022
Next Scheduled EDR Contact: 07/04/2022
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 11/11/2021
Date Made Active in Reports: 02/02/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
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: 02/24/2022
Next Scheduled EDR Contact: 06/13/2022
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: 03/08/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/20/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 85

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 01/28/2022
Next Scheduled EDR Contact: 05/16/2022
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/13/2022
Next Scheduled EDR Contact: 05/02/2022
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: 09/29/2021
Date Data Arrived at EDR: 10/26/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 79
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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: 03/23/2022
Next Scheduled EDR Contact: 07/11/2022
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: 02/07/2022
Next Scheduled EDR Contact: 05/23/2022
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: 09/29/2021
Date Data Arrived at EDR: 10/21/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 84
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/18/2022
Next Scheduled EDR Contact: 05/02/2022
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: 11/29/2021
Date Data Arrived at EDR: 12/07/2021
Date Made Active in Reports: 02/24/2022
Number of Days to Update: 79
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/08/2022
Next Scheduled EDR Contact: 06/20/2022
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/27/2021
Date Data Arrived at EDR: 01/04/2022
Date Made Active in Reports: 03/18/2022
Number of Days to Update: 73
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/24/2022
Next Scheduled EDR Contact: 07/11/2022
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 10/26/2021
Date Data Arrived at EDR: 10/27/2021
Date Made Active in Reports: 01/20/2022
Number of Days to Update: 85

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/24/2022
Next Scheduled EDR Contact: 05/09/2022
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: 11/11/2021
Date Data Arrived at EDR: 11/12/2021
Date Made Active in Reports: 02/01/2022
Number of Days to Update: 81

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/11/2022
Next Scheduled EDR Contact: 05/23/2022
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
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
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/28/2022
Next Scheduled EDR Contact: 05/09/2022
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
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: 02/14/2022
Next Scheduled EDR Contact: 05/30/2022
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: 03/02/2022
Next Scheduled EDR Contact: 06/20/2022
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
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

QUINN COMMUNITIES
THORNTON AVE
SUN CITY, CA 92585

TARGET PROPERTY COORDINATES

Latitude (North):	33.723659 - 33ˆ 43’ 25.17’’
Longitude (West):	117.209466 - 117ˆ 12’ 34.08’’
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	480593.4
UTM Y (Meters):	3731342.8
Elevation:	1451 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	12015913 ROMOLAND, 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).

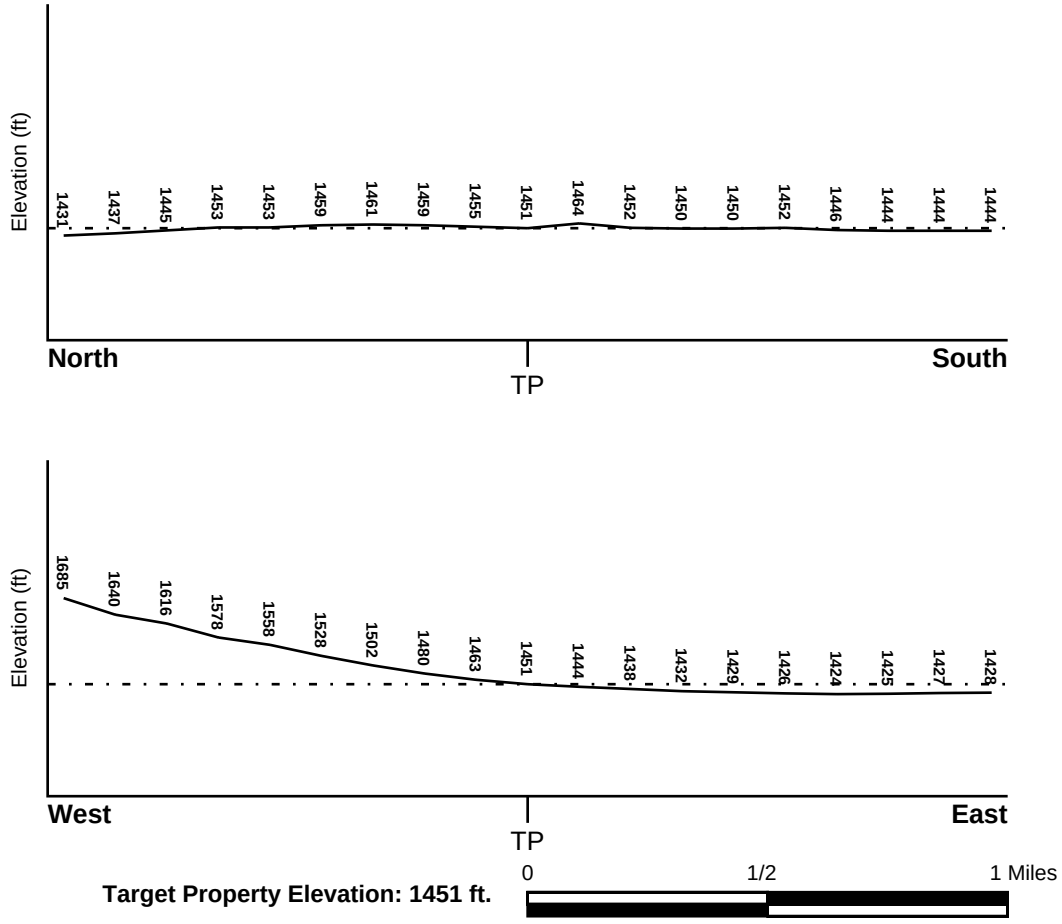
TOPOGRAPHIC INFORMATION

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 East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 1451 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06065C2055H	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
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

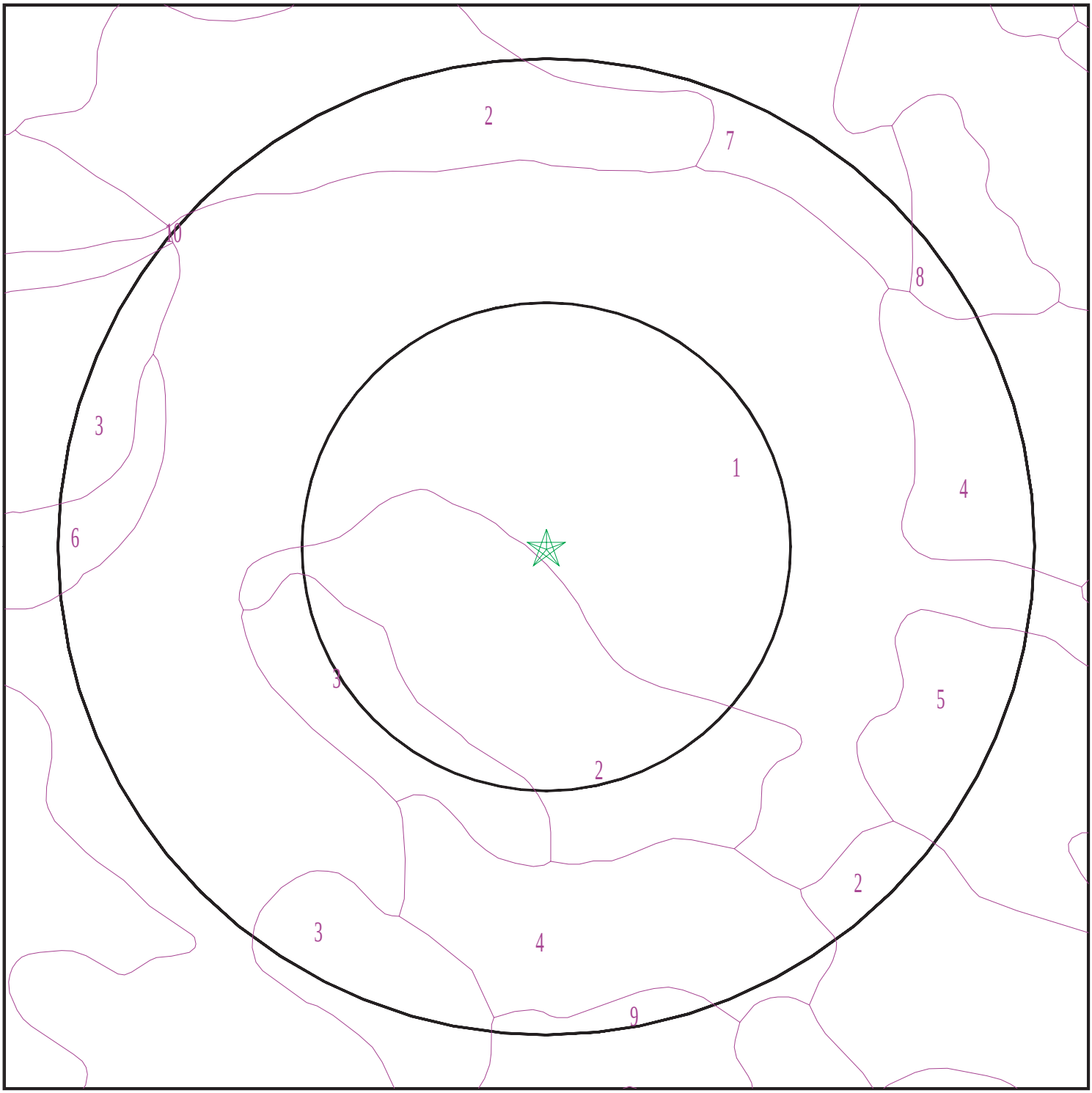
Era:	Mesozoic
System:	Cretaceous
Series:	Cretaceous granitic rocks
Code:	Kg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

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 - 6914037.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Quinn Communities	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	Thornton Ave Sun City CA 92585	CONTACT:	Adrian Rene Escobar
LAT/LONG:	33.723659 / 117.209466	INQUIRY #:	6914037.2s
		DATE:	March 25, 2022 12:58 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: GARRETSON

Soil Surface Texture: very fine 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

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.1
2	9 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.1

Soil Map ID: 2

Soil Component Name: PORTERVILLE

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6
2	14 inches	66 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6

Soil Map ID: 3

Soil Component Name: FRIANT

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 33 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.42 Min: 0	Max: Min:
2	12 inches	16 inches	unweathered 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: 4

Soil Component Name: ARBUCKLE

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: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	25 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	25 inches	44 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
4	44 inches	68 inches	stratified sandy loam to very gravelly sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 5

Soil Component Name: EXETER

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: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	16 inches	37 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	37 inches	50 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
4	50 inches	59 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 6

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							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	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:

Soil Map ID: 7

Soil Component Name: WYMAN

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							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	14 inches	35 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	35 inches	50 inches	stratified loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	50 inches	59 inches	stratified loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 8

Soil Component Name: YSIDORA

Soil Surface Texture: very 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: Moderately 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							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
2	11 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
3	29 inches	33 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:

Soil Map ID: 9

Soil Component Name: MONSERATE

Soil Surface Texture: 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							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	27 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 10

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							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	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

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B5	USGS40000137511	1/4 - 1/2 Mile NNE
6	USGS40000137534	1/4 - 1/2 Mile North
7	USGS40000137574	1/2 - 1 Mile North
E14	USGS40000137582	1/2 - 1 Mile NE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

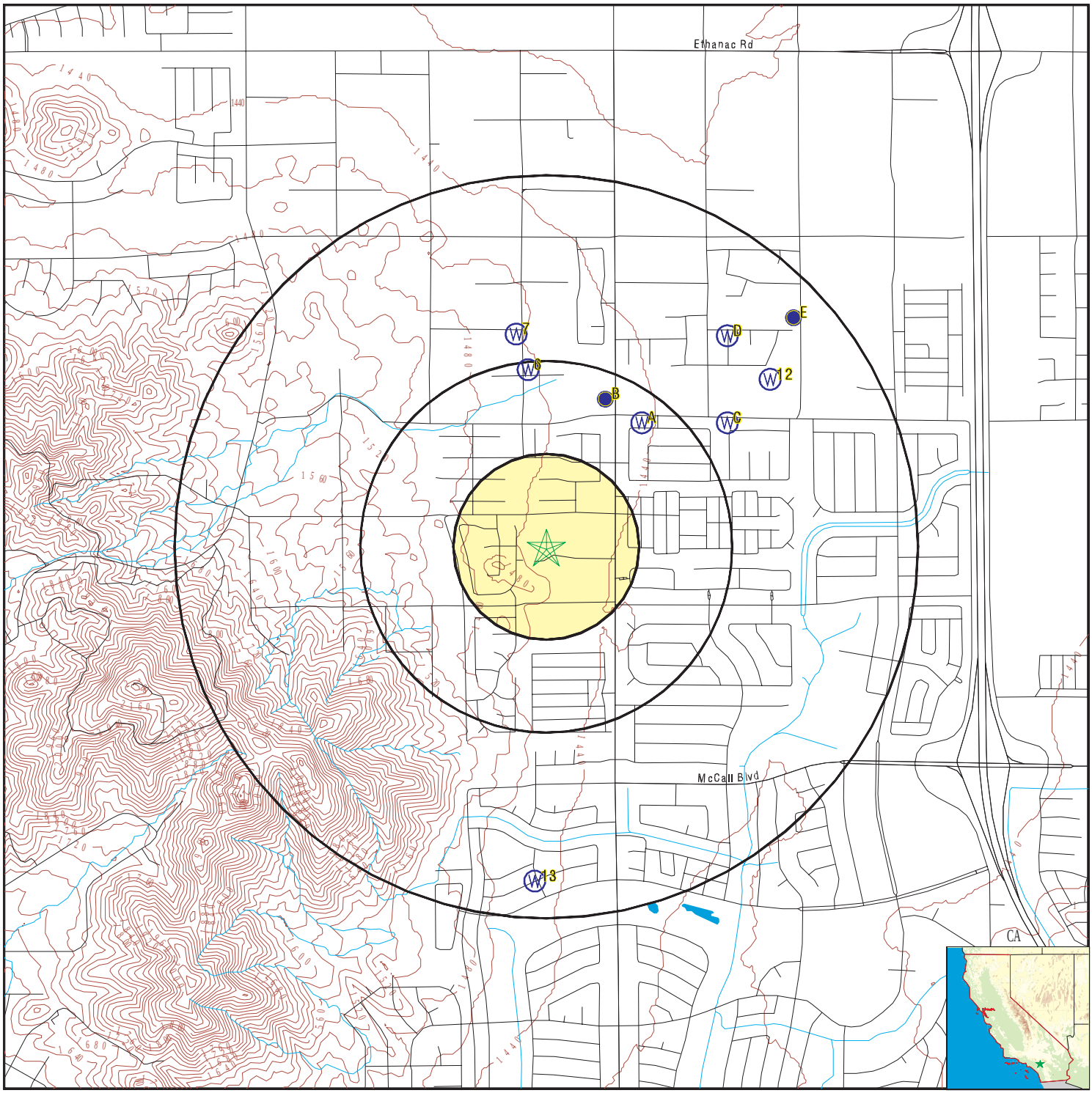
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADWR0000037275	1/4 - 1/2 Mile NE
A2	CADWR0000024076	1/4 - 1/2 Mile NE
A3	CADWR0000015790	1/4 - 1/2 Mile NE
B4	CAUSGSN00006828	1/4 - 1/2 Mile NNE
C8	CADWR0000034909	1/2 - 1 Mile NE
C9	CADWR0000007196	1/2 - 1 Mile NE
D10	CADWR0000030101	1/2 - 1 Mile NE
D11	CADWR0000021744	1/2 - 1 Mile NE
12	CADWR9000005201	1/2 - 1 Mile NE
13	CADWR0000009019	1/2 - 1 Mile South
E15	CADWR9000005228	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 6914037.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Quinn Communities	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	Thornton Ave Sun City CA 92585	CONTACT:	Adrian Rene Escobar
LAT/LONG:	33.723659 / 117.209466	INQUIRY #:	6914037.2s
		DATE:	March 25, 2022 12:58 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
NE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR0000037275**

Well ID:	05S03W21D001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W21D001S	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=05S03W21D001S&store_num=		
GeoTracker Data:	Not Reported		

A2
NE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR0000024076**

Well ID:	05S03W21D002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W21D002S	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=05S03W21D002S&store_num=		
GeoTracker Data:	Not Reported		

A3
NE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR0000015790**

Well ID:	05S03W21D003S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W21D003S	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=05S03W21D003S&store_num=		
GeoTracker Data:	Not Reported		

B4
NNE
1/4 - 1/2 Mile
Lower

CA WELLS **CAUSGSN00006828**

Well ID:	USGS-334346117122101	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-334346117122101	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-334346117122101&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B5
NNE **FED USGS** **USGS40000137511**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005S003W17R001S	Type:	Well
Description:	Not Reported	HUC:	18070202
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:	370
Well Depth Units:	ft	Well Hole Depth:	370
Well Hole Depth Units:	ft		

6
North **FED USGS** **USGS40000137534**
1/4 - 1/2 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005S003W17R002S	Type:	Well
Description:	Not Reported	HUC:	18070202
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:	19920211	Well Depth:	220
Well Depth Units:	ft	Well Hole Depth:	220
Well Hole Depth Units:	ft		

7
North **FED USGS** **USGS40000137574**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005S003W17Q001S	Type:	Well
Description:	Not Reported	HUC:	18070202
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	198809
Well Depth:	210	Well Depth Units:	ft
Well Hole Depth:	210	Well Hole Depth Units:	ft

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C8
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000034909**

Well ID:	05S03W21C001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W21C001S	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=05S03W21C001S&store_num=		
GeoTracker Data:	Not Reported		

C9
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000007196**

Well ID:	05S03W21C002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W21C002S	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=05S03W21C002S&store_num=		
GeoTracker Data:	Not Reported		

D10
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000030101**

Well ID:	05S03W16P001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W16P001S	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=05S03W16P001S&store_num=		
GeoTracker Data:	Not Reported		

D11
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000021744**

Well ID:	05S03W16P002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W16P002S	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=05S03W16P002S&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

12
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000005201**

State Well #:	Not Reported	Station ID:	48341
Well Name:	EMWD11141	Basin Name:	San Jacinto
Well Use:	Observation	Well Type:	Single Well
Well Depth:	154	Well Completion Rpt #:	Not Reported

13
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000009019**

Well ID:	05S03W29H001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05S03W29H001S	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=05S03W29H001S&store_num=		
GeoTracker Data:	Not Reported		

E14
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000137582**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005S003W16P002S	Type:	Well
Description:	Not Reported	HUC:	18070202
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:	1971	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	568
Well Hole Depth Units:	ft		

E15
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000005228**

State Well #:	Not Reported	Station ID:	48340
Well Name:	EMWD12765	Basin Name:	San Jacinto
Well Use:	Observation	Well Type:	Single Well
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
92585	6	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 Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

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 IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX D

Quinn Communities

Thornton Ave

Sun City, CA 92585

Inquiry Number: 6914037.8

March 25, 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

03/25/22

Site Name:

Quinn Communities
Thornton Ave
Sun City, CA 92585
EDR Inquiry # 6914037.8

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Adrian Rene Escobar

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
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
1997	1"=500'	Acquisition Date: January 01, 1997	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
1974	1"=500'	Flight Date: November 06, 1974	USGS
1967	1"=500'	Flight Date: May 15, 1967	USDA
1961	1"=500'	Flight Date: June 14, 1961	USDA
1953	1"=500'	Flight Date: August 28, 1953	USDA
1949	1"=500'	Flight Date: May 08, 1949	USDA
1938	1"=500'	Flight Date: June 14, 1938	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.

INQUIRY #: 6914037.8

YEAR: 2016

= 500'

N

EDR


INQUIRY #: 6914037.8
YEAR: 2012
= 500'
N
EDR

INQUIRY #: 6914037.8

YEAR: 2009

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 2006

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 2002

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 1997

= 500'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

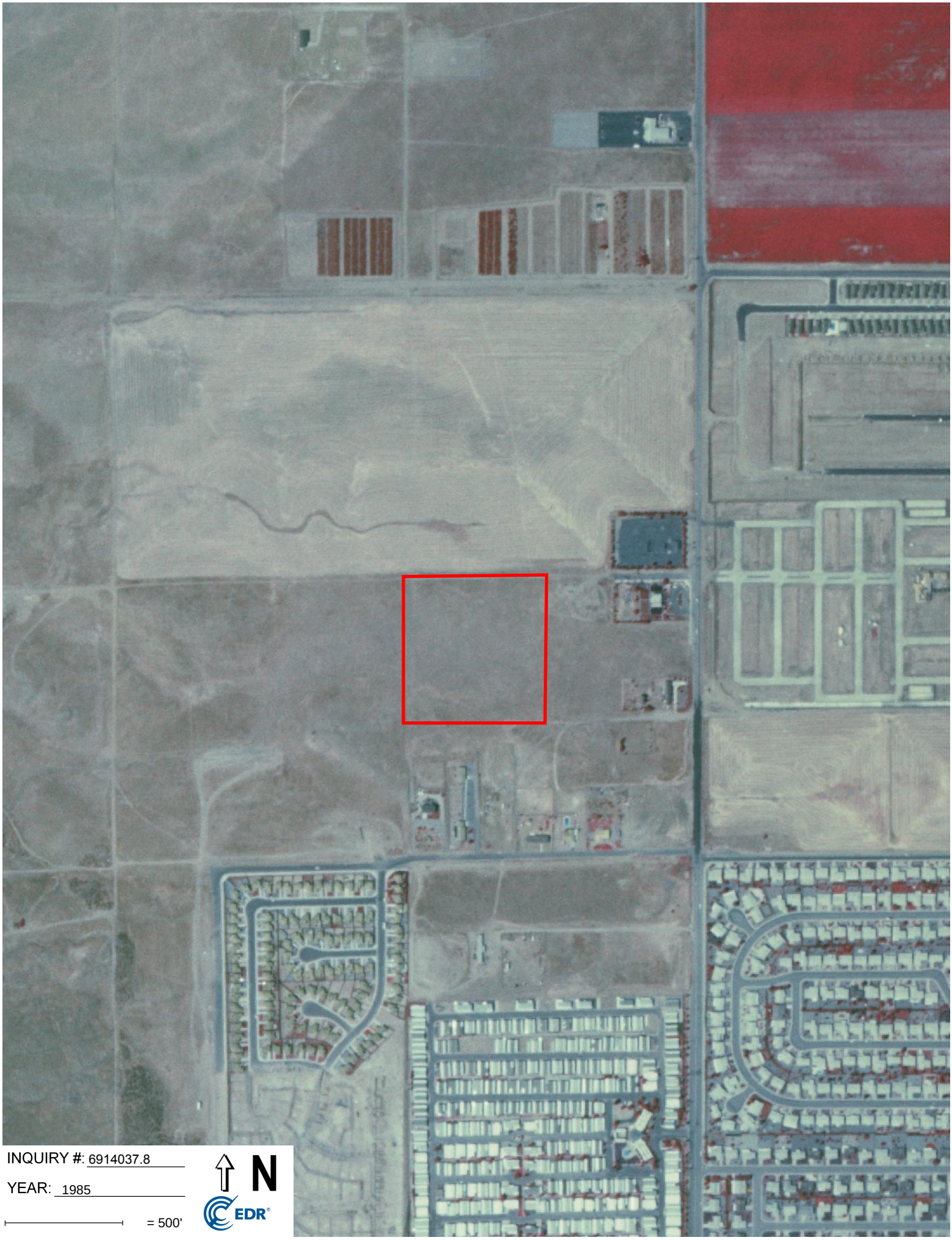
INQUIRY #: 6914037.8

YEAR: 1989

= 500'

N

EDR



INQUIRY #: 6914037.8

YEAR: 1985

= 500'

N

EDR

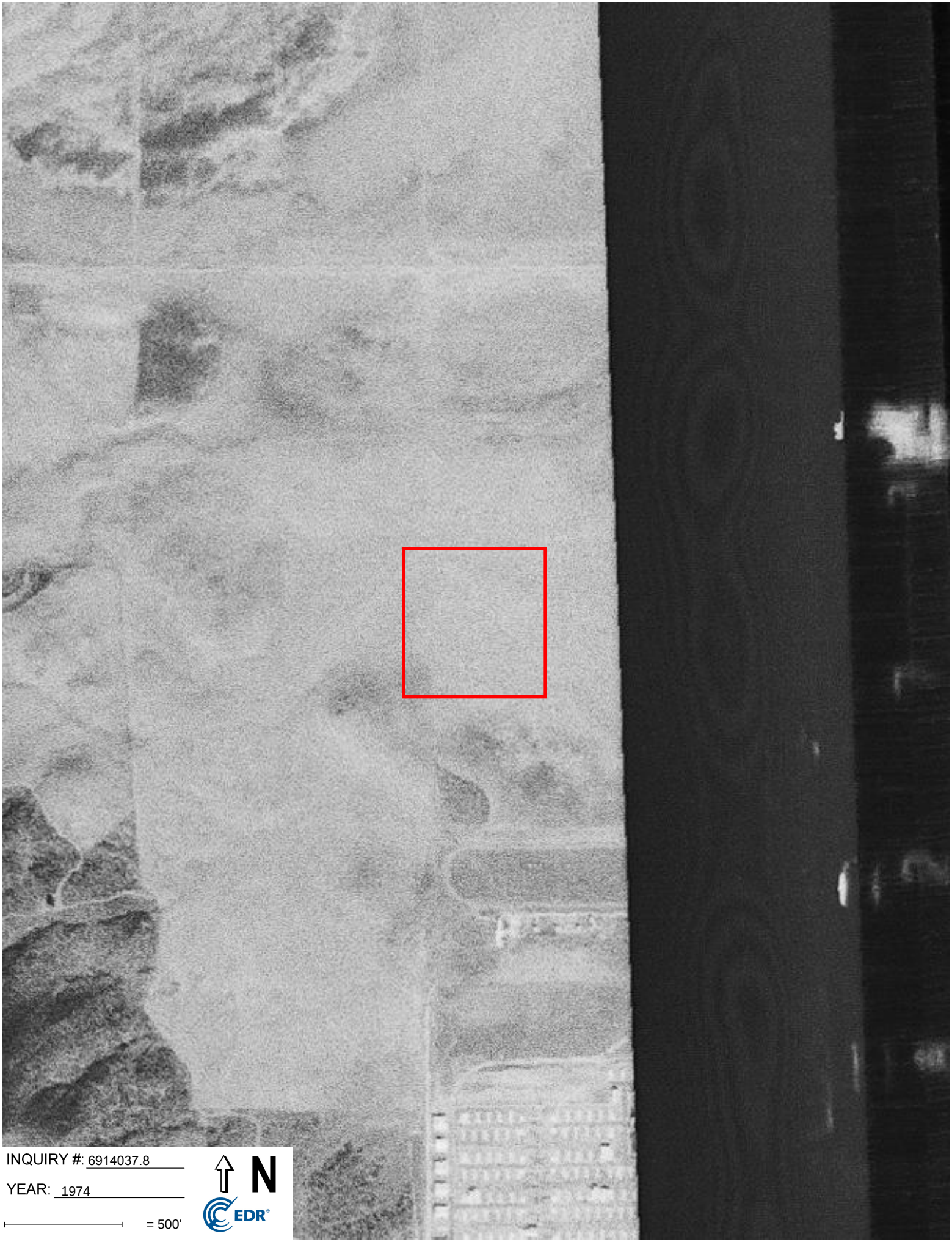
INQUIRY #: 6914037.8

YEAR: 1978

= 500'

N

EDR



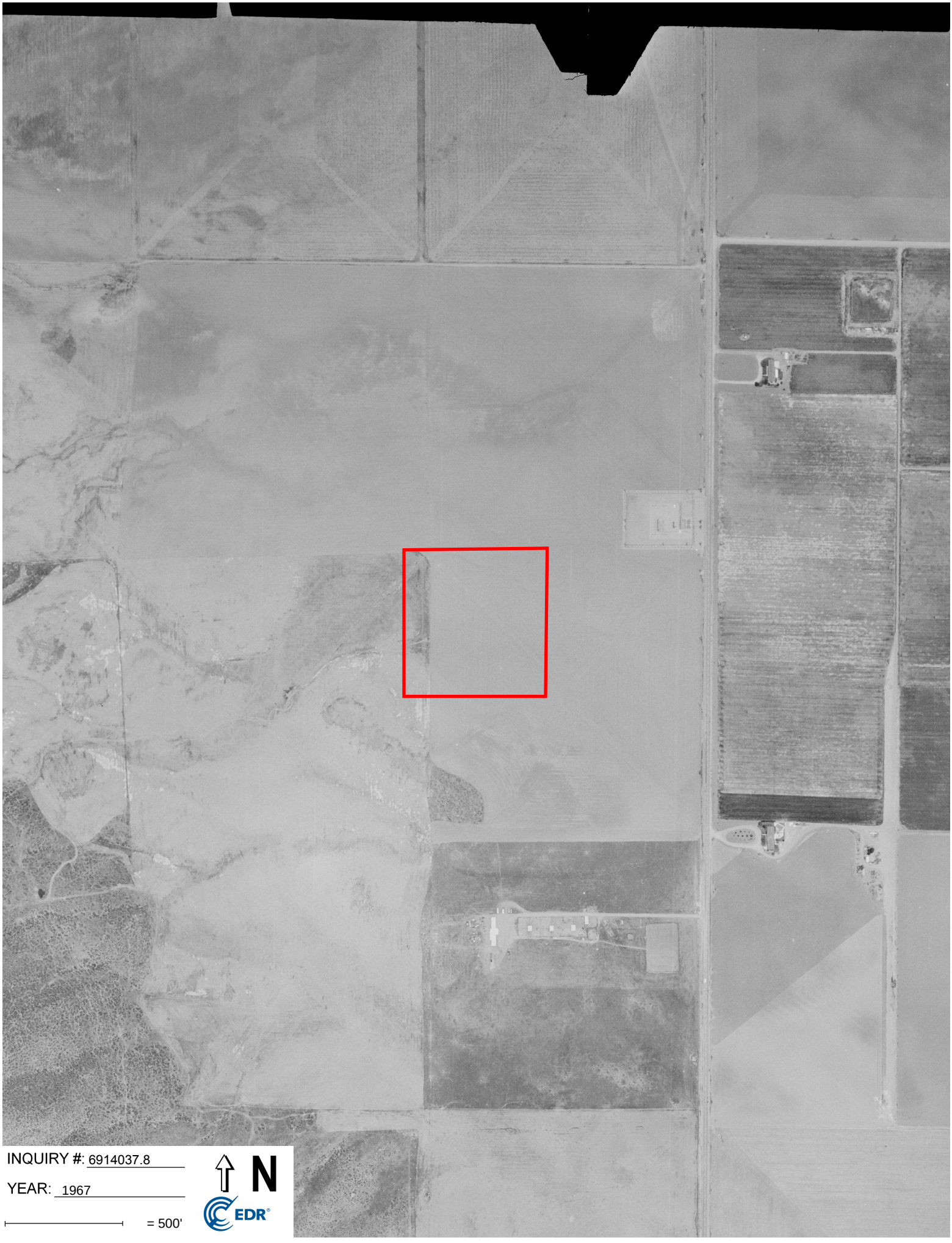
INQUIRY #: 6914037.8

YEAR: 1974

= 500'

N

EDR



INQUIRY #: 6914037.8

YEAR: 1967

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 1961

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 1953

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 1949

= 500'

N

EDR

INQUIRY #: 6914037.8

YEAR: 1938

= 500'

N

EDR

APPENDIX E

Quinn Communities

Thornton Ave

Sun City, CA 92585

Inquiry Number: 6914037.4

March 25, 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

03/25/22

Site Name:

Quinn Communities
Thornton Ave
Sun City, CA 92585
EDR Inquiry # 6914037.4

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Adrian Rene Escobar

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Geocon Geotechnical & Env 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:

P.O.# NA
Project: T2974-77-02

Coordinates:

Latitude:	33.723659 33° 43' 25" North
Longitude:	-117.209466 -117° 12' 34" West
UTM Zone:	Zone 11 North
UTM X Meters:	480593.84
UTM Y Meters:	3731536.22
Elevation:	1451.48' above sea level

Maps Provided:

2018	1942
2015	1901
2012	
1979	
1973	
1953	
1947	
1943	

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2018 Source Sheets

Romoland
2018
7.5-minute, 24000

2015 Source Sheets

Romoland
2015
7.5-minute, 24000

2012 Source Sheets

Romoland
2012
7.5-minute, 24000

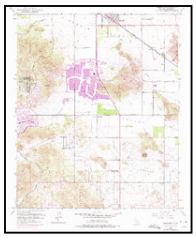
1979 Source Sheets

Romoland
1979
7.5-minute, 24000
Aerial Photo Revised 1976

Topo Sheet Key

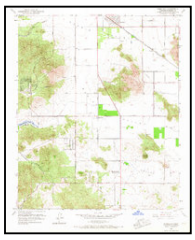
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1973 Source Sheets



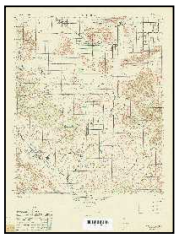
Romoland
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1953 Source Sheets



Romoland
1953
7.5-minute, 24000
Aerial Photo Revised 1951

1947 Source Sheets



MURRIETA
1947
15-minute, 50000

1943 Source Sheets

Murrieta
1943
15-minute, 62500
Aerial Photo Revised 1939

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1942 Source Sheets

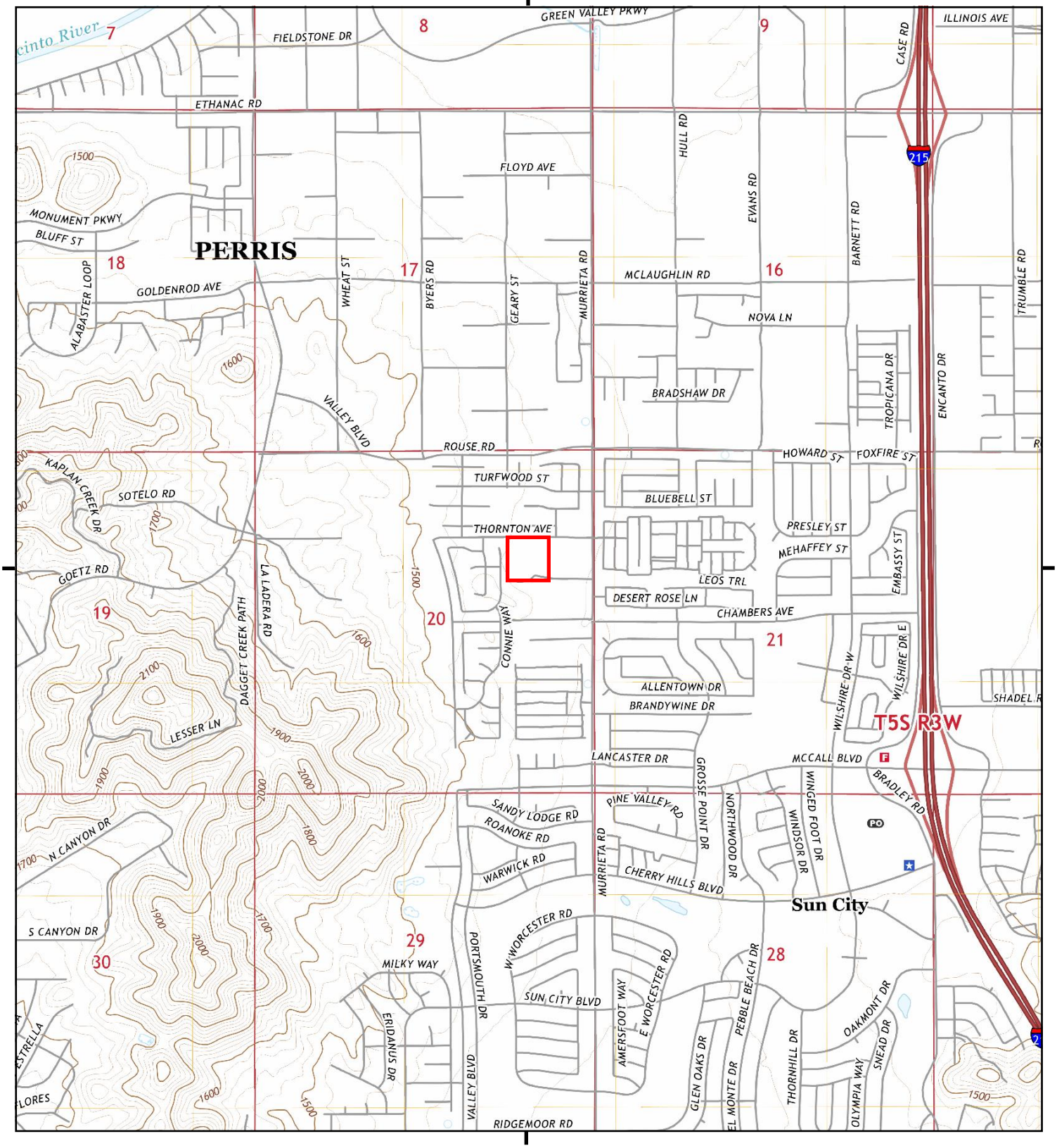
Murrieta
1942
15-minute, 62500
Aerial Photo Revised 1939

1901 Source Sheets

Elsinore
1901
30-minute, 125000

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

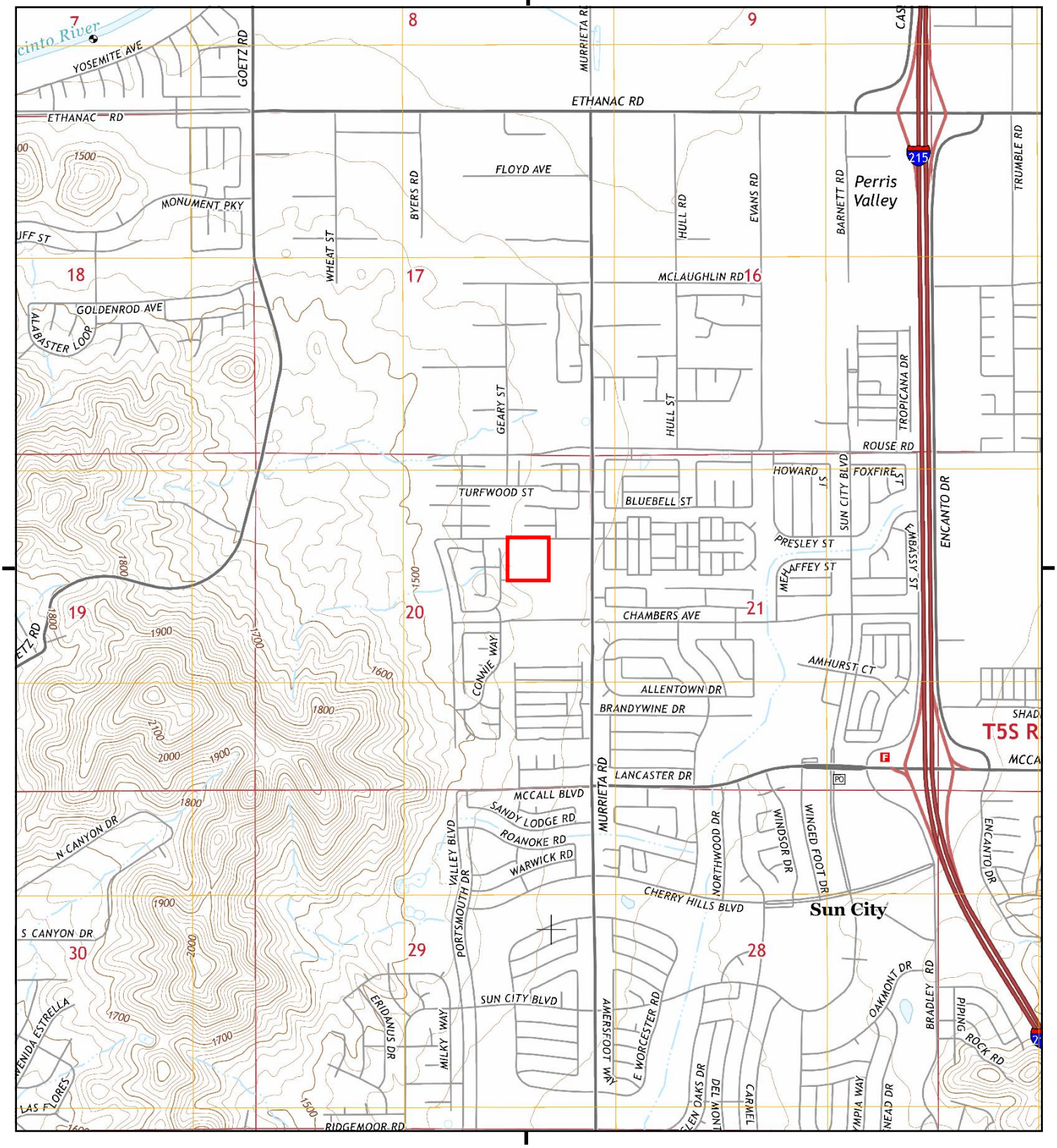
TP, Romoland, 2018, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

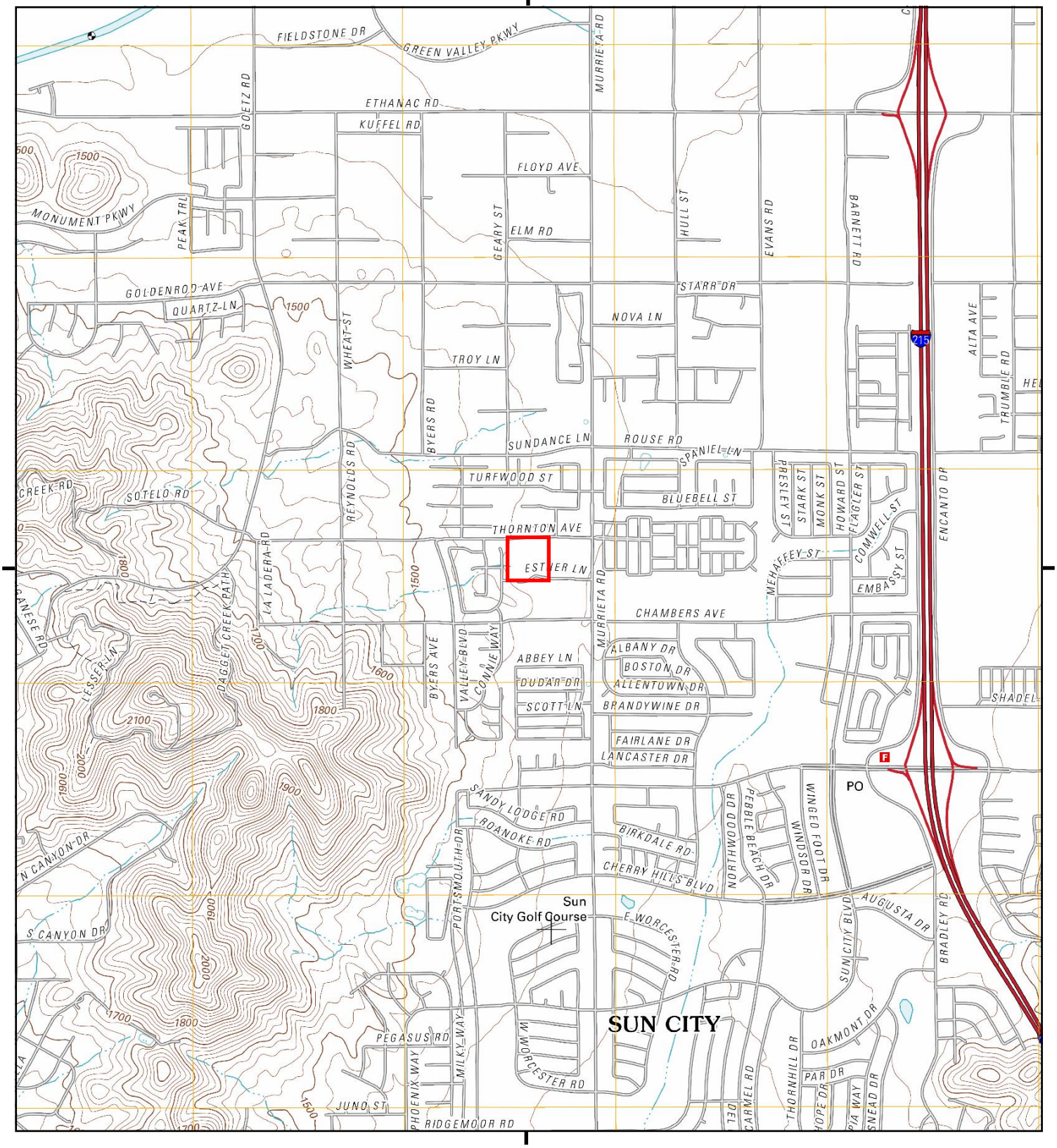
TP, Romoland, 2015, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

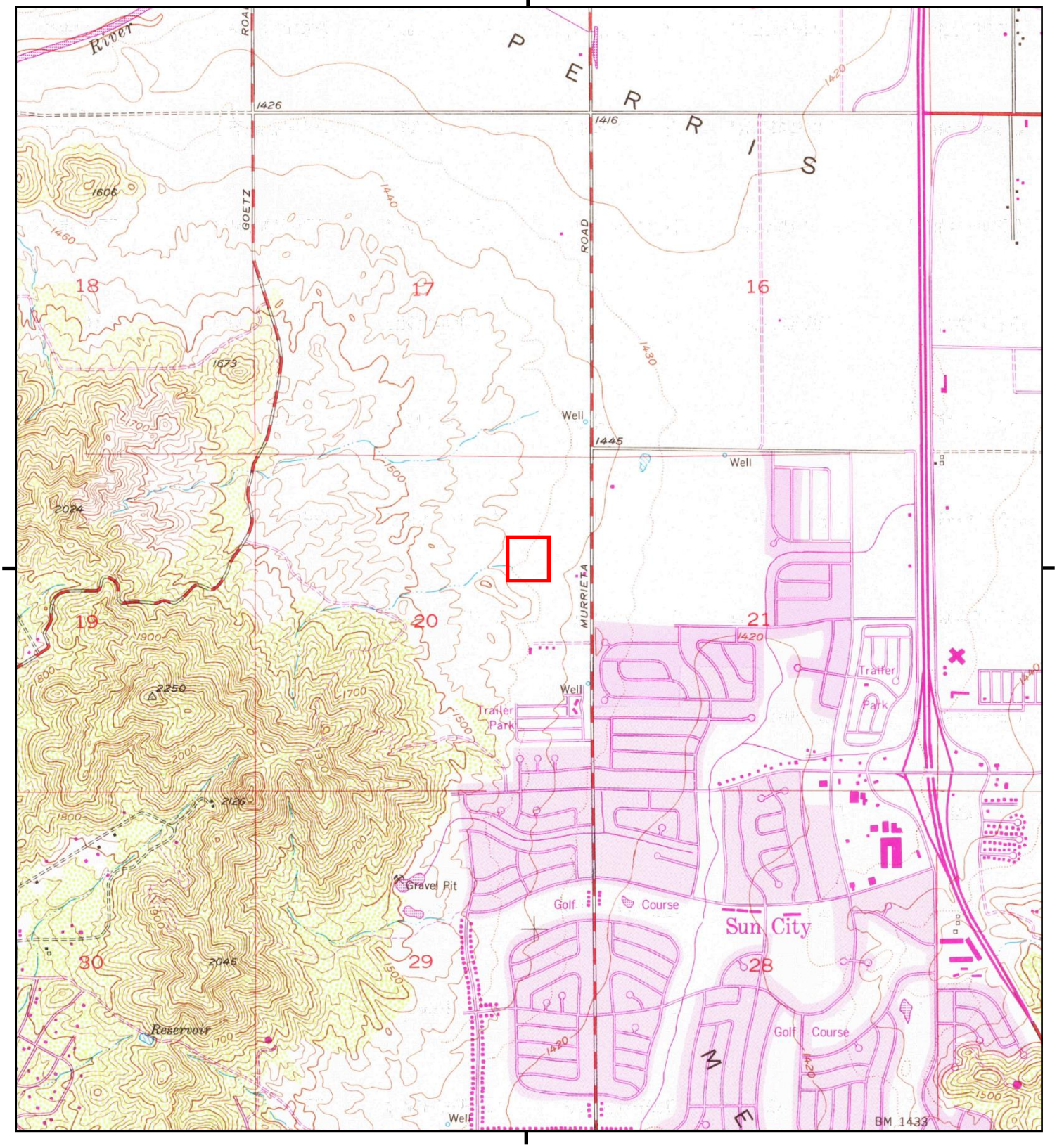
TP, Romoland, 2012, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

1979



This report includes information from the following map sheet(s).

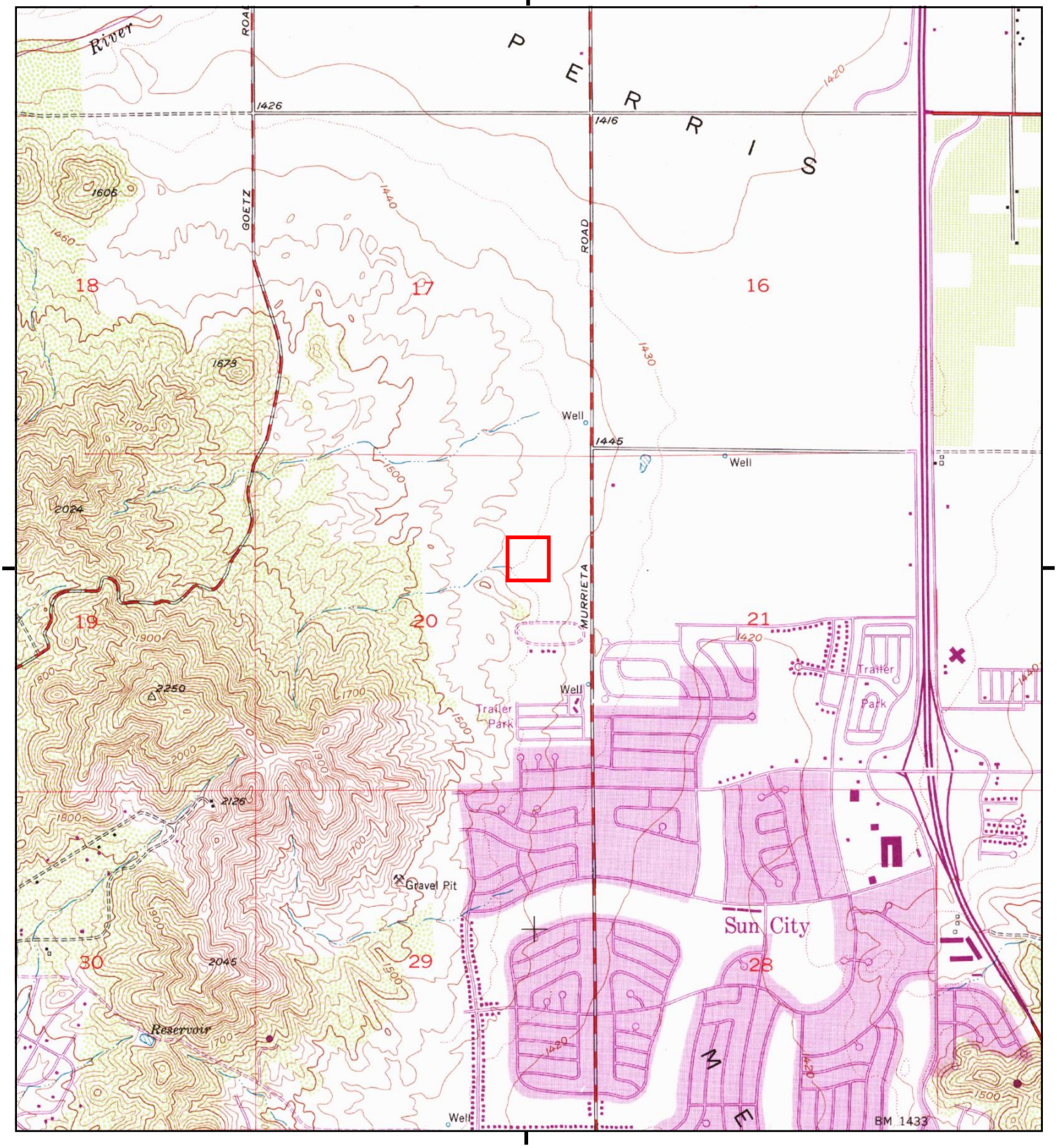
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Romoland, 1979, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

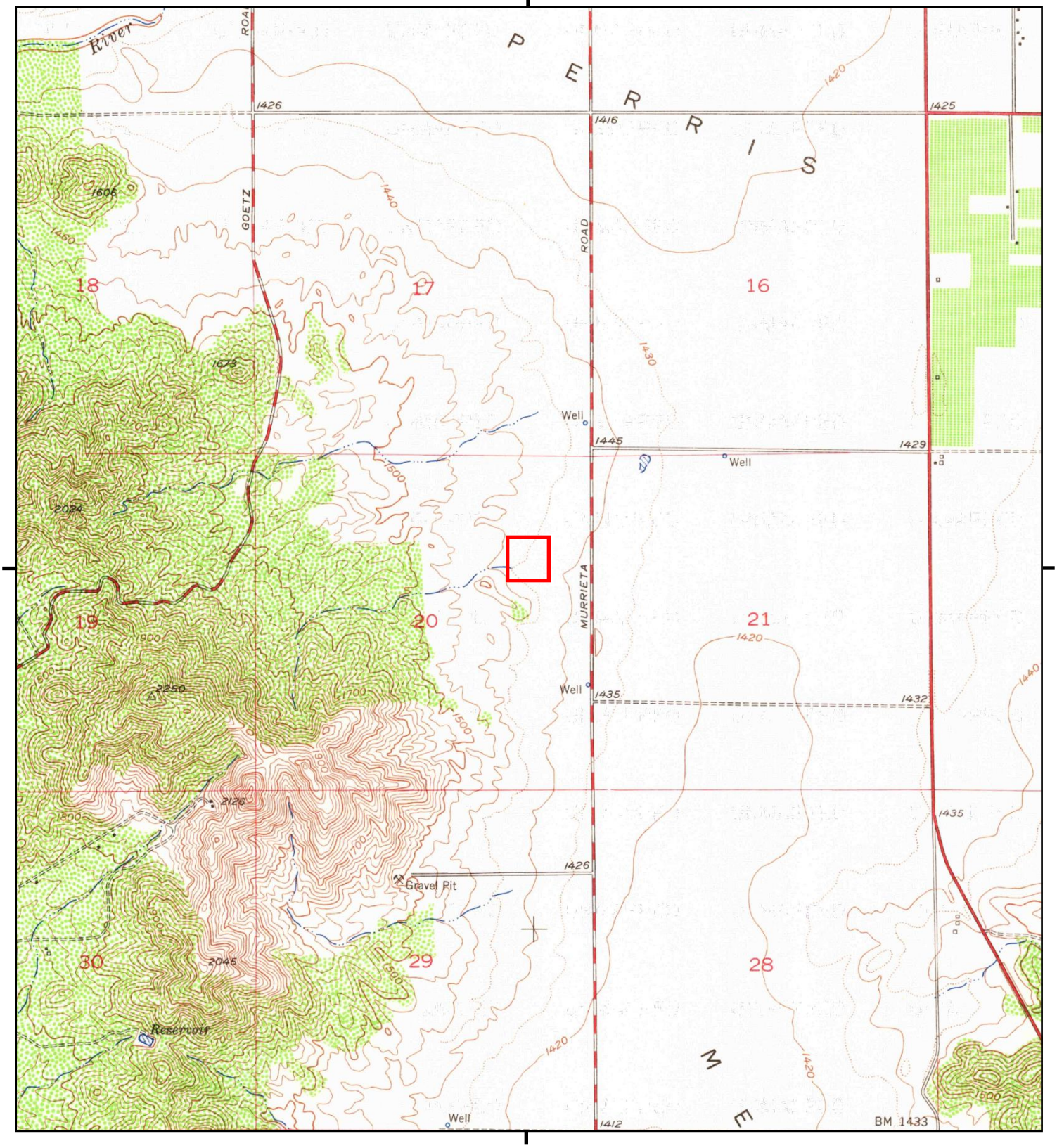
TP, Romoland, 1973, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

1953



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

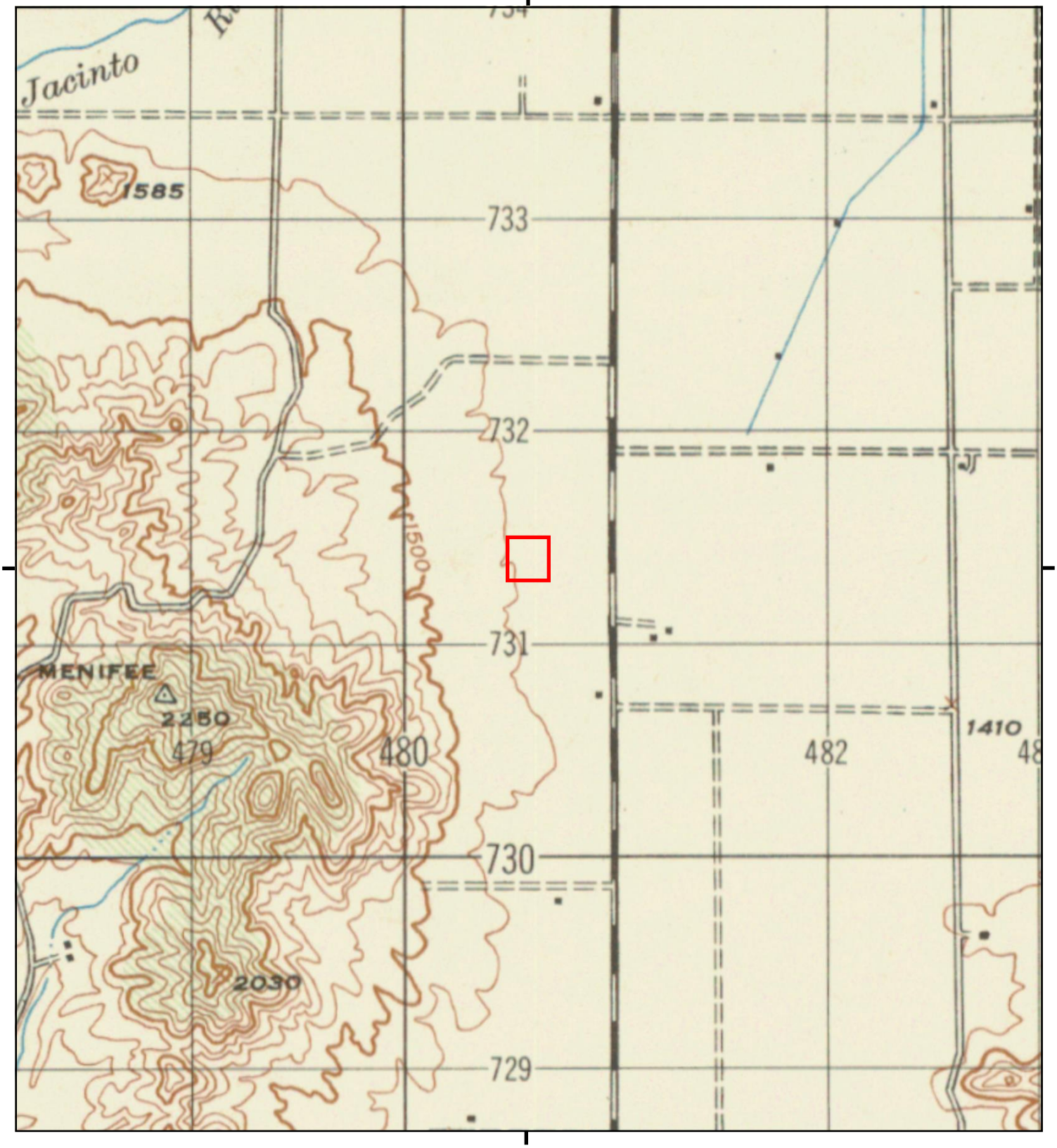
TP, Romoland, 1953, 7.5-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

1947



This report includes information from the following map sheet(s).

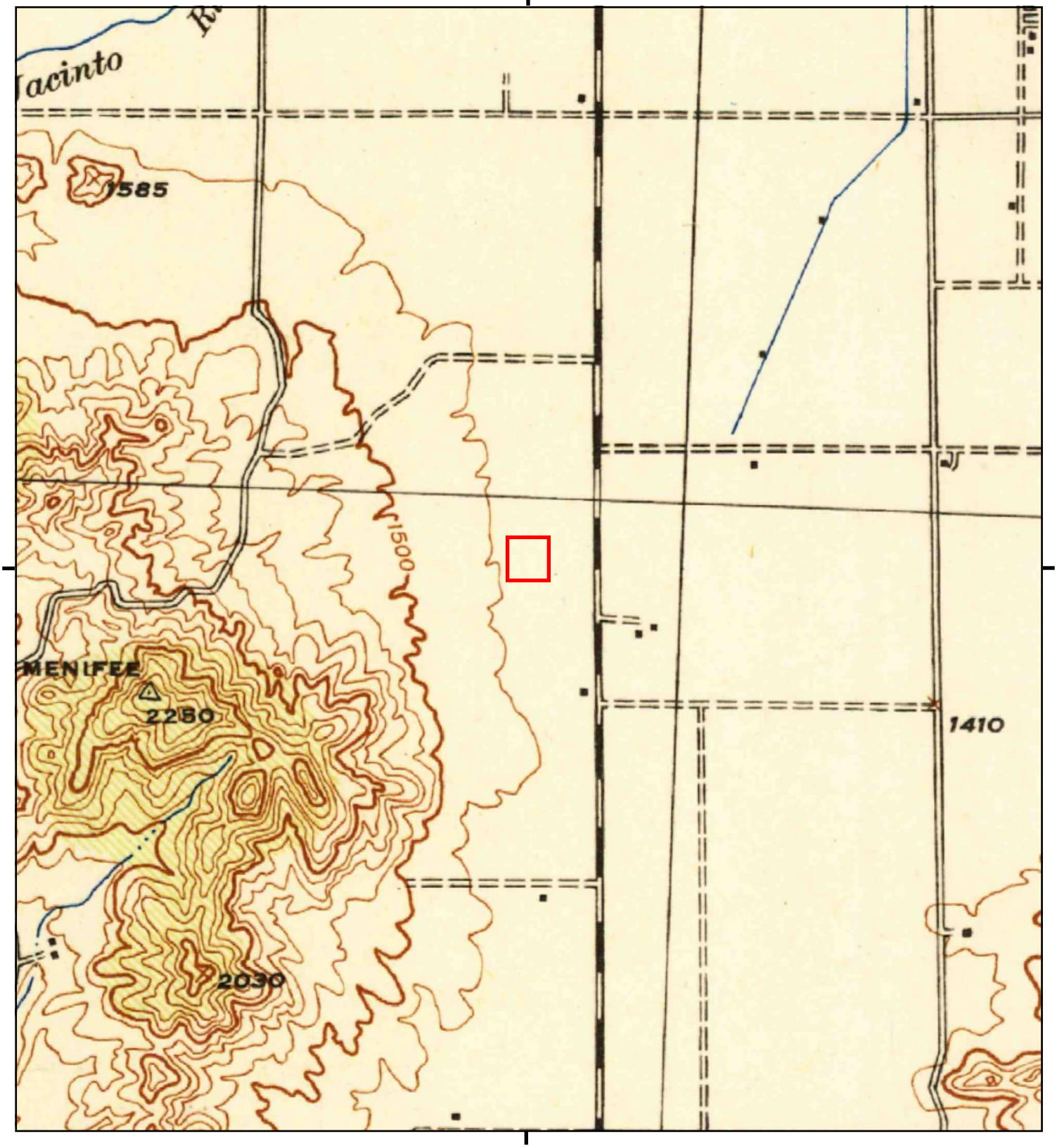
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, MURRIETA, 1947, 15-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

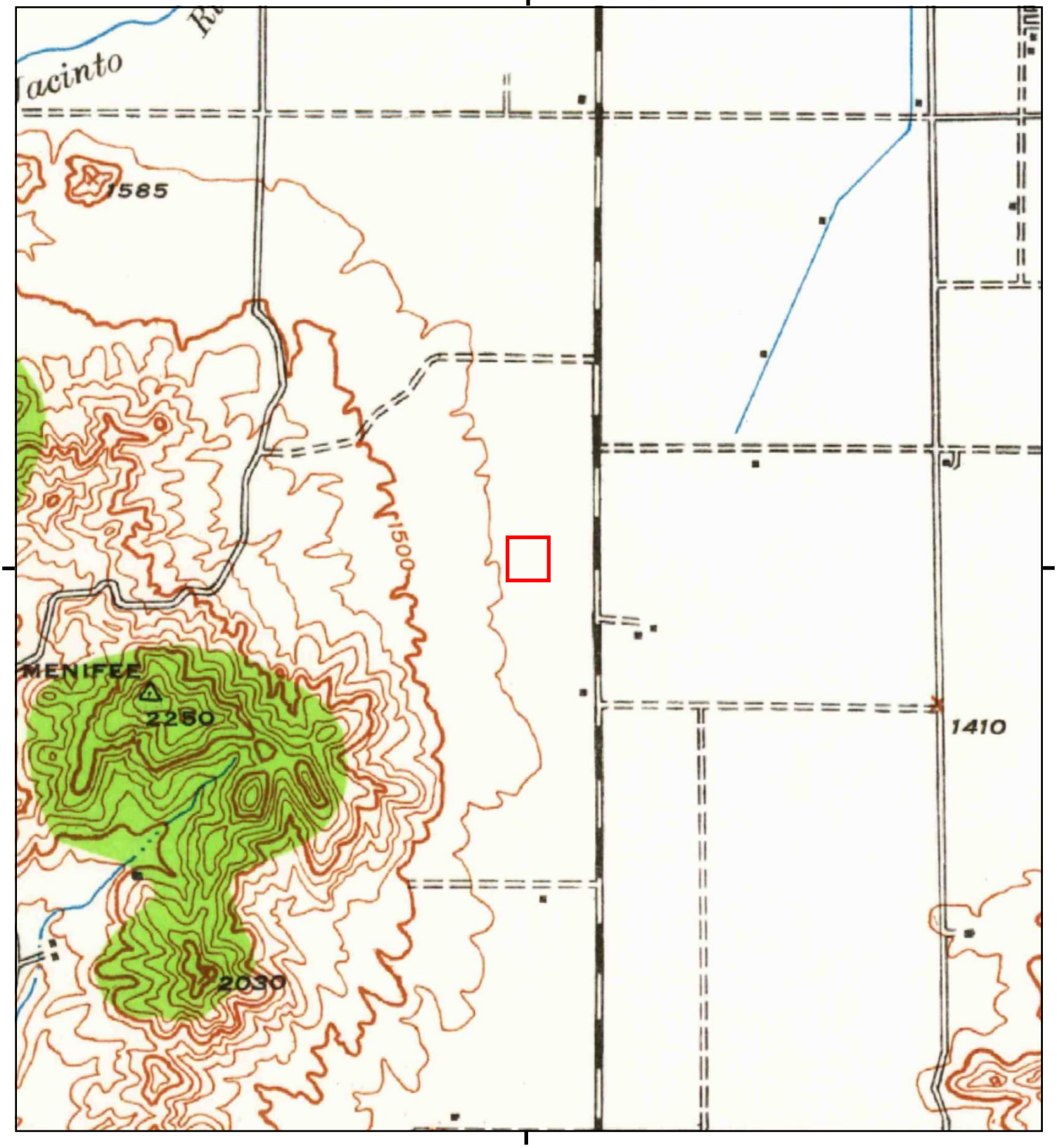
TP, Murrieta, 1943, 15-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

1942



This report includes information from the following map sheet(s).

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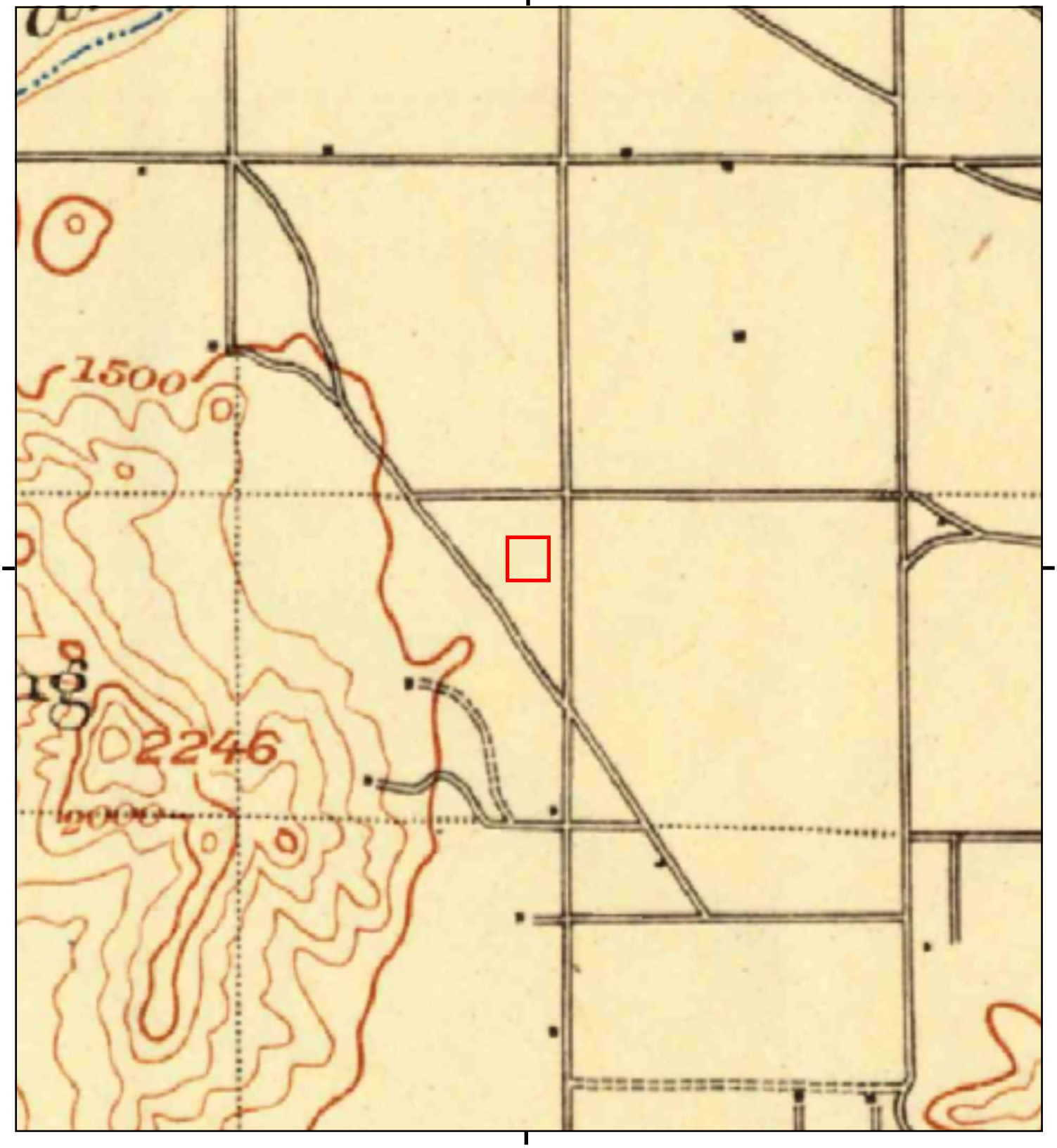
NW N NE
W E
SW S SE

TP, Murrieta, 1942, 15-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Elsinore, 1901, 30-minute

SITE NAME: Quinn Communities
ADDRESS: Thornton Ave
Sun City, CA 92585
CLIENT: Geocon Geotechnical & Env

N

APPENDIX F

Quinn Communities
Thornton Ave
Sun City, CA 92585

Inquiry Number: 6914037.5
March 29, 2022

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by infoUSA®

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☐	☑	EDR Digital Archive
2014	☐	☑	EDR Digital Archive
2010	☐	☑	EDR Digital Archive
2005	☐	☑	EDR Digital Archive
2000	☐	☑	EDR Digital Archive
1995	☐	☑	EDR Digital Archive
1992	☐	☑	EDR Digital Archive
1990	☑	☐	Haines Criss-Cross Directory
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1976	☑	☐	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Thornton Ave
Sun City, CA 92585

Year	CD Image	Source	

MURRIETA RD

1990	pg A93	Haines Criss-Cross Directory	
1985	pg A94	Haines Criss-Cross Directory	
1985	pg A95	Haines Criss-Cross Directory	
1985	pg A96	Haines Criss-Cross Directory	
1980	pg A97	Haines Criss-Cross Directory	
1980	pg A98	Haines Criss-Cross Directory	
1980	pg A99	Haines Criss-Cross Directory	
1976	pg A100	Haines Criss-Cross Directory	
1976	pg A101	Haines Criss-Cross Directory	
1971	-	Haines Criss-Cross Directory	Street not listed in Source

THORNTON AVE

2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1976	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*
MURRIETA RD		
2017	pg. A2	EDR Digital Archive
2014	pg. A18	EDR Digital Archive
2010	pg. A34	EDR Digital Archive
2005	pg. A49	EDR Digital Archive
2000	pg. A64	EDR Digital Archive
1995	pg. A75	EDR Digital Archive
1992	pg. A85	EDR Digital Archive

City Directory Images

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017

26075	VALENTINE, JAMES D
26105	MCWATERS, MARVIN M
26135	KING, TANYA L
26145	MURILLO, RUBEN H
26399	MARTINEZ, GRACIELA
26414	PACIFIC MOBILE STRUCTURES
26429	ESPEJEL, FAVIAN
26510	MARDIN, FLORA E
26704	LEARNING TREE PRESCHOOL
26770	MILLERJONES MORTUARY & CREMATORY
26805	CENTER FOR SPIRITUAL LIVING
26815	MENIFEE BIBLE CHURCH
27250	ABBOTT, RONALD L
	ACAMPORA, JO E
	ADAMS, RICHARD R
	AGUON, RONALD A
	AIKEN, JAN M
	ALATORRE, ALEX
	ALKEMA, NANCY J
	AMATO, DAN J
	ANAYA, KATHLEEN
	ANDERSON, LISSO E
	ANDERSON, SHARON A
	ANDRES, CHERIE D
	ARBLASTER, DAVID
	ARDAVANIS, CHRIS
	ARIA, JERALD E
	ARMSTRONG, RONALD D
	AWEF, BEVERLY
	BAILEY, LES E
	BALES, SHERLYN L
	BARRATT, ROBERT K
	BASQUEZ, PAULA J
	BAUGHMAN, PAUL D
	BAURMANN, MARGARET J
	BAXTER, GINI E
	BEARD, DEA M
	BEAUMONT, DOROTHY D
	BECK, ROBERT
	BEESON, GERALD W
	BEHAN, PHILIP
	BERGER, EVELY A
	BERNAL, MARCELL J
	BIGART, ROBERT H
	BIRDSALL, DONALD J
	BLAIR, SHARON B
	BLANKENSHIP, HOWARD L
	BLOOD, DAVID A
	BORDEN, PHILIP C
	BOSKLOPPER, LORRAINE

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017 (Cont'd)

27250 BOWMAN, MATTHEW R
BRADY, E
BRADY, RICHARD B
BREWER, VICTORIA W
BRIEN, ROBERT I
BRIGGS, ELISA T
BRIGGS, WILLIAM T
BRISENDINE, GLENN
BROWN, JOAN P
BROWN, JOYCE M
BROWN, REBECCA J
BRUCCHERI, GAETANO M
BRUNET, MARILIN S
BUERER, HENRY D
BUMP, WILLIAM
BURKE, K
BUTERA, VINCENT E
BYRNE, RUTH N
CALLAHAN, ANDY N
CARLSON, ANTHONY H
CARMAIN, KAREN L
CARMEAN, KURTIS R
CAROLCLARK, CAROL
CASTILLO, DIANA M
CAVANAUGH, JAMES J
CHATTERTON, KIMBERLY
CHINOFSKY, ART R
CLAVELL, SANDRA L
COLE, MONICA F
COLLIER, JOSEPH M
CONROY, KAHTLEEN G
CONTRAFATTO, THOMAS
CORTEZ, CLARA
CORY, STEPHEN
COSMO, VALERIE M
COX, MARY E
CREDE, ROBERT C
CROSSNO, JERRY A
CULLEN, MILLY E
CUTLER, JOHN P
DAVIS, ALICE
DAWSON, CLAUDIA
DEMITROFF, PERRY A
DESISTO, ROBERT A
DESPAIN, JAMES L
DISILVESTRO, LEE J
DOLL, JEFF R
DOWDELL, WILLIAM J
DRAKE, DUANE
DUFFY, BEVERLY J

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017 (Cont'd)

27250 DUNNET, GLORIA J
EATMON, CRAIG D
EDMETT, CHERYL L
EGELIN, WILLIAM W
ELGIE, ROBERT E
ERICKSON, PAUL G
ESPARZA, AURELIO
ESPARZA, BEATRIZ M
FALCON, ALICIA A
FENRICH, DONALD R
FEUERBORN, ROD J
FINKLE, JAMES M
FISHER, LISA R
FLEMING, WILLIAM G
FOURNIER, ARMAND R
FREDRICKSEN, ROMONA
FREEMAN, WILLIAM S
FRODENTE, PETER W
GARTLEY, JOE D
GEDDES, SHARON L
GEISSLER, VICKY L
GIBSON, ALEXIS
GIBSON, CAROLYN
GIBSON, DOUGLAS C
GLUESING, KARL F
GOLDMAN, PATRICIA L
GOOD, GLORIA L
GRAY, WALTER A
GROVER, BARBARA M
HALY, GEORGE F
HALY, JANE M
HAMILTON, THOMAS M
HAMPTON, JOHN D
HANCOCK, LOWELL F
HARRIS, MARTIN D
HART, JONELL M
HARTZHEIM, DAVID E
HAWKINS, BERNARD R
HAYHURST, DON R
HAYNES, LLOYD
HAYNES, M
HAYS, DORIS M
HENNINGER, ROBERT L
HENSCHEID, DANIEL V
HERLICH, ELEANOR
HERNANDEZ, LINDA A
HERRICK, PETER
HIBBS, SUSAN
HICKS, SUSAN J
HOGUE, REBECCA L

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017 (Cont'd)

27250 HUGHES, KATELYN
HUNGATE, H
HUNT, JOHN G
INGEL, EUGENE K
JACOB, RICHARD M
JANKAY, PAUL L
JENKINS, MERLE M
JOHNSON, JAMES L
JONES, JOHN D
JONES, ROBERT L
JORDAN, HAROLD E
JORGENSEN, DREW
KALOPER, ROBERT G
KARPENSKE, ANA C
KAUFMAN, MARYANN A
KEASLING, CYNTHIA
KEENEY, MICHAEL J
KENMUIR, GLORIA R
KENNEY, SHARI A
KEY, ROSEMARY P
KEYS, ZEBEDIE
KLINGMAN, CHARLES C
KNAPP, MARVIN W
KOENIG, JAMES O
KOPLAS, STEPHEN K
KOZAR, ROBERT L
KROGH, MARLENE F
KUK, SONCTY
KUTNYAK, KATHLEEN S
LACASELLA, TONY
LACHANCE, TERESA J
LAFFERTY, LORRAINE A
LANDON, EILEEN M
LANDRY, LEO J
LASKO, BARBARA R
LAVALLEY, PHIL A
LAWLER, SANDRA L
LAWSON, SUE W
LEACH, HELEN J
LEFLER, LEONARD A
LEM, SOCORRO M
LERMA, RUDOLFO L
LEU, PAULETTE A
LEWIS, JEAN L
LHJHOH, KII
LICCIARDI, DANNY C
LITTLE, JAMES R
LOMANDO, ARLEEN J
LUDWIG, HORST R
MAHER, LINDA

MURRIETA RD 2017 (Cont'd)

27250 MALETICH, THOMAS
MANN, DOROTHY
MANN, DOROTHY A
MANUES, HEATHER E
MARK, GEORGE S
MARTINS, MICHAEL T
MATHES, DEAN R
MAWHINNEY, PATRICK R
MAXWELL, LYNN
MAYNARD, PEGGY A
MCCLELLAND, KATHLEEN M
MCCLENDON, L
MCCRACKEN, BONNIE J
MCDANIEL, CHARLES S
MCDOWELL, JAMES A
MCINTIRE, Q M
MEHRLING, HERBERT
MEISTAD, GENE F
MENDICELLI, EUGENE R
MIERNIK, MICHAEL J
MILLER, LARRY A
MILLS, RODNEY M
MONICA, ALINE H
MONREAL, ALMA A
MONREAL, SHARON M
MOORE, KRIS
MORA, MICHAEL S
MUDD, HUGH M
MUELLER, MATTHEW
MURRAY, JEANNE J
NASLUND, DARRELL E
NASS, CHARLES J
NAVARRO, RALPH G
NEWSOME, JANET M
NIELSON, KURT M
NISHIDA, ROY
NOLIN, JOSEPHINE M
NYSTROM, JAN M
OAKLAND, TOBY K
OBERDORFER, ROBERT
OBERLE, JOHN E
OBRALLAHAN, BILL H
OKUN, LOLLY
OTERO, VERNON L
OTTO, CHUCK R
PAGE, STEPHEN G
PANICO, ROBERT G
PARMENTER, DAVID
PARRA, JUAN D
PASEK, ALICE L

MURRIETA RD 2017 (Cont'd)

27250 PHILLIPS, MICHAEL J
PIKULSKI, CLIFFORD P
POBIS, LILA L
POLK, DAWN M
POMO, N
POWELL, CARMEL L
QUEVEDO, LOLA
QUINN, ALLAN R
RABINEK, MARY R
RATHBUN, DEBRA
REAL, ANTHONY R
REED, SANDRA J
REMMEL, THOMAS P
REVILLA, L
RICKARD, GEORGE M
RILEY, MICKEY
ROBB, FREDERICK A
ROBBINS, H
ROBBINS, RUSSELL C
ROMERO, LUCRETIA M
ROOT, JANICE A
ROQUE, CARLOS
ROSEMEYER, JAMES D
ROYOLA, ROBERTO R
RUGGLES, LONNY T
RYDER, LARRY K
RYKS, LOUISE M
SALDANA, GUS
SATTERFIELD, NORMAN L
SCILLO, MIKE J
SCOTT, BEVERLY
SENEFSKY, WILMA J
SHALLANBERGER, ERIC R
SHILLITO, MICHAEL J
SHIPPER, DAVID W
SHROYER, STEVE M
SIEBERT, ERIC R
SIMMONS, JAMES L
SKEEN, SUZANN
SLADEK, BARBARA A
SLAY, JUAN A
SMITH, GARY H
SMITH, LAURENCE A
SMITH, WILLIAM P
SNIDER, FRANCIS L
SO, YOUNG E
SPRAY, DAVE B
SPURLOCK, DENNIS K
STAY, THOMAS C
STEMAN, SCOTT E

MURRIETA RD 2017 (Cont'd)

27250 STERNBERG, PETER E
STILL, PEGGY J
STONES, KEVIN S
SULLIVAN, CAROL A
SUMMERVILLE, SAMUEL R
SUN MEADOWS
TAN, JAIME R
TATRO, THOMAS P
TAYLOR, RICHARD P
TAYLOR, ROYCE O
THIBODEAU, EMILE W
THOMPSON, JOHN S
THORELL, EDWARD T
TOD, RODNEY C
TOJA, PETER
TONON, JILL
TOPPING, VINCENT J
TRAPP, ROBERT W
TREPLAN, JOSEPH
TRIBBE, DOROTHY M
TRIPLETT, DELMER L
TURNER, GLENN E
TYLER, JOYCE M
VACCARINO, ROSALIE D
VALLE, JOSE M
VANASEK, JIM R
VANDERVLIET, JANET D
VELASCO, JAVIER V
VICARI, PETER
VIETS, BRIAN W
VISINTAINER, DIANNA M
VOBECKY, HELGA
WADA, HARUO S
WADDELL, DAVID A
WADE, GREGORY E
WARGO, WILLIAM G
WASMANN, MARY S
WEEKS, JOYCE A
WEINRICH, ROGER A
WHITE, DANIEL
WIELKIE, HERBERT R
WILKINS, CLIVE
WILKINSON, BILL F
WILLIAMS, ANTON
WILLIAMS, GEORGE C
WILLIS, DAVID
WIMER, PAUL L
WOODRUFF, KRISTINE M
WOYTEK, KENNETH R
WRIGHT, ROBERT

MURRIETA RD 2017 (Cont'd)

27250	YODERS, GRANT M
	ZIEMER, JAMES H
	ZIGLER, ROBERT E
27347	TANNER, JEFFREY A
27437	MENIFEESTORAGECOM
	UHAUL
	USTOREIT
27701	ACEVEDO, ELIZABETH
	ADAMS, MARY
	ADAMS, PHILIP J
	ALBRITTON, JERRY S
	ALEXANDER, JEANETTE M
	ALLEN, LON S
	ANDERSON, DAVE L
	BACKBURN, L
	BALLARD, TIMOTHY B
	BARON, THOMAS
	BARTHOLOMEW, JAMES D
	BECHGUENTURIAN, BETTY M
	BEDSAUL, PERRY
	BEESON, ANNITA X
	BENNETT, DOROTHY J
	BONIFACE, HAROLD W
	BOWLIN, SHIRLEY S
	BREKKE, LARRY R
	BROWN, RUTH M
	BRUMBACK, MALVA
	BRUNK, GEORGE G
	BRUNK, LISE M
	BYLES, WILLIAM H
	CARNES, ROBERT J
	CASEY, JONATHAN J
	CHAPMAN, JACQUELYN A
	CHOSKE, CAROL S
	CHRISTENSEN, STEVE A
	COLONNA, JAMES J
	COOKSEY, JERRY
	CORONA, RUBEN S
	CORREA, MODESTO G
	COY, DONALD L
	COZENS, JOHN E
	CRAIG, LUELLA M
	CRIPPS, BETTY M
	CROSBY, NANCY J
	CUNNINGHAM, DEBORAH K
	DANDREA, LINDA
	DAVIS, TREVOR C
	DELANGE, STEVEN P
	DELREY, RON
	DEPADILLA, VIRGINIA

MURRIETA RD 2017 (Cont'd)

27701 DESSERO, STEVEN
DEVORE, LINDA
DEWETT, LAWRENCE E
DIAZ, ERICA A
DORSEY, CHARLEEN R
DOWNEY, SHERIDAN G
DRAGON, JAMES L
DRISKELL, WILLIAM E
DUKE, BRYAN J
DURBIN, DAVID P
DURR, WILLIAM L
ELLIS, ALICE A
FEIST, JANICE E
FINK, JOSEPH E
FISHER, LUCIENNE A
FOWLER, CARROLL W
FOX, GARY W
FRANKEL, JACKLYN A
GALBRAITH, LEONARD F
GALE, JAMES L
GALLIMORE, BOBBY R
GAMBOA, DESI B
GANN, SHERRY
GANNAWAY, ROBERT
GARCIA, CAROL J
GARCIA, ESMERALDA
GARDNER, DONNA J
GARVEY, MARIE A
GAST, RICHARD M
GENELLE, MICHAEL T
GEORGE, VIRGINIA L
GETTEMEIER, DONNA C
GIASSON, HENRIETTE N
GOODENOW, ROBERT W
GRIFFITH, THOMAS
GRIGG, GENE C
GUGLIELMETTI, LESLIE E
GUNDERSON, KEITH E
HARRELL, LOUISE R
HARTNESS, BEVERLY A
HATFIELD, JIM W
HATTIG, BRENT
HEIDSTRA, AUKE
HENSON, ROBERT V
HERNANDEZ, ALEX
HILL, HAROLD W
HILLSIDE MOBILEHOME
HOFFMAN, TED L
HOMAN, JACKIE L
HOMOLKA, KATHRYN J

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017 (Cont'd)

27701 HOOPER, EDWIN L
HOYE, CHARLES K
HUFF, VERNA R
JACKSON, DENNIS A
JACKSON, DIANE E
JAWORSKI, ANTONI M
JENNING, ROBERT M
JENSEN, SHIRLEY M
JOHNSON, LUPE R
JOHNSON, NATHEL E
JOHNSON, ROBERT E
JONES, KATHLEEN
JONES, STEPHEN W
KAPITZKE, HELEN E
KEMER, LORRAINE R
KIRCHER, SHIRLEY E
KLEVE, THOMAS
KNOLES, JOAN F
KOBE, TERRY G
KRUSE, DONALD L
LAMBERTO, ANTHONY
LAMPRECHT, RUBY
LANGLOIS, DELILAH
LAPOINT, FRANK J
LAW, JOAN E
LEE, LINDA I
LESLIE, JEAN W
LESTER, TAMMI C
LIEM, CORA M
LIPPERT, PRESTON D
LONARDO, LYDIA R
LOPEZ, CHRISTINE A
LOPEZ, GUSTAVO
LOVELL, TIMOTHY N
LUCKI, KYRILL D
LUKAS, CLARICE F
LUKAS, LARRY
MACEL, VERA M
MANKA, MARCIA
MANLEY, WILBUR M
MARGIS, ANNE
MARTINEZ, CECILIA
MARTINEZ, VICTOR C
MCCLAIN, NANCY M
MCGUIRE, DONNA L
MEDINA, RYAN
MEHELIC, MARGARET J
MELE, ROSALEE
MISCH, LYNNE M
MONGE, TANYA

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2017 (Cont'd)

27701 MONTES, ARTURO M
MOODY, SADIE E
MOORE, IMMANUEL
MORGAN, EVA M
MOYE, LLOYD L
NAGEL, JOYCE L
NAONA, JAMES K
NEGRETE, MARY A
NEIDEL, NANCY E
NEWELL, ELOISE
NUNNELLEY, ERIC
ORELLANA, CARLOS A
ORTEGA, GLORIA
PATMOR, GARY O
PAULSON, PETER
PERALTA, EDWARD J
PEREZ, HARRIET S
PEROVICH, DIANE
PINON, EFRAIN O
PLAUTZ, PATEL N
POWELL, ANTHONY A
PRAY, CLYDE A
PUHALSKI, JOSEPH
PYLE, STEPHEN F
REDFORD, CLIFFORD F
REILLE, FRANK A
RICHARDS, MADELINE C
RICKEL, DEBBIE M
RISTER, DON R
RIVERA, FRANK Y
RUSSELL, JEFFREY
RYAN, PATRICIA A
SAGANIS, NICK
SAMANTELLO, SHIRLEY A
SAVOIA, JOSEPH M
SCHNEIDER, ALEX
SCHOOLEY, REBECCA L
SEAMSTER, FILOMINA P
SERRAO, M
SERRAO, MARGARET G
SHARP, JAMES L
SHARPE, DELTON M
SHEETS, SUSAN
SILVA, BENNY
SIMMONS, BILLY
SKAROPOULOS, HELEN
SMITH, FRANCIS L
SMITH-LOPEZ, FLORENCE E
SOLIZ, LOUIS Y
SORCE, ANGELO B

MURRIETA RD 2017 (Cont'd)

27701	SORREANO, RADRIGO
	SPATES, GARRETT K
	SPILKER, MICHAEL E
	STANEK, KIM A
	STEPHENSON, JARRETT R
	STODDARD, AMANDA
	TERALTA, EDWARD
	THOMPSON, MARVIN C
	TOWNSEND, PAMLA
	TREVINO, ROSENDO
	TURRENTINE, DUNCAN R
	VERMILYA, THOMAS
	WAKEMAN, SEAN O
	WALKER, EILEEN F
	WALLACK, MARY
	WATSON, JANICE G
	WAUGHTEL, GIGI
	WHIDDON, WALTER T
	WHITWORTH, VICKIE L
	WILDER, RICK A
	WINSON, RODNEY P
	WOODS, ALICE L
	WOODWARD, MELODY E
	WRIGHT, DANIEL P
	WYATT, DAVID V
	ZAMUDIO, HECTOR H
	ZELLMER, MARIANNE M
27800	AVILA, JOHN R
27812	FAWVER, ELAINE R
27844	GEROW, WILLIAM E
27860	BERRYMAN, RHYS M
27876	BLAND, MELINDA
27890	GONZALEZ, JUAN
27920	BAXTER, LORI
27931	ST VINCENT FERRER CHURCH
	THE REGAL INN
28018	AGUILERA, FRANK G
28025	SIMON, JOHN A
28026	ESCORCIA, ANA M
28040	CARRILLO, MARIA C
28052	MOORE, JACQUELINE M
28055	SLAVEN, ELLEN
28066	CHATT, WILLARD L
28071	NOAKER, DAVID E
28080	RIVERA, MARTHA L
28094	QUADE, JOAN B
28106	DE, LAS
28120	HEDGE, MARYGRACE
28141	DAVID, JEFFERY
28151	BERRY, IVAN D

MURRIETA RD 2017 (Cont'd)

28165 DAVISSON, RUTH E
28181 MACIAS, ARMANDO
28191 PERKINS, SANDRA A
28201 MONTELONGO, MARY A
28225 SUTTON, STEVEN A
28286 MATTSON, RICHARD D
28287 TABER, EDWARD
28306 BOLTON, MAXINE
28314 SCHNEIDER, LOIS A
28315 RUIZ, GUADALUPE
28322 MAGEE, GERALD A
28323 FRAZIER, TAMI C
28376 HOMSI, BASSAM
28377 DAVIS, OLGA
28390 ENGLEHART, JAMES J
28391 VALENCIA, THOMAS
28406 TRAMMEL, MICHAEL W
28407 PADILLA, TIM
28421 FISSELLA, OLIMPIA
28438 HOLLAND, DARLENE L
28439 RIVETTI, ELENA L
28450 CORRALES, MARTHA S
28451 SIZEMORE, SUSAN L
28464 GALE, RICHARD R
28465 CROTHERS, PATRICIACROTHER A
28477 HORETSKI, RONALD J
28478 JOHNSON, RICHARD
28490 SACKS, LEONARD A
28491 BLAIN, PRESTON D
28506 FENSTERMACHER, RAY W
28507 JOHNSON, ROSE D
28521 TUPIN, JASPER
28536 CRUMP, FLORA E
28537 MILLER, JOHN
28547 SILVVA, DAVID
28560 KIEHL, DAVID J
28572 EVANS, BEVERLY
28573 MORGAN, SHAWN A
28590 REESE, MEL D
28604 GRIGGS, GERALDINE
28605 CALDERON, RUDOLFO D
28620 HARDIN, BRIDGETT
28621 MORAIS, ANTONIO E
28634 GARCIA, LILIAN N
28635 LISSEBECK, MICHAEL J
28641 TRUJILLO, MARY J
28656 BLACK, MICHAEL E
28657 QUEZADA, JOHN J
28670 GERHARDT, DAVID
28671 BISHOP, GAINES G

MURRIETA RD 2017 (Cont'd)

28684 PERAZA, MARIA E
28685 TREVISANUT, VAL R
28698 ALEXANDER, CHRISTOPHER
28699 HARRELL, LAYTON K
28710 MCKINLEY, LINDA R
28711 MITCHELL, THOMAS H
28722 IYER, RAMAMURTI K
28738 MERCADO, JOSE M
28750 VANALLEN, FRED D
28751 GUCKERT, DAVID J
28764 OLDS, JAMES L
28765 BOLT, ROBERT
28777 STERLING, ROBERT L
28778 ALVARADO, IGNACIO
28798 RAMIREZ, AGAPITO O
28811 PHILLIPS, GARY L
28838 ORDONEZ, DAVID O
28850 SANTANA, ASHLEY
28851 SERRANO, DORA
TRUE WELLNESS CENTER
28864 BALLARD, CALVIN
28912 POOL, DAVID S
28913 VINCI, LINDA L
28926 ALVO, SAM
28927 LIM, EUN J
28940 SANTY, CRAIG M
28941 CAUBLE, BETTY A
29029 FIRST BAPTIST CHURCH
29182 NEBEL, PATRICIA A
29184 PURDUM, MARY R
29188 BOSCHETTO, CARL B
29192 SCHUYLER, JOHN
29194 NYSTUEN, DALE E
29196 JENNINGS, JERRY D
29198 LANS, CLIFFORD N
29200 HARGRAVES, GLENN E
29204 BOIS, CHRISTOPHER S
29208 BUTLER, DAVID
29210 SAWYER, KAREN M
29214 KNOTH, WILLIAM L
29218 GONZALEZ, RONALD F
29220 CAMPBELL, PATRICIA A
29222 LEONETTI, PAUL A
29226 LOYA, DOROTHY J
29228 MANSURI, RUTHANN A
29230 GREEN, BRUCE B
29232 BARNES, STEVEN
29234 YOUNG, HENRY O
29236 DOE, JOHN
29238 PHUMIRUK, SOONTHORN

MURRIETA RD 2017 (Cont'd)

29242 RITCHIE, BRANDON A
29246 HAMEL, MARILYN J
29248 PEARSON, STANLEY
29250 DAVIS, KATHY
29252 MATHES, STEVEN A
29254 SAWYER, JACK
29260 DICKINSON, HEIDI
29262 BEHBOUDI, GLORIA P
LEE, ELIZABETH
29264 GALLORO, MARYANN A
29266 OSTEEN, STEVEN F
29268 EDWARDS, WILLIAM B
29270 HIX, CHARLES L
29272 ORTIZ, ERICK
29276 ALBO, ISABEL H
PARK, JUNG H
29280 CARRILLO, TIMOTHY I
29282 HENNIG, GAIL A
29288 HERTENSTEIN, CATHERINE J
29290 OBERG, WILLIAM G
29292 HINRICHS, MARZELLE J
29296 PONCE, CARMEN L
29298 HOLMESLY, BOBBY J
29300 VANMETER, MARTIN J
29302 CARR, MICHAEL J
29304 FRANCIA, JIMMY
29308 SILVERMAN, GINGER
29310 CHADWICK, RENATE M
29312 ESSENBURG, BRENDA K
29314 COSTELLO, VICTORIA
29316 ARNOLD, DAVID J
29318 OGLE, ALBERT A
29322 RISSLING, THERESIA M
29324 RUSSELL, MARIA E
29326 CLAYBROOKS, MARILYN
29328 DAVIS, LOIS
GALLEGER, MICHELE
29330 MILLER, RUSSEL T
29332 RODWELL, SYLVIA F
29334 OPOKU, DONNA D
29336 MACELLI, ANTHONY P
29338 WILLIAMS, ELIZABETH A
29342 HARRISON, GARY
29344 LEMBLE, DON
29346 PICK, VIRGINIA L
29350 COLLIER, CHARLES L
29352 WOODS, JOHN R
29354 MARSHALL, AL D
29356 SACHS, SCOTT
29358 KANG, CHUNG A

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29360 VELASQUEZ, FRANK R
29362 ORR, KEVIN
29364 HALL, RHONDA J
29368 BRADY, PAULA E
29370 LEWIS, ROBERT D
29374 KIRK, RICHARD G
29376 LIOUNIS, LOUIE
29378 NOFTS, HARRY
29380 DHONDT, DAVID D
29382 SEE, JOSEPHINE
29384 FEREBEE, WILLIAM

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-	✓	EDR Digital Archive

MURRIETA RD 2014

26041	PERCIVAL, BRENT
26105	MCWATERS, MARVIN M
26135	OCCUPANT UNKNOWN,
26145	MURILLO, RUBEN H
26399	ENRIQUEZ, VALENTIN
26414	PACIFIC MOBILE STRUCTURES
26429	ESPEJEL, FAVIAN
26704	LEARNING TREE PRESCHOOL
	RIVERSIDE COUNTY COALITION FOR ALTER
	ST STEPHENS EPISCOPAL CHURCH
26770	MENIFEE VALLEY MEMORIAL PARK
	MILLER JONES MORTUARY
	MILLERJONES
	MILLERJONES MORTUARY & CREMATORY
26805	CENTER FOR SPIRITUAL LIVING
26815	MENIFEE BIBLE CHURCH
27250	ABBOTT, RONALD L
	ACAMPORA, JO E
	ADAMS, GARY L
	AGUON, GLORIA A
	AIKEN, JAN M
	ALATORRE, ALEX
	ALBERGINE, PAUL H
	ALKEMA, NANCY J
	ANAYA, KATHLEEN
	ANDERSON, LISSO E
	ARBLASTER, DAVID
	ARDAVANIS, CHRIS
	ARIA, JERALD E
	AWEF, BEVERLY
	BAILEY, LES E
	BALES, FRANCES
	BARBER, SUSAN C
	BARNES, WILLIAM H
	BARRATT, ROBERT K
	BASHAM, DAVID P
	BAUGHMAN, PAUL D
	BAXTER, GINNI E
	BEAUMONT, DOROTHY D
	BEESON, GERALD W
	BEGIN, JUDITH E
	BEHAN, PHILIP
	BERGER, EVELYN A
	BERNAL, MARCELL O
	BIGART, ROBERT H
	BIRDSALL, DONALD J
	BLAIR, SHARON
	BLANKENSHIP, HOWARD L
	BLOOD, DAVID A
	BOJARZIN, W

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-	✓	EDR Digital Archive

MURRIETA RD 2014 (Cont'd)

27250 BOOTH, PAUL J
BORDEN, PHILIP C
BOSKLOPPER, LORRAINE
BOTELLO, STANLEY E
BOTTORFF, PAUL V
BOWER, LEE N
BOWMAN, RICHARD
BRADY, MARY J
BREWER, VICTORIA W
BRIDGE, ADELE S
BRIEN, ROBERT I
BRIGGS, WILLIAM B
BRISENDINE, GLENN
BRISTOW, IZELLAH B
BROWN, JOAN
BRUNET, MARILIN S
BURKE-ANAYA, K
BURTON, DENNY T
BUTERA, VINCENT E
BYRNE, RUTH
CAFIERO, LUCY A
CALLAHAN, ANDY N
CAMILLO, JOHN A
CAMU, BETTY R
CARMAIN, TIMOTHY
CHATTERTON, RUSSELL M
CHEESEMAN, SARA Y
CLAVELL, SANDRA L
COLLIER, JOSEPH M
COLLINS, LARRY L
CONRAD, CARLTON R
CONROY, KAHTLEEN G
CONVEY, JOHN P
COOK, LESLIE A
CORREA, AL
CORY, STEPHEN
COSMO, VALERIE M
COUNSIL, LINDA J
CRAMER, EARL L
CRAWFORD, GINA
CUTLER, M
DAVIES, JEFF W
DAVIS, ALICE
DEMITROFF, PERRY A
DESISTO, ROBERT A
DESPAIN, JAMES L
DISILVESTRO, LEE J
DOLL, JEFF R
DOWDELL, HOWARD K
DOWLING, DOROTHY D

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-	✓	EDR Digital Archive

MURRIETA RD 2014 (Cont'd)

27250 DUDEK, DOLORES J
DUDLEY, DANIEL E
DYER, RALPH E
EGELIN, WILLIAM W
ELGIE, ROBERT E
ELLIS, BRIAN E
ERICKSON, EDWIN R
FALCON, ALICIA A
FENRICH, DONALD R
FEUERBORN, ROD
FINKLE, JAMES M
FISHER, LISA R
FLEMING, WILLIAM G
FLETCHER, RICHARD W
FLIHAN, A
FLIHAN, RENEE
FOURNIER, ARMAND R
FREDRICKSEN, ROMONA
FRODENTE, PETER W
FRYAR, RENEE
GARTLEY, JOE D
GEDDES, SHARON L
GIBSON, ROBERT
GLETZEN, JENNIFER K
GLUESING, KARL F
GODWARD, JOHN S
GOLDMAN, PATRICIA L
GOODWIN, N
GRAY, WALTER A
GREGORY, MARK D
GROVER, BARBARA M
HACKER, LF
HARRIS, LEONARD R
HARTZHEIM, DAVID E
HAWKINS, BERNARD R
HAYHURST, DON R
HAYNES, CHARLES
HAYS, DORIS M
HEINRICH, HEINZ M
HENNINGER, ROBERT L
HENSON, ARTHUR L
HERB, NEHRLING
HERRICK, PETER
HICKS, SUSAN J
HUNGATE, H
HUNT, JOHN G
INGEL, ELMA
IRWIN, RALPH K
JACOB, RICHARD M
JENKINS, MERLE M

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27250 JOHNSON, JAMES L
JONES, DEMITRIA
JONES, DWAYNE P
JORDAN, HAROLD E
KALOPER, ROBERT G
KARPENS, DUANE W
KARPENSKE, RICHARD D
KAUFMAN, MARYANN A
KEENEY, MIRIAM K
KENMUIR, GLORIA R
KEY, ROSEMARY P
KEYS, ZEBEDIE
KLINGMAN, CHARLES C
KLUG, CAROL D
KOENIG, JAMES O
KOUBRATOFF, ADDY B
KOZAR, ROBERT L
KROGH, MARLENE F
LACASELLA, TONY
LACHANCE, TERESA J
LAFFERTY, LORRAINE A
LANDRY, LEO J
LARSON, ELYSE B
LASKO, BARBARA R
LAURIA, PAULA C
LEACH, HELEN J
LEFLER, PAMELA
LEM, SOCORRO M
LEN, EDWARD A
LERMA, RUDOLFO L
LEU, PAULETTE A
LHJHOH, KII
LINGFELT, DAVID G
LITTLE, JAMES R
LITTRELL, HEATHER
LOMANDO, ARLEEN J
LONGSTAFF, SHANNON L
LUDWIG, HORST R
MAHER, LINDA
MALETICH, ANNETTA M
MARK, GEORGE S
MARS, MICHAEL M
MARXEN, GREGORY J
MAYNARD, WALTER L
MCCRACKEN, GLORIA C
MCCRACKEN, JAMES A
MCDANIEL, CHARLES S
MCDOWELL, JAMES A
MCINTIRE, Q M
MCKINNEY, CAROL D

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-	✓	EDR Digital Archive

MURRIETA RD 2014 (Cont'd)

27250 MEGINNIS, DON L
MEISTAD, GENE F
MENDICELLI, EUGENE R
MILES, GARY W
MILES, VICTOR B
MISNER, JR
MOFFAT, ROBERT F
MONICA, ALINE H
MONREAL, SHARON M
MOORE, ED D
MOORE, JAMES M
MOORE, JULIE A
MUDD, HUGH M
MUELLER, PAUL G
MUNDWILER, RICHARD H
MURRAY, JEANNE J
NASLUND, DARRELL E
NASS, CHARLES J
NAVARRO, RALPH G
NEUSTEDT, RON A
NIELSON, KURT M
NISHIDA, ROY
NOLIN, JOSEPHINE M
NUNLEY, BEVERLY J
NYSTROM, JAN M
OAKLAND, TOBY K
OBERLE, JOHN E
OKUN, LOLLY
OTERO, VERNON L
OTTO, CHUCK R
PADILLA, RENEE
PANICO, ROBERT G
PARRA, JUAN D
PASEK, ALICE L
PERRY, LELAND R
PHILLIPS, JAMES S
PIKULSKI, CLIFFORD P
POBIS, LILA L
POMO, DALE R
POMRANING, SUSAN J
QUAMME, BEATRICE
QUEVEDO, LOLA
RATHBUN, DEBRA
REAL, ANTHONY R
REED, SANDRA J
REVILLA, L
RICHEY, JOSEPH T
RICKARD, GEORGE M
ROBB, FREDERICK A
RODENBAUCH, WILLIAM

MURRIETA RD 2014 (Cont'd)

27250 ROMERO, LUCRETIA M
ROMMEL, THOMAS P
ROOT, JANICE A
ROQUE, CARLOS
ROSENBERGER, DAVID M
ROSENBLUM, JEFF R
ROWAN, ANNAMARIE M
ROYOLA, ROBERTO R
RYDER, LARRY K
RYKS, ELFRIEDE T
SALDANA, GUS
SANDBERG, PAULINE D
SATTERFIELD, NORMAN L
SCHAEFER, WILLIAM E
SCHROERS, ROBERT I
SCHULER, BRYAN
SHILLITO, MICHAEL J
SHIPPER, DAVID W
SHROYER, STEVE M
SIEBERT, ERIC R
SLAY, JUAN A
SMITH, AL J
SNIDER, FRANCIS L
SO, YOUNG E
SPURLOCK, DENNIS
STARNES, DOROTHY
STAY, THOMAS C
STCLOUD, FRANZ
STEMAN, SCOTT E
STEPHENS, IRVING P
STERNBERG, PETER E
STILL, PEGGY J
SULLIVAN, CAROL A
SUMMERVILLE, SYLVIA U
SUN MEADOWS
SWARTWOOD, WILLIAM G
TAN, MANOLO A
TANNER, GLEN M
TATRO, THOMAS P
TAYLOR, ROYCE O
THIBODEAU, EMILE W
TOD, RODNEY C
TOIA, CARMEN S
TORRES, JANET Y
TRAPP, ROBERT W
TREPLAN, JOSEPH
TRIBBE, DOROTHY M
TYLER, JOYCE M
VACCARINO, ROSALIE D
VACELLI, SHARON K

MURRIETA RD 2014 (Cont'd)

27250 VALLE, JOSE M
VANASEK, JIM R
VANDEN, BOSCH J
VANDERVLIET, JANET
VARDON, BOB C
VELASCO, JAVIER V
VICARI, PETER
VIETS, BRIAN W
VISINTAINER, DIANNA M
VOBECKY, HELGA
WADA, HARUO S
WADDELL, DAVID A
WALKER, DOROTHY A
WEEKS, JOYCE A
WEFLAN, BARBARA A
WEINRICH, ROGER A
WELCH, RAYMOND
WHARTON, PEGGY J
WHEELER, JERRY L
WHITE, DANIEL M
WIELKIE, HERBERT R
WILKINS, CLIVE I
WILKINSON, BILL F
WILLIAMS, BILLY J
WILLIAMS, KATHLEEN A
WILSON, WILLIAM L
WIMER, CHRIS
WINTERS, SHAWN P
WOYTEK, KENNETH R
WRIGHT, ROBERT
YODER, WARREN H
YODERS, GRANT M
ZIEMER, LARRY W
ZIGLER, ROBERT E
ZULUETA, ALFONSO G
27259 SWARTWOOD, GAIL
27347 INZUNZA, RAQUEL
27437 UHAUL
USTOREIT
27701 ADAMS, PHILIP J
ALBRITTON, JERRY S
ALEXANDER, JEANETTE M
ALLEN, THOMAS W
ANDERSON, DAVE L
ANDERSON, WILLIAM E
ARREDONDO, ANTONIO L
BARNES, DONNA M
BARON, THERESA P
BARTHOLOMEW, JAMES D
BEDSAUL, PERRY

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27701 BEHM, VICTORIA
BENNETT, JEAN
BENSON, TROY M
BONIFACE, HAROLD W
BORIA, JOHN I
BOWERS, JUD
BOWLIN, RALPH W
BREWSTER, MARY R
BRIGHT, ROGER R
BROWN, RUTH M
BYLES, HUE
CANNINGHAM, DEBORAH K
CARRILLO, HERMILO H
CARSON, GREG J
CASEY, JONATHAN J
CHABOT, LOUIS E
CHAPMAN, JACQUELYN
CHRISTENSEN, STEVE A
CLARK, MIKE A
CLEAR, GUY
CLYNES, KEVIN M
COLLEN, MIMI
COLONNA, JAMES J
COOK, GEORGIA M
CORONA, RUBEN S
COY, DONALD L
COZENS, JOHN E
CRAIG, LUELLA M
DALLON, PAMELA
DAVIS, TREVOR C
DELREY, RON
DEVORE, LINDA
DEWETT, LAWRENCE E
DIAZ, ERICA A
DORSEY, CHARLEEN R
DORSEY, LON S
DOWNEY, SHERIDAN
DRAGON, JAMES L
DRISKELL, WILLIAM E
DUKE, BRYAN J
DURANN, CAROL A
DURBIN, DAVID P
DURR, WILLIAM L
ELCESSER, MICHAEL
ELLIS, ALICE A
EVERTSZ, ROBERT
FABRIZIO, GUY R
FEKETE, JOZSEF
FINK, JOSEPH E
FISHER, LUCIENNE A

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27701	FOWLER, CARROLL W
	FOX, GARY W
	FRANKEL, JACKLYN A
	FRANZE, ANA G
	FRASIER, MARGARET A
	FRITZ, DAVID W
	GALBRAITH, LEONARD F
	GALE, JAMES L
	GALLIMORE, BOBBY R
	GAMBOA, DESI B
	GARCIA, CAROL J
	GARDNER, DONNA J
	GENELLE, MICHAEL T
	GIASSON, HENRIETTE N
	GLODDECK, MILDRED
	GODSHALL, BETTY M
	GONZALEZ, A
	GOODENOW, ROBERT W
	GOODMAN, FREDA C
	GRIFFITH, THOMAS
	GROENDYK, JIM A
	GUGLIELMETTI, LESLIE E
	GUSS, TODD
	GUTHRIE, WILLIAM
	HARRELL, LOUISE R
	HARRIS, BEVERLY
	HARTNESS, BEVERLY A
	HATFIELD, JIM
	HAWKINS, DIANE F
	HEIDSTRA, AUKE
	HENSON, TERRY C
	HERNANDEZ, ALEX
	HIGHT, LEINAALA L
	HILL, HAROLD W
	HILLSIDE MOBILEHOME ESTATES
	HOFFMAN, TED L
	HOMAN, JACKIE L
	HOMOLKA, KATHRYN J
	HOOPER, EDWIN L
	HUFF, VERNA R
	HUGHES, M
	INNUSO, PHIL D
	JACKSON, DENNIS A
	JACKSON, JACK
	JAWORSKI, ANTONI M
	JENSEN, SHIRLEY M
	JOHNSON, ROBERT E
	JONES, KATHLEEN
	KAPITZKE, HELEN E
	KEMER, LORRAINE

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27701 KENNEDY, JIMMIE L
KOBE, TERRY
KRUSE, DONALD L
LAMB, GORDON E
LAMBERTO, ANTHONY
LAMPRECHT, RUBY
LANGLOIS, DELILAH
LAPOINT, FRANK
LAW, JOAN E
LEESON, WANDA J
LESLIE, JEAN W
LESTER, TAMMI C
LIEM, CORA M
LIZALDE, DEBORAH S
LONARDO, LYDIA R
LOVELL, TIMOTHY N
LUCKL, SHARON A
LUKAS, CLARICE F
MA, VE
MANLEY, WILBUR M
MARGIS, ANNE
MARTINEZ, ROSA R
MCCAMBRIDGE, FRANK
MCCLAIN, NANCY M
MCGUIRE, DONNA L
MCINTOSH, BRIAN J
MCKNIGHT, MAURICE P
MEDINA, DANIEL J
MEHELIC, MARGARET J
MEIRE, EDWARD
MELE, ROSALEE
MERRITT, PEARL
MILLER, BILLIE D
MONGE, TANYA
MONTENEGRO, LUIS O
MONTES, ARTURO M
MONTGOMERY, ZELMA F
MOODY, SADIE E
MOORE, GLENN
MOTTER, ROBBIE L
MOYE, LLOYD L
MURRY, MILDRED M
NAGEL, JOYCE L
NAONA, JAMES K
NEIDEL, NANCY E
NUNNELLEY, BETTY J
OAXACA, MARIA G
ORELLANA, CARLOS A
OWEN, MELISSA J
PAGE, ALVIS W

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27701 PATMOR, GARY O
PRAY, CLYDE A
PUTMAN, DAVID R
RANDOLPH, JERRY A
REDFORD, CLIFFORD F
REED, MARK R
REID, ARLINE
REILLE, FRANK A
RICKEL, DEBBIE M
RIEDY, PAUL E
RISTER, DON R
RISTER, JOY A
RIVERA, FRANK Y
RODRIGUEZ, JOHN J
ROTH, PERRY H
SAMANTELLO, SHIRLEY A
SATTER, MARY A
SAVOIA, JOSEPH M
SCOTT, ELSPETH A
SERRAO, MARGARET G
SHARPE, DELTON M
SHEETS, SUSAN
SHINKLE, MICHAEL D
SHINN, WARREN C
SILVA, BENNY
SIMMONS, BJ
SLADEK, DOLORES H
SMELTZ, RANDALL
SMITH, MARGARET A
SMITH-LOPEZ, FLORENCE E
SOLIZ, LOUIS Y
SORCE, ANGELO B
SPATES, GARRETT K
SPILKER, EDWARD A
STANEK, KIM
STARK, MICHAEL C
STEEN, JOY O
STEPHENSON, JARRETT R
STREIB, ROBERT L
TANKESLEY, LEE W
TATE, WALLACE J
THOMPSON, MARVIN C
TREVINO, ROSENDO
TURRENTINE, DUNCAN R
VENZUELA, MYRTLE R
WADE, GLORIA J
WALKER, EILEEN F
WALLACK, PATRICIA M
WARD, SHALENE
WATSON, JANICE G

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27701	WAUGHTEL, GIGI
	WHELPLEY, EUGIE
	WILSON, WALTER C
	WOLTER, WILLIAM H
	WOODS, ALICE L
	WOODWARD, MELODY E
	WRIGHT, BRUCE W
	WYATT, DAVID V
	YONKERS, KATHLYN A
	ZAMUDIO, HECTOR H
	ZELLMER, MARIANNE M
	ZORGER, PAMELA S
27800	RAMIREZ, LUZ
27812	HOFFMAN, PHIL L
27830	COCHRAN, MARY J
27844	WATKINS, WILLIAM K
27860	BERRYMAN, RHYS M
27876	HAYNES, EVELYN A
27890	GUERRERO, MARIA
27906	MASCARENAS, CHARLES A
27920	OCCUPANT UNKNOWN,
27931	ST VINCENT FERRER CHURCH
28018	AGUILERA, FRANK G
28025	BRUST, HELEN
28026	ESCORCIA, ANTONIO R
28041	JEFFERSON, KRISTOPHER
28052	HOLLEY, JERRY
28055	SLAVEN, CLEATUS T
28066	CHATT, WILLARD L
28071	HOUGHTON, DANIEL T
28080	OCCUPANT UNKNOWN,
28085	MALETTA, GUY
28094	QUADE, JOAN B
28106	HERAS, AGUSTIN D
28120	GODWIN, BETTE J
28141	DAVID, JEFFERY
28151	HOUSER, JOAN W
28165	DAVISSON, RUTH E
28181	MACIAS, ARMANDO
28191	PERKINS, SANDRA
28201	MONTELONGO, MARY A
28215	OCCUPANT UNKNOWN,
28225	SUTTON, STEVEN A
28286	MATTSON, RICHARD D
28287	OCCUPANT UNKNOWN,
28307	PINO, LUIS A
28314	SCHNEIDER, LOIS A
28315	RUIZ, GUADALUPE
28322	SULAK, CAROL A
28323	DONNELLY, SUSAN

MURRIETA RD 2014 (Cont'd)

28376 HOMSI, BASSAM
28377 THOMAS, FLORENCE M
28390 SERRAO, M
28391 ZUNIGA, IGNACION
28406 KEY, CLAUDE
28407 PADILLA, LILY
28420 OCCUPANT UNKNOWN,
28421 FISSELLA, OLIMPIA
28438 HOLLAND, DARLENE L
28439 RIVETTI, ELENA L
28450 MACHUT, LAVERNA S
28451 OCCUPANT UNKNOWN,
28464 GALE, RICHARD R
28465 CROTHERS, PATRICIA A
28477 HORETSKI, RONALD J
28478 JOHNSON, MARTIN
28490 SACKS, LEONARD A
28491 BLAIN, PRESTON D
28506 FENSTERMACHER, RAY W
28507 TORREZ, RICHARD J
28520 TUOMI, FRANCES A
28521 TUPIN, JASPER
28536 CRUMP, FLORA E
28537 MILLER, ANN M
28546 KROLL, JONH L
28547 ANAYA, MICHAEL S
28560 KIEHL, DAVID J
28561 OCCUPANT UNKNOWN,
28572 KALLOCH, MAURICE E
28573 MORGAN, JOHNATHAN D
28590 OCCUPANT UNKNOWN,
28604 TRACHSEL, STELLA L
28605 CALDERON, RUDOLFO D
28620 LESMEISTER, DOUGLAS
28621 MORAIS, ANTONIO E
28634 GARCIA, LILIAN N
28635 LISSEBECK, DOUGLAS J
28640 NEWBOLD, SHARON
28641 TRUJILLO, MARY J
28656 BLACK, MICHAEL E
28657 ARRINGTON, CALVIN
28670 GERHARDT, DAVID
28671 BISHOP, GAINES G
28684 GAVICA, ALMA D
28685 GOMEZ, MARIO
28698 ALEXANDER, CHRISTOPHER
28699 LAYTON, KEITH H
28710 MCKINLEY, LINDA R
28711 MITCHELL, THOMAS H
28721 PINGEL, VICENTE

MURRIETA RD 2014 (Cont'd)

28722 OCCUPANT UNKNOWN,
28738 MERCADO, JOSE M
28739 SANCHEZ, JESUS A
28750 VANALLEN, FRED D
28751 GUCKERT, DAVID J
28764 OLDS, JAMES
28765 PAULSON, LARRY J
28777 STERLING, ROBERT
28778 ALVARADO, IGNACIO
28798 RAMIREZ, AGAPITO O
28799 OCCUPANT UNKNOWN,
28811 DAVIS, L
28824 ROSILES, MARIA A
28825 RUDESEAL, MARION J
28838 PARTON, JOHN A
28839 PENA, BEATRIZ
28850 OCCUPANT UNKNOWN,
28851 LARSON, LLOYD E
28864 BALLARD, CALVIN
28912 POOL, DAVID S
28913 CARTER, JEANNE E
28926 ALVO, SAM
28927 OCCUPANT UNKNOWN,
28940 SANTY, CRAIG M
28941 ROCHART, PABLO B
29029 FIRST BAPTIST CHURCH
29182 NEBEL, PATRICIA A
29184 PURDUM, MARY R
29188 BOSCHETTO, CARL B
29190 MEYERING, DELMA
29192 SCHUYLER, JOHN
29194 NYSTUEN, DALE E
29196 OCCUPANT UNKNOWN,
29198 LOYA, ALBERT
29200 HARGRAVES, GLENN E
29202 MOZAFFARIAN, ELAHEH
29204 ELLIOTT, GARY A
29206 LEWIS, BETTY L
29208 BUTLER, DAVID
29210 SAWYER, KAREN M
29212 DUNN, BRIAN
29214 KNOTH, WILLIAM L
29216 BROWN, MARCUS L
29218 GONZALEZ, RONALD F
29220 KOVALOVSKY, BARBARA J
29222 VOERG, DANNY M
29228 MANSURI, RUTHANN A
29230 GREEN, BRUCE B
29232 VIGNA, NORMAN H
29234 FELDER, RODNEY

MURRIETA RD 2014 (Cont'd)

29236 PARTRIDGE, WILLIAM M
29238 BLAKE, GISELA
29242 OCCUPANT UNKNOWN,
29246 HAMEL, MARILYN J
29248 PEARSON, STANLEY
29250 DAVIS, KATHY
29252 HOWARD, EDNA R
29254 SAWYER, JACK
29258 EDWARDS, CHARLOTTE D
29260 ALLEN, LORRAINE B
29262 BEHBOUDI, GLORIA P
CYREE, CATHLEEN
LEE, ELIZABETH
STERLING, ROBERT J
29264 GALLORO, MARYANN A
29266 OSTEEN, STEVEN F
29268 EDWARDS, DAVID W
29270 HIX, CHARLES T
29272 OCCUPANT UNKNOWN,
29274 BROCKMAN, THOMAS J
29276 DAE, CHOI
29278 FIERRO, GLORIA G
29280 OCCUPANT UNKNOWN,
29282 HENNIG, GAIL A
29284 BRADY, PAULA B
29286 OCCUPANT UNKNOWN,
29288 HERTENSTEIN, CATHERINE J
29290 OBERG, WILLIAM G
29292 HINRICHS, MARZELLE J
29294 OCCUPANT UNKNOWN,
29296 PONCE, CARMEN L
29298 HOLMESLY, BOBBY J
29300 VANMETER, MARTIN J
29302 CARR, MICHAEL J
29304 VANKOEVERING, DIANE L
29306 GILBERT, BARBARA J
29308 OCCUPANT UNKNOWN,
29310 CHADWICK, RENATE M
29312 MEHLSCHAU, CAROL A
29314 COSTELLO, VICTORIA
29316 ARNOLD, DAVID J
29318 OGLE, ALBERT A
29320 POPP, EDWARD R
29322 RISSLING, THERESIA M
29324 RUSSELL, MARIA E
29326 BIRD, ROBERT E
29328 GALLEGER, MICHELE
29330 MILLER, SHARON
29332 RODWELL, SYLVIA F
29334 DALTON, DONNA

MURRIETA RD 2014 (Cont'd)

29336 RENALDE, JAMES L
29338 WILLIAMS, ELIZABETH A
29340 SUTTON, CATHERINE M
29342 HARRISON, GARY
ROSEN, MARCIA E
29344 LEMBLE, DON
29346 HOFFMAN, BRYAN
29350 COLLIER, CHARLES L
29352 OCCUPANT UNKNOWN,
29354 MARSHALL, AL D
29356 SACHS, SCOTT
29358 KANG, CHUNGAE A
29360 HUGABONE, RAYMOND
29362 ORR, KEVIN
29366 OCCUPANT UNKNOWN,
29368 BRADY, PAULA E
29370 LEWIS, ROBERT D
29374 KIRK, RICHARD G
29376 PIAMPRASATPORN, MANUBON
29378 OCCUPANT UNKNOWN,
29380 DHONDT, DAVID D
29382 SEE, JOSEPHINE
29384 NEAL, SHEILA M

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2010

26041	PERCIVAL, BRENT
26075	SCHMIDT, ROBERT E
26105	MCWATERS, MARVIN M
26135	GALEY, DAVID W
26145	MURILLO, RUBEN H
26399	ENRIQUEZ, GUADALUPE
26510	MARDIN, FLORA E
26704	LEARNING TREE PRESCHOOL
	ST STEPHENS EPISCOPAL CHURCH
26770	MENIFEE VALLEY MEMORIAL PARK
26805	CENTER FOR SPIRTIUAL LIVING
26815	MENIFEE BIBLE CHURCH
27250	ABBOTT, RONALD L
	ABRAMSON, MERLE R
	ACAMPORA, JOE E
	ADAMS, JOYCE L
	ALBERGINE, PAUL H
	ANDERS, JOHN H
	ANDERSON, LISSO E
	ANDERSON, MARY M
	ANDUHA, NANCY E
	ARBLASTER, DAVID
	ARDAVANIS, CHRISTY
	ARENSMAN, EILEEN M
	ARIA, JERALD E
	AUSTIN, EUGENE E
	AVILA, EDWARD C
	BAILEY, LESLIE E
	BALES, SHERRILYN G
	BAUGHMAN, PAUL D
	BEAVERS, JACK D
	BEESON, GERALD W
	BEHAN, PHILIP
	BEZZINA, FRANK L
	BICKEL, DEBRA
	BIGART, ROBERT H
	BIRDSALL, DONALD J
	BLACKLEDGE, CLEON M
	BLOOD, DAVID A
	BOJARZIN, W
	BOOTH, PAUL J
	BORDEN, PHILIP C
	BOSKLOPPER, JACOB
	BOTELLO, STANLEY E
	BRADY, MARY J
	BRANDL, LOETTA E
	BRASSELL, DONALD M
	BRIEN, ROBERT I
	BRISENDINE, GLENN E
	BRISTOW, IZELLAH B

MURRIETA RD 2010 (Cont'd)

27250 BURKE-ANAYA, K
BURTON, BONNIE J
BUTERA, VINCENT E
BYHRING, LORRAINE B
CAFIERO, ROSELLA
CALLAHAN, ANDY N
CAMILLO, JOHN A
CHAPMAN, SUSAN L
CHEESEMAN, SARA Y
CLARK, GRACE
COCHRAN, ANN
COLLIER, JOSEPH M
CONVEY, JOHN P
CONWAY, DONNA L
COOK, SUZANNE
CORDY, ROBERT E
CORY, KEVIN J
COX, BARBARA L
CRAMER, EARL L
CROPPER, FRANK W
CULLEN, MABEL I
CZARNOCKI, E H
DAVIS, DORIS C
DEMITROFF, PERRY A
DEMSHOCK, DAVID D
DEPANO, MICHAEL K
DESISTO, ALBERT M
DIEKMANN, JOSEPHINE F
DISILVESTRO, DONALD P
DOLL, JEFFREY R
DORN, PHILLIP J
DOWLING, DOROTHY D
DUDEK, JEAN M
DUDLEY, DANIEL E
DYER, RALPH E
EGELIN, WILLIAM W
ELGIE, ROBERT E
ERICKSON, EDWIN R
EVERETT, BEVERLY J
FALCON, JESUS
FENRICH, DONALD R
FINKLE, JAMES M
FIORI, DONALD E
FLEMING, WILLIAM G
FLETCHER, RICHARD W
FLETCHERS CLOCKS WATCHES
FLIHAN, A
FOGARTY, PETER H
FRAZIER, PHILIP A
FREDRICKSEN, ROMONA

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2010 (Cont'd)

27250 FRODENTE, PETER W
FRYAR, RENEE
FULLER, GORDON J
GARTLEY, HENRY H
GIETZEN, JEROME H
GLUESING, KARL F
GODWARD, JOHN S
GOEY, BOB T
GOOD, GEORGE T
GOODWIN, N
GOODY, LENA L
GRAY, WALTER
HACKER, LORENE F
HALOWELL, FRANK W
HARADA, KEN K
HARDIN, WILBUR G
HARRIS, LEONARD R
HARTZHEIM, DAVID E
HAWKINS, BERNARD R
HAYHURST, PENNY
HAYS, ROBERT J
HEIDLER, VERDIS K
HEINRICH, HEINZ
HEPTINSTALL, LLOYD E
HERLICH, ELEANOR
HERRICK, JEANNE A
HOBSON, JEFFREY
HOOD, ALBERTA G
HORTON, SHIRLEY M
HOWEY, DAVID P
HUIZAR, SEGUNDO
ILES, KIM K
IRWIN, RALPH K
JACOB, RICHARD M
JENNINGS, HAROLD N
JOHNSON, BETTY L
JOHNSON, JAMES L
JOHNSON, MICHAEL J
JONES, CHARLES R
JONES, DANA
JOYNT, IRENE F
KALOPER, ROBERT G
KANE, BENJAMIN P
KARPENSKE, RODNEY W
KAUFMAN, MARYANN A
KAYE, CAROLE J
KENMUIR, GLORIA R
KEY, ROSEMARY B
KLINE, WALTER J
KLINGMAN, CHARLES C

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-	✓	EDR Digital Archive

MURRIETA RD 2010 (Cont'd)

27250 KLUG, CAROL D
KNERR, RALPH E
KOENIG, JAMES O
KOUBRATOFF, WILLIAM
KROGH, ROBERT E
LACHANCE, TERESA J
LAFFERTY, LORRAINE A
LANDRY, LEO J
LARSEN, IRENE C
LARSON, PAUL K
LASKO, BARBARA R
LAVALLEY, JACQUELINE M
LEACH, HELEN J
LEM, SOCORRO M
LEN, EDWARD A
LERMA, RUDOLFO L
LEWIS, ALICE B
LILLARD, CLINTON R
LITTLE, EDGAR L
LOMANDO, ARLEEN J
LUDWIG, HORST R
MAHER, SHIRLEY D
MANDALA, ELEANOR M
MANESS, GARY J
MANN, KATHRYN M
MARTINS, DANIEL V
MARTINS, FRANCISCO M
MARXEN, JOSEPH E
MAYFIELD, PAMELA A
MCCOIN, ROBERT W
MCCRACKEN, GLORIA C
MCCRACKEN, JAMES A
MCDANIEL, CHARLES S
MCDOWELL, JAMES T
MCINTIRE, MARY O
MEGINNIS, DONALD L
MEISTAD, GENE F
MENDICELLI, EUGENE R
MENKEL, THOMAS P
MILLS, SAMUEL M
MISER, BERNICE S
MITCHELL, CONNIE J
MOFFAT, ROBERT F
MONICA, RONALD C
MONTES, J
MOORE, ED D
MOORE, SUSAN M
MORRIS, MARTHA
MUDD, HUGH M
MUNDWILER, RICHARD H

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2010 (Cont'd)

27250 MUNGIA, LEONARD B
MUNOZ, MARIA E
MURRAY, JEANNE J
NASLUND, DARRELL E
NASLUND, GORDON A
NAVARRO, RALPH G
NIELSON, KURT M
NISHIDA, ROY S
NOLIN, JOSEPH L
NUNLEY, BEVERLY J
OAKLAND, TOBY K
OBERLE, JOHN E
OKUN, AUDREY T
OTTO, LEAH C
PANICO, ROBERT G
PARRA, FELICIANO D
PARRA, JUAN D
PATTEN, CATHERINE A
PATTERSON, JERRY L
PEACOCK, JOHN
PEFFER, CHARLES T
PEREZ, JAMES J
PEREZ, RICARDO O
PETERSON, BETTY J
PETERSON, DENNIS L
PETERSON, DIXIE J
PHILLIPS, SCOTT S
PIKULSKI, CLIFFORD P
POBIS, LILA L
POMO, DALE R
POTEET, DOROTHY J
POWELL, CARMEL L
PRESTAGE, JOHNNY E
RAMOS, NICOLE A
RANDALL, FRED W
REAL, ANTHONY R
REED, ELFRIEDE T
REED, SANDRA J
REVILLA, LILLIAN C
RICH, JEAN L
RILEY, GERTRUDE E
RITCHIE, WLDOMAR
ROMERO, LUCRETIA M
ROMMEL, THOMAS P
ROOT, JANICE A
ROSENBERGER, JOYCE E
ROWAN, ANN M
RUEFF, MARDELL C
RYDER, LARRY K
RYKS, JOHN T

MURRIETA RD 2010 (Cont'd)

27250 SALDANA, GUS
SATTERFIELD, NORMAN L
SAUER, THOMAS D
SAWYER, KAREN M
SCHAEFER, WILLIAM E
SCHELLENGER, KARL W
SCHIPPER, DAVID W
SCHROERS, ROBERT I
SCHULER, SUSAN T
SHALLANBERGER, MARGARET A
SHARP, M
SHEARER, RANDY R
SHILLITO, MICHAEL J
SHIPPER, DAVID W
SHROYER, JACK E
SISSON, STEPHEN G
SLAY, JUAN A
SLIGH, MARTINE
SMITH, AI
SNIDER, FRANCIS L
SNYDER, LEROY L
SPINDLER, JUDITH R
SPOONER, BETTY J
SPURLOCK, WAYNE K
STARNES, DOROTHY M
STAY, THOMAS C
STEMAN, SCOTT E
STEPHENS, IRVING P
STERNBERG, PETER E
STILL, PEGGY J
STUART, WILLIAM G
SULLIVAN, CAROL A
SUMMERVILLE, SAMUEL R
SUN MEADOWS
SUN, MEADOWS
SWARTWOOD, WILLIAM G
TATRO, THOMAS P
THIBODEAU, EMILE W
TODOROVIC, BARRI L
TOJA, PETER
TRAPP, ROBERT W
TREMPER, EMMA W
TREPLAN, JOSEPH
TURNER, KEVIN
TYLER, EDWARD J
VANALYNE, BETTY L
VANASEK, JIM R
VANDERVLIET, RONALD J
VANDERVLIET, YVONNE
VARDON, BOB C

MURRIETA RD 2010 (Cont'd)

27250 VASQUEZ, RUBEN L
VERNON, VICTOR A
VICARI, PETER
VIETS, BRIAN W
VISINTAINER, DIANNA M
WADA, HARUO S
WADDELL, DORIS I
WALKER, DOROTHY A
WALKER, WAYNE B
WARNER, HORACE E
WEFLAN, BARBARA A
WEINRICH, ROGER A
WELCH, RAYMOND
WEST, C
WHARTON, PEGGY J
WHEELER, JERRY L
WHITMARSH, JAMES L
WIELKIE, HERBERT R
WILKINSON, BILL F
WILLIAMS, BILLY J
WILLIAMS, GEORGE C
WILLIAMS, MARGARET R
WILLIS, DAVID
WILSON, WILLIAM L
WIMER, PAUL L
WOODCOCK, BRUCE
WOYTEK, KENNETH R
YOCHUM, HELEN L
YODER, WARREN H
YODERS, GRANT M
YOUNGE, LLOYD T
ZIEMBA, GERRY
ZIGLER, ROBERT E
ZULUETA, ALFONSO G
27347 DURHAM, RANDAL
27437 USTOREIT
27701 ALBRITTON & ALBRITTON
ALBRITTON, JERRY S
ALEXANDER, JEANETTE M
ALLEN, THOMAS W
AMWAY
ANDERSON, ELDEN B
ANDERSON, WILLIAM E
ARNESON, CONSTANCE L
ARREDONDO, ANTONIO L
AUSTIN, KRISTINA
BARNES, DONNA
BARTHOLOMEW, JAMES D
BATTISTA, P
BAUER, ROSEMARYE B

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MURRIETA RD 2010 (Cont'd)

27701 BAUMBACH, WALTER E
BENNETT, GLADYS F
BONIFACE, HAROLD W
BORIA, JOHN I
BOWERS, JUDSON H
BOWERS, SHANDA G
BOWLIN, RALPH W
BREKKE, LARRY R
BRIGHT, ROGER R
BROWN, DERRICK
BROWN, WALTER
BROWNING, SHIRLEY A
BUZON, BARBARA J
CAMPBELL, ESTELLE A
CANNINGHAM, DEBORAH K
CHACON, DAVID A
CHAPMAN, JACQUELYN
CHRISTENSEN, STEVE A
CLARK, MARY A
CLYNES, MARY A
CONTRACTORS UNLIMITED
COOK, GEORGIA M
COOKSEY, JAMES B
CORONA, RUBEN S
CORRALES, EDWARD S
COX, KIMBERLY
COY, DONALD L
CRAIG, GLEN E
CRAIG, LUELLA M
CRIPPS, KENNETH M
DALBIS, MARGARET P
DELREY, RON
DEWETT, LAWRENCE E
DOWNEY, SHERIDAN
DUKE, JIMMY R
DUNCAN, ELEANOR G
DURANN, CAROL A
DURR, WILLIAM L
DYK, BETTY J
ELLIS, ALICE A
FABRIZIO, JEAN
FEKETE, JOZSEF
FITZGERALD, KEVIN F
FLOWERS, CYNTHIA
FRASIER, MARGARET A
FREEMAN, E
FREERS, MARGARET L
GADEN, JANICE A
GALE, JAMES L
GARDIA, IRENE T

MURRIETA RD 2010 (Cont'd)

27701 GARDNER, WILLIAM J
GAUTHIER, RUTH H
GEARY, ADENE M
GIASSON, MARC A
GLODDECK, MILDRED
GOODENOW, ROBERT W
GOODMAN, FREDA C
GRIFFIN, THOMAS W
GRIFFITH, MELBOURNE E
GROENDYK, JIM A
GROSS, EDWARD M
GUTHRIE, WILLIAM
HARDISON, ERVIN N
HARRELL, LOUISE R
HARTNESS, BEVERLY A
HEIDSTRA, AUKE
HENSON, TERRY C
HERNANDEZ, ALEX
HILL, HAROLD W
HILLSIDE MOBILEHOME ESTATES
HOFFMAN, TED L
HOOPER, EDWIN L
HUFF, VERNA R
INNUSO, PATRICIA E
IRWIN, EDDIE R
JACKSON, DENNIS A
JEFFERSON, JAZZMIN
JENSEN, SHIRLEY M
JOHNSON, CHARLES J
JONES, STEPHEN W
KAPITZKE, HELEN E
KELLIM, ELBERT L
KEMER, LORRAINE
KIRKPATRICK, ELLA J
KNOLES, JACK P
KRUSE, DONALD L
KUNKEL, HENRY P
LAMBERTO, ANTHONY
LANGLOIS, DELILAH
LAURENT, MONIQUE M
LAW, JOAN E
LEDOSQUET, CRAIG A
LEDOSQUET, JIM A
LEFEBVRE, LILLIAN
LIEM, ROBERT A
LOPEZ, CHRISTINE A
LOPEZ, GLORIA
LUKE, KAY E
LUNDSTROM, GERDA E
MAGANA, A

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27701 MARINELLI, GEORGIA N
MARTINEZ, ROSA R
MCCAMBRIDGE, FRANK T
MCCLAIN, NANCY
MCHUGH, JULIA J
MCKNIGHT, MAURICE P
MCNETT, RALPH W
MILLER, DONALD H
MILLER, EARL D
MITCHELL, BETTY M
MONTENEGRO, LUIS O
MOODY, SADIE E
MOTTER, ROBBIE L
MOYE, LLOYD L
NAGEL, JOYCE L
NEIDEL, NANCY E
NELSON, JEANNE
NEWMAN, CORBETT V
OAXACA, MARIA L
OEST, ROBERT L
OLEARY, FRANCIS J
ORELLANA, CARLOS A
OSBORNE, WENDY L
OWEN, MELISSA J
PAGE, DORIS
PATMOR, GARY O
PATTON, JOSEPH F
PAULSON, PETER
PEACHEY, ANNA B
PETERSON, JAY D
POLLOCK, GERALD A
PRAY, CLYDE A
PUHALSKI, JOSEPH
PUTMAN, DAVID R
REED, GREG
REID, ARLINE
RICE, NORVELLA
RICKEL, EDWARD V
RIVERA, AMELIA V
RIVERA, CONCEPCION
ROBERTS, SYLVIA A
ROTH, PERRY H
RUTHERFORD, ESTHER S
SALLEE, REXINE M
SAMANTELLO, SHIRLEY A
SANCHEZ, LUIS G
SATTER, MARY A
SAVOIA, JOSEPH M
SCHOOLEY, JOSEPHINE L
SCOTT, DAVID R

MURRIETA RD 2010 (Cont'd)

27701	SERRAO, MARGARET G
	SHARPE, DELTON M
	SHERIDAN, JAMES J
	SHINN, WARREN C
	SILVA, BENNY
	SILVA, MERCEDES M
	SIMMONS, BILLY J
	SMITH, TWILA J
	SOLIZ, LOUIS Y
	SORCE, ANGELO B
	SOTERO, LYDIA L
	SPAAN, ANDREW B
	SPENCE, DONA M
	SPROUSE, RICHARD A
	STEPHENSON, JARRETT R
	STEVENSON, SHARRON
	STREIB, ROBERT L
	STRICKLAND, VIOLA G
	SUTTERLIN, GERI
	SWALLOW, JOHN J
	TATE, WALLACE J
	TAYLOR, LOVETTA A
	THOMPSON, DIANA L
	THOMPSON, M C
	TORVIVIA, ANTHONY
	TRACHY, THELMA J
	TRENTO, THERESA
	VENZUELA, MYRTLE R
	WADE, GLORIA J
	WALSH, ANNE S
	WALTMAN, TERESA M
	WATSON, JANICE G
	WAUGHTEL, GIGI
	WHELPLEY, ELSIE M
	WILLIAMS, DOROTHY J
	WILLIAMS, PATRICIA M
	WILSON, WALTER C
	WOLOWIC, ROGER C
	WOLTER, WILLIAM H
	WOODS, DELMAR E
	WOODWARD, MELODY E
	WOODY, RAY
	WORRELL, MARY P
	WYATT, DAVID V
	YADRON, MONICA M
	YONKERS, KATHLYN A
	ZUYDWYK, JOHANNES M
27800	OCCUPANT UNKNOWN,
27812	HOFFMAN, PHIL L
27830	COCHRAN, MARY J

MURRIETA RD 2010 (Cont'd)

27844 WATKINS, WILLIAM K
27860 BERRYMAN, RHYS M
27876 HAYNES, EVELYN A
27890 GUERRERO, JAVIER
27906 BAGWILL, GINI
27920 KETSDEVER, ANN B
27931 OFFICE OF RELIGIOUS EDUCATION
ST VINCENT FERRER CHURCH
28018 AGUILERA, FRANK G
28026 ESCORCIA, ANTONIO R
28040 RUSCH, ROBERT E
28041 QUINN, BONITA J
28052 OCCUPANT UNKNOWN,
28055 SLAVEN, CLEATUS T
28066 CHATT, WILLARD L
28071 HOUGHTON, DANIEL T
28080 MICHAUD, FLORENCE
28085 MALETTA, GUY
28094 QUADE, JOAN B
28106 RUIZ, LOUISA H
28120 GODWIN, BETTE J
28141 SMITH, JULIUS N
28151 HOUSER, JOAN W
28165 DAVISSON, RUTH E
28181 HERNANDEZ, REYNA
28191 OCCUPANT UNKNOWN,
28215 SHOEMAKER, JACK A
28225 SCOTT, BETTY
28286 MATTSON, RICHARD D
28287 TAYLOR, ROBERT M
28306 SERRA, RICK
28314 SCHNEIDER, FRED
28315 WESTFALL, L
28322 DIAMOND, BRUCE R
28323 DONNELLY, SUSAN
28346 HOMSI, BASSAM
28376 OCCUPANT UNKNOWN,
28377 MORENO, RUBI
28391 MANRIQUEZ, BIBIANA
28406 DAVIS, OLGA
28407 PADILLA, LILY
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28421 DORESCENZI, ANN M
28439 RIVETTI, GEORGE G
28450 SANCHEZ, EVANGELINA
28464 GALE, RICHARD R
28465 CROTHERS, PATRICIA A
28490 ZOPFI, VICTORIA D
28491 BLAIN, PRESTON D
28506 SHULL, ELWAIN R

MURRIETA RD 2010 (Cont'd)

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28521 TUPIN, JASPER
28536 TILLIS, GLORIA J
28537 MILLER, ROBERT J
28546 KROLL, JONH L
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28560 KEETON, ROXANN
28561 CRAVENS, WILLIAM H
28572 KALLOCH, MAURICE E
28573 MORGAN, JOHNATHAN D
28590 REESE, MEL D
28604 TRACHSEL, STELLA L
28605 CALDERON, RUDOLFO D
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28634 CASUCCI, TERESA
28635 ELLO, ROSE
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28641 FOICA, VICTOR
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28657 FAIRFAX, PAULA J
28670 GERHARDT, LOUIS A
28671 DAVIES, LINDA J
28685 CURIEL, MANUEL
28698 OCCUPANT UNKNOWN,
28699 RIOS, PAULINE M
28710 MCKINLEY, LINDA R
28711 MITCHELL, THOMAS H
28721 MAZANOWSKI, ELIZABETH
28722 OCCUPANT UNKNOWN,
28738 VASQUEZ, CLEMENTE
28739 SANCHEZ, JESUS V
28750 VANALLEN, FRED D
28751 GUCKERT, MARJORIE C
28764 BOOKMAN, ANITA
28765 PAULSON, LARRY J
28777 STERLING, ROBERT
28778 FEDERSPILL, EVANGELINA
28798 AUSTIN, KENNETH L
28799 GONZALEZ, BELIA G
28810 OCCUPANT UNKNOWN,
28811 GORDON, JOHN D
28824 ROSILES, MARIA A
28825 RUDESEAL, MARION J
28838 PARTON, JOHN A
28839 PENA, BEATRIZ
28850 BRASWELL, ETHEL W
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28864 SIUREK, EDNA L

MURRIETA RD 2010 (Cont'd)

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28913 OCCUPANT UNKNOWN,
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28927 BAKER, LILLIE R
28941 CAUBLE, BETTY A
29184 PURDUM, MARY R
29188 BOSCHETTO, CARL B
29190 SCHUTZENHOFER, ALEX J
29192 SCHUYLER, JOHN
29194 NYSTUEN, DALE E
29196 AMADOR, FLORENCE H
29198 BARR, SARAH J
29200 HARGRAVES, GLENN E
29202 OCCUPANT UNKNOWN,
29204 ELLIOTT, GARY A
29206 LEWIS, JOHN D
29208 BUTLER, HELEN M
29212 BORROR, DOLORES J
29214 KNOTH, WILLIAM L
29218 GONZALEZ, RONALD F
29220 KOVALOVSKY, BARBARA J
29222 VOERG, BETTY J
29224 OCCUPANT UNKNOWN,
29228 GEOFFROY, MICHAEL A
29230 LOARMBRUSTER, LORRAINE O
29234 BRODIE, S
29236 JOHNSON, WAYNE C
29238 BLAKE, GISELA
29242 OCCUPANT UNKNOWN,
29246 HAMEL, MARILYN J
29248 PEARSON, STANLEY W
29250 OBRIEN, FRANCES R
29252 MARTIN, MARTHA
29254 HOLLOWAY, CHESTER W
29258 EDWARDS, CHARLOTTE D
29260 ALLEN, LORRAINE B
29262 CYREE, CATHLEEN
GOMEZ, SCOTT
STERLING, ROBERT J
29264 GONZALEZ, DANNY S
29266 OCCUPANT UNKNOWN,
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29270 SANDERS, ROY C
29272 ATENCIO, D
29274 SAWYER, BURTON J
29276 MILLER, DONNA J
29278 BANKS, PAUL I
29280 BAILEY, FRANCES V
OSC MORTGAGE
29282 ADAMS, FRANK L

MURRIETA RD 2010 (Cont'd)

29284 BICA, GRACE C
29286 HARMAN, CLAUDINE R
29290 OBERG, WILLIAM G
29292 HINRICHS, MARZELLE J
29294 DRUPPEL, PAUL R
29296 PONCE, CARMEN L
29300 VANMETER, GEORGE W
29302 DAVIS, MARCELYN D
29304 VANKOEVERING, DIANE L
29306 GILBERT, BARBARA J
29310 CHADWICK, RENATE M
29312 REQUA, CHARLES M
29314 GREMARD, LESTER
29316 ARNOLD, DAVID J
29318 NIMS, MICHAEL E
29320 OCCUPANT UNKNOWN,
29322 RISSLING, FRANK M
29330 DELANEY, ANGELA
29332 RODWELL, SYLVIA F
29334 DALTON, DONNA
29336 RENALDE, JAMES L
29338 ODONNELL, THOMAS A
29340 LAMARR, DAVID
29342 NOFTZ, CHARLES F
29344 LEMBLE, DON
29346 SEMEGI, J
29350 COLLIER, CHARLES L
29352 WOODS, ALBERT
29354 MARSHALL, AL
29356 SACHS, DONALD R
29358 FLETCHER, THOMAS L
29362 BAXTER, GLENNA L
29364 KNIGHT, GERALD
29368 BRADY, PAULA E
29370 LEWIS, ROBERT D
29372 IRICK, JODIE D
29374 KIRK, RICHARD G
29376 HALL, JUNE A
29378 GALLORO, MARYANN A
29380 DHONDT, DAVID W
29382 SEE, JOSEPHINE
29384 HEIM, STEVEN P

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MURRIETA RD 2005

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26135 GALEY, DAVID W
26145 MURILLO, RUBEN H
26399 ROMERO, ROBERTO L
26429 LOPEZ, JOSE
26510 FUHRMANN, OSCAR J
26770 MENIFEE VALLEY MEMORIAL PARK
26805 CHURCH OF TODAY SCIENCE CHURCH
26815 SUN CITY BIBLE CHURCH
27250 ABBOTT, RONALD L
ABRAMSON, MERLE M
ADAMS, JOYCE L
ALBERGINE, PAUL H
ALBERGO, ANTOINETTE C
AN, IDA
ANDERSON, LISSO E
ANDUHA, DAVID A
ARBLASTER, DAVID
ARENSMAN, ROBERT N
AUSTIN, EUGENE E
AVILA, EDWARD
BAILEY, LES
BAUGHMAN, PAUL D
BEAVERS, JACK D
BEC INC
BECKFORD, PAT
BELKNAP, REBA J
BELL, CONNIE M
BELSITO, ANN N
BELTON, HELEN L
BENDER, SHIRLEY A
BEST, RITA
BEZZINA, FRANK B
BICKEL, DEBRA
BIGART, ROBERT H
BLANKENSHIP, HOWARD L
BLOOD, DAVID A
BOCKSTADTER, ELSIE A
BOOTH, PAUL J
BORDEN, PHILIP C
BOSKLOPPER, JACOB
BOTELLO, STANLEY E
BOWER, LEE N
BRANDL, LUETTA E
BRASSELL, DONALD M
BRENNAN, MONA W
BRIEN, ROBERT L
BRIGGS, BIL B
BRISENDINE, GLENN E
BRISTON, FREDERICK C

MURRIETA RD 2005 (Cont'd)

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BURTON, ELISABETH
BUTERA, VINCENT E
BYHRING, LORRAINE B
CABLE, DONNA M
CAFIERO, ROSELLA M
CALLE, MABEL I
CAMPA, GUILLERMO G
CAMPORA, JOELLEN
CARMAIN, KAREN L
CHAMBERLIN, JANE
CHEESEMAN, SARAH M
CLUNE, HOWARD C
COCHRAN, WILBUR D
CONVEY, JOHN P
CORDY, ROBERT E
COX, BARBARA L
CRAMER, EARL L
DAINE, ROBERT E
DAVIS, DORIS C
DEMITROFF, PERRY A
DEMSHOCK, DAVID D
DESISTO, ALBERT M
DETLEFS, U P
DIEKMANN, RAPHAEL F
DOBOVSKY, JUNE B
DUDLEY, DANIEL E
DUFFY, JOSEPH H
DYER, RALPH E
EBNER, HELEN M
ELMER, MARY D
ENGLAND, JOAN H
ERICKSON, PAUL G
FALCON, JESUS
FAULKNER, CALVIN
FEDORKA, DOROTHY A
FENRICH, DONALD R
FINKLE, JAMES M
FLETCHER, RICHARD W
FLIHAN, A
FOGARTY, PETER H
FOLEY, HARRY J
FORTE, CHRISTINA J
FRANCIS, JOHN R
FRAZELL, A M
FRAZIER, PHILIP A
FREDRICKSEN, ROMONA
FRODENTE, PETER W
FULLER, GORDON N
GAINES, CHARLES A

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MURRIETA RD 2005 (Cont'd)

27250 GARTLEY, HENRY H
GEE, FRANCIS D
GIETZEN, JEROME H
GODWARD, JOHN S
GOEY, BOB T
GOLDMAN, MONROE O
GOOD, GEORGE T
GOODWIN, NORMA J
GOODWIN, THOMAS E
GRANDBOIS, PAUL P
GROVER, BARBARA M
GROWCOCK, JACK W
HACKER, LORENE F
HAIGHT, RAYMOND L
HANSEN, MADELINE L
HARADA, KEN K
HARDIN, WILBUR G
HARRISON, GERALD W
HARRY, H
HARTZHEIM, DAVID E
HARVEY, KATHERINE L
HAWKINS, BERNARD R
HAYS, ROBERT J
HEALY, JOAN
HEPTINSTALL, LLOYD
HERLICH, GUS
HERRICK, KENNETH F
HILL, VERNE M
HINES, JAMES E
HOOD, ALBERTA G
HOOVER, MAURICE L
HOWELL, EDWIN C
HOWEY, DAVID P
INGEL, GUSSIE
IRWIN, JUDY
JACOB, RICHARD M
JANIAK, MATTHEW A
JENKINS, RONALD S
JENNINGS, HAROLD N
JOHNSON, BETTY L
JOHNSON, JAMES L
JOHNSON, MICHAEL J
JONES, CHARLES R
JONES, DWAYNE P
JOYNT, IRENE F
KALOPER, ROBERT G
KAUFMAN, JON K
KENMUIR, GLORIA R
KENT, JOHN F
KLINE, WALTER J

MURRIETA RD 2005 (Cont'd)

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KNERR, RALPH E
KOENIG, JAMES O
KOLANOWSKI, GEORGE
KOVBRATOFF, HERNAND C
KROGH, ROBERT E
KUHN, PAUL R
KUK, ALBERT J
KULAS, KARON
KURTIS, FLORENCE B
LAFFERTY, CHARLES R
LANCE, JOANN A
LAND, BARBARA E
LANDRY, LEO J
LARSEN, IRENE C
LAVALLEY, JACQUELINE M
LAVERY, JOHN F
LEACH, JEAN
LEM, SOCORRO M
LEN, EDWARD A
LEWIS, ALICE B
LICCIARDI, JOE
LILLARD, CLINTON R
LITTLE, EDGAR L
LOMANDO, ARLEEN J
LUDWIG, HORST R
LUNGREN, GRANT P
LUQUE, MARY O
LYLE, JAMES M
MANDALA, ELEANOR M
MANESS, GARYL J
MANN, WARREN F
MARTINS, DOLORES T
MARXEN, JOSEPH E
MCCOIN, KATHLEEN M
MCCRACKEN, GLORIA C
MCDANIEL, CHARLES S
MCDOWELL, JAMES T
MCINTIRE, MARY O
MCPHERSON, BETTY
MEADS, KENNETH E
MEADSE, M
MEALS, JAMES E
MEGINNIS, DONALD L
MEISTAD, GENE F
MENDICELLI, EUGENE R
MESCHON, LORENE
MILES, VICTOR B
MILLS, SAMUEL M
MINER, DON A

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MONICA, RONALD C
MOORE, JACK M
MOORE, KRISTIE A
MOORE, SUSAN M
MORAN, EDITH L
MORRIS, WILLIAM D
MUDD, HUGH M
MUNDWILER, RICHARD H
MUNOZ, ARTURO
MUNOZ, ELOISA P
MUNRO, ROBERT E
MURRAY, JAMES C
MURRAY, JEANNE J
MYATT, RICHARD G
NASLUND, DARRELL E
NASLUND, GORDON A
NICOLAY, HARLAN H
NISHIDA, ROY S
NOLIN, JOSEPH L
OBERLE, JOHN E
OKUN, AUDREY T
OTTO, RICHARD M
PAGE, LARRY R
PASEK, FRANCIS J
PATTERSON, JERRY L
PEACOCK, JOHN P
PEFFER, CHARLES T
PEREZ, RICARDO E
PETERSON, BETTY J
PLUNKETT, ELMER E
POBIS, LILA L
POMO, NICHOLAS J
PORRAZ, MARGARITO G
POTEET, GLENN T
POWELL, C
POWELL, PAT A
PRESTAGE, JOHNNY E
QUICK, DANIEL J
RAAB, JOHN M
RANDALL, FRED W
REAL, SHIRLEY M
REED, ELFIE
REMMERT, THOMAS J
REVILLA, LILLIAN C
RICH, TED A
RILEY, GERTRUDE E
RITCHIE, MARY Y
ROACH, SHIRLEY J
ROBERTSON, CLAIR C

MURRIETA RD 2005 (Cont'd)

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ROOT, JANICE A
ROSE, JUANITA G
RUEFF, MARDELL C
RUGGLES, CHRISTOPHER M
RYDER, LARRY K
RYKS, JOHN
SALDANA, GUS
SATTERFIELD, NORMAN L
SAUER, HOWARD C
SAYRE, MARGARET L
SCHELLENGER, KARL W
SCHIPPER, DAVID W
SCHULER, BRYAN
SCHWERIN, DONNA J
SHALLANBERGER, ERIC R
SHELTON, BENSON K
SHILLITO, MICHAEL J
SHIPPER, DAVID
SHROYER, JACK E
SISSON, STEPHEN G
SJOSTROM, CARL W
SLAY, JUAN A
SMIEGU, VITUS
SMITH, BEV M
SMITH, EDWARD M
SMITH, ESTHER
SNIDER, FRANCIS L
SNYDER, LEROY
SPINDLER, SEYMOUR M
SPOONER, RUBY A
SPURLOCK, DENNIS K
STEPHENS, IRVING P
STERN, CHARLOTTE K
STILL, PEGGY J
STRAND, DEVIN J
STRONG, MARK
SULLIVAN, CAROL A
SUMMERVILLE, SAMUEL R
SUN MEADOWS
SUNMEADOWS HOME SALES
SWARTWOOD, WILLIAM G
TALLEY, JERRY L
TATRO, THOMAS A
TAYLOR, TIMOTHY N
TOJA, PETER
TRAPP, ROBERT W
TREMPER, EMMA W
TREPLAN, JOSEPH
TYLER, EDWARD J

MURRIETA RD 2005 (Cont'd)

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VANASEK, JIM R
VANDERVLIET, RONALD J
VARDON, BOB C
VERNON, VICTOR A
WADA, HARUO
WADDELL, DORIS I
WALKER, WAYNE B
WATERMAN, HOWARD E
WEFLEN, TOM H
WEIS, BETTY L
WHEELER, JERRY L
WHEELER, MARILYN J
WHITNEY, FRANCES
WIELKIE, HERBERT R
WILLIAMS, BILL M
WILLIAMS, GEORGE C
WILLIAMS, MARGARET R
WILLIS, DAVID
WILSON, BOBBIE L
WILSON, DWIGHT E
WIMER, PAUL L
WOODCOCK, LEWIS E
WOOTEN, HAROLD
WOYTEK, KENNETH R
WRITEHELP4YOU
YEADON, JOHN R
YOCHUM, HELEN L
YODER, WARREN H
YODERS, GRANT M
YOUNG, BARBARA M
YOUNGE, LLOYD T
ZELT, HOWARD W
ZULUETA, ALFONSO G
27285 BLOSSOMS TOO
27347 DURHAM, RANDAL
27437 BUDGET
U STORE IT
27601 COMMUNITY CUBBARD
MENDEZ, RAYMOND E
27701 ACT II CONSIGNMENT
ADAY, CHARLES B
ADKISSON, ROBERT W
AGUILAR, CANDELARIO
AGUIRRE, CHRISTINE
ALLEN, THOMAS W
ALLISON, AGNES T
ALTMAN, EVELYN
AMABISCO, MICHEAL
ANDERSON, ELDEN B

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MURRIETA RD 2005 (Cont'd)

27701 ANDERSON, JOHN C
ARREDONDO, ANTONIO L
ATCHISON, BETTY L
AUSTIN, WILLIAM T
BAILEY, DANNY H
BARTHOLOMEW, JAMES D
BAUER, ROSEMARYE B
BAUMBACH, WALTER E
BAYLIFF, CLARENCE W
BENISH, NORMA R
BLANKENSHIP, DOUG
BOBBITT, O
BONIFACE, HAROLD W
BORIA, MARIA
BOWLIN, RALPH W
BRADSHAW, FLORENCE L
BREKKE, LARRY R
BRIGHT, MARY E
BRIGHT, ROGER R
BROWN, WALTER
BUCKMASTER, HERBERT W
BUZON, JOHN E
CAMPBELL, ESTELLE A
CARELLI, INGRID S
CARIGNAN, CLAUDETTE
CARUSO, BETTY B
CHEYNE, DALE C
CHRISTENSEN, STEVE
CLARK, MARY A
CLINE, VERNON R
CLYNES, MARY A
CONGDON, FRANK W
CONTRACTORS UNLIMITED
COY, DONALD L
CRAIG, LUELLA M
CRIPPS, KENNETH M
DAHL, EILEEN
DALBIS, MARGARET P
DAVIDSON, MARY J
DAVIS, COYE
DAVIS, JOHN T
DECUIR, WALTER J
DEWEY, MELVIN R
DODD, DONALD
DUNCAN, ELEANOR G
DURANN, CAROL
DURR, WILLIAM L
ELLIS, ALICE A
FITZGERALD, KEVIN F
FOLKESTAD, DEVERE R

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FORMICOLA, FRANK
FRASIER, MARGARET A
FREEMAN, LETHEA M
GALBRAITH, VELETA
GALE, JAMES L
GAST, JULIA M
GEARY, ADENE M
GILBERT, LORRAINE J
GLODDECK, MILDRED
GOINS, MARY C
GOLDSMITH, FRANCES L
GOODENOW, ROBERT W
GOODMAN, FREDA C
GRIFFIN, THOMAS W
GRIFFITH, MELBOURNE E
GROENDYK, JIM A
HARTNESS, BEVERLY
HEAGEY, ROBERT C
HEIDSTRA, AUKE
HENSON, TERRY C
HIGBEE, KENNETH E
HILLSIDE MOBILEHOME ESTATES
HOOVER, JAMES T
HOUNSLEY, FREDERICK D
HUFF, VERNA R
INNUSO, PATRICIA E
IRWIN, EDDIE R
ISAACS, SHARON
JENSEN, S
JOHNSON, C W
JOHNSON, DANNY R
JOHNSON, GERALDINE
KELLIM, ELBERT L
KERN, CHARLES L
KIRKPATRICK, W O
KIRTON, LUCILLE O
LAMBERTO, ANTHONY
LANGLOIS, DELILAH
LAURENT, RENE J
LAURITSON, C
LAURSEN, BENT
LAW, JOAN E
LEATHERBY, GERALD M
LEDOSQUET, JIM A
LEESON, HUBERT H
LEFEBVRE, LILLIAN
LENBERG, ROLAND C
LIEM, CORA M
LINSCOTT, JON

MURRIETA RD 2005 (Cont'd)

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LUKE, KATHERINE E
MACEL, ZDENKA
MALTBY, VIOLA M
MAPES, JOSEPH F
MARTIN, RICHARD A
MASSEY, ELOISE V
MCCAMBRIDGE, FRANK T
MCHUGH, JULIA J
MCHUGH, THERESA A
MCINTOSH, MARK
MCKNIGHT, MAURICE P
MEHELIC, MARGARET J
MEYERDIRK, PEG
MILLER, DONALD H
MITCHELL, BETTY
MLACK, FELIX A
MORGAN, RICHARD W
MOTTER, ROBBIE L
MOYE, LLOYD L
MUNDY, RUSSELL A
NASON, RUBY L
NEWMAN, CORBETT V
OEST, JAMES C
PAGE, AL W
PATMOR, GARY O
PETERSON, JAY D
PETIT, IRENE L
PIELA, STAN M
POLLOCK, GERALD A
POMILIA, VIOLET V
RAUSCHKOLB, RUTH E
REID, ARLINE
REILLE, FRANK A
RICKEL, EDWARD V
ROBERTS, SYLVIA A
ROTH, PERRY H
RUTHERFORD, ESTHER
SALLEE, REXINE M
SATMARY, OLGA
SATTER, MARY A
SAVOIA, ANDREW M
SCHOOLEY, JOSEPHINE L
SCOTT, DAVID R
SERRAO, MARGARET G
SHARPE, DELTON M
SHINN, WARREN C
SLADEK, DOLORES
SLATER, ANNE C
SMITH, FRANCIS L

MURRIETA RD 2005 (Cont'd)

27701	SPAAN, ANDREW B
	SPILKER, MICHAEL E
	SQUIRES, ED T
	STCLAIR, BARBARA J
	STOVALL, MARGARET C
	STREIB, ROBERT L
	STRICKLAND, VIOLA G
	SWALLOW, JOHN J
	TATE, WALLACE J
	TETER, KEN C
	THOMPSON, JOHN
	TOLLENAAR, DAVID L
	TORVIVIA, ANTHONY
	VENZUELA, MYRTLE R
	VEST, CLIFF O
	WAGERS, CONNIE R
	WALSH, ANNE S
	WATSON, J G
	WEYHER, THELMA M
	WILLIAMS, DOROTHY J
	WILLIAMS, WILLIARD R
	WILSON, WALTER C
	WINSTEAD, MARY J
	WOLOWIC, ROGER C
	WOLTER, WILLIAM H
	WORRELL, MARY P
	YADRON, MONIKA M
	ZORN, DALE R
27761	JAMES D ALLISON
27800	UPSON, BERT J
27830	COCHRAN, MARY J
27844	WATKINS, PAULINE K
27860	RICHARDS, GARY L
27876	HAYNES, EVELYN A
27890	POSADA, JOHN B
27906	BAGWILL, LELAR V
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	SAINT VINCENT FERRER CHURCH
28018	AGUILERA, FRANK G
28026	ESCORCIA, ANTONIO R
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28055	SLAVEN, CLEATUS T
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28287 TAYLOR, ROBERT J
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28323 HARDIMAN, J
28377 OCCUPANT UNKNOWN,
28390 ENGLEHART, RANDY D
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28407 HEYER, SARA A
28420 OCCUPANT UNKNOWN,
28421 DORESCENZI, ANN M
28438 DENT, CHESTER N
28439 RIVETTI, GEORGE G
28450 SANCHEZ, EVANGELINA
28464 GALE, JOSEPHINE J
28465 CROTHERS, PATRICIA A
28477 CHAPIN, JANET
28478 JOHNSON, DUAINE
28490 OCCUPANT UNKNOWN,
28491 BLAIN, PRESTON D
28506 SHULL, ELWAIN R
28507 CANALE, JOSEPH
28520 TUOMI, FRANCES A
28521 DODDS, WAYNE M
28536 TILLIS, GLORIA J
28537 MILLER, ROBERT J
28546 KROLL, JOHN L
28547 WILLIAMS, J
28560 KEETON, LEON B
28561 CRAVENS, WILLIAM H
28572 KALLOCH, MAURICE E
28573 MORGAN, JOHNATHAN D
28590 AMOS, RUBY L
28591 BLAESI, RANDALL H
28605 CALDERON, RUDOLFO D
28620 OCCUPANT UNKNOWN,
28621 OCCUPANT UNKNOWN,
28634 DUDLEY, JOHN L
28635 ELLO, ROSE

MURRIETA RD 2005 (Cont'd)

28640 OCCUPANT UNKNOWN,
28641 OCCUPANT UNKNOWN,
28656 HINKLEY, KATHLEEN A
28657 OCCUPANT UNKNOWN,
28670 BROWN, CLEO M
28671 DAVIES, LINDA J
28684 PERAZA, MARIA E
28685 CURIEL, MANUEL
28699 FELLING, GINNI E
28710 MCKINLEY, EUGENE N
28711 MITCHELL, THOMAS D
28721 MAZANOWSKI, ELIZABETH
28722 HIGHSMITH, MICHAEL
28738 OCCUPANT UNKNOWN,
28739 DUREL, GENE
28750 VANALLEN, FRED D
28751 GUCKERT, MARJORIE C
28764 OCCUPANT UNKNOWN,
28777 BEYOND THE HORIZON ENTERPRISE
HENDLEY, JOHN
28778 FEDERSPILL, BERNARD L
28798 AUSTIN, KENNETH L
28799 SANTILLO, JOSEPH N
28810 OCCUPANT UNKNOWN,
28811 GORDON, JOHN D
28824 FREEMAN, BILL F
28825 RUDESEAL, MARION J
28839 PENA, BEATRIZ
28850 LUND, CHRISTIAN P
28851 ASPLUNDH TREE EXPERT
OCCUPANT UNKNOWN,
28864 FRYREAR, DOUGLAS J
28912 POOL, DAVID S
28913 WHITE, SANDI K
28926 ALVO, SAM
28927 BAKER, LILLIE R
28940 OCCUPANT UNKNOWN,
28941 CAUBLE, NELSON E
29029 FIRST BAPTIST CHURCH OF SUN CITY
29182 NEBEL, REGIS C
29184 PURDUM, MARY R
29190 SCHUTZENHOFER, ALEX J
29192 SCHUYLER, DARRELL
29194 NYSTUEN, DALE E
29196 AMADOR, FLORENCE H
29202 MOZAFFARIAN, ELAHEH
29204 ELLIOTT, JENNIFER E
29206 OCCUPANT UNKNOWN,
29208 OCCUPANT UNKNOWN,
29210 HITCHINGS, DAVID D

MURRIETA RD 2005 (Cont'd)

29210 SOLIZ, LOUIS Y
29212 NASRAWAY, EDWARD G
29214 KNOTH, WILLIAM L
29216 HELBERG, ARTHUR F
29218 PIERSON, HOPE D
29220 KOVALOVSKY, BARBARA J
29222 WILLIAMS, FRED R
29224 COUGHRAN, TIMOTHY J
29226 HOPWOOD, JEFFREY
29228 PAGE, JOHN T
29230 ARMBRUSTER, LORRAINE O
29234 LONGACRE, DONALD C
29236 JOHNSON, WAYNE C
29238 BLAKE, GISELA
29242 OCCUPANT UNKNOWN,
29246 HAMEL, STANLEY A
29248 PEARSON, STANLEY W
29250 GAFFORD, ELOISE P
29252 MARTIN, MARLA A
29254 HOLLOWAY, CHESTER W
29258 EDWARDS, CHARLOTTE D
29260 HOWLETT, BRIAN L
29264 GONZALEZ, DANNY L
29266 DAVIS, DANIELLE H
29268 OCCUPANT UNKNOWN,
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29272 ANDERSON, DURWOOD G
29274 JONESKOS, STANLEY
29276 MILLER, DONNA
PAPE, DONNA J
29278 LAND, LUCINDA A
29284 BICA, GRACE
29286 KRAFFT, EMILY
29288 BEITLER, RICHARD W
29290 OBERG, WILLIAM G
29292 HINRICHS, MARZELLE J
29294 TEMPEL, HUBERT J
29296 ZIEBARTH, JOHN M
29298 MD COSMETICS
29300 VANMETER, GEORGE
29302 DAVIS, MARCELYN D
29304 BOUCHEREAU, RAYMOND S
29306 GILBERT, HAROLD C
29310 CHADWICK, RENATE M
29312 REQUA, CHARLES M
29314 GREMARD, LESTER
29316 ARNOLD, DAVID
29318 OCCUPANT UNKNOWN,
29320 OCCUPANT UNKNOWN,
29322 RISSLING, FRANK

MURRIETA RD 2005 (Cont'd)

29324 RUSSELL, JESS L
29326 TARKE, MARTHA
29330 DELANEY, ANGELA
29332 RODWELL, SYLVIA
29334 DALTON, DONNA
29336 OCCUPANT UNKNOWN,
29338 GOLD, NESTOR L
29340 LAMARR, DAVID
29342 DECARO, CONNIE M
29344 BARCLAY, DONNA M
29346 SANFORD, PAULINE L
SEMEGI, J
29348 FAIRCHILD, JOAN S
29350 COLLIER, CHUCK L
29352 LAKE, DOROTHY M
29354 BABCOCK, LORRAINE E
LYNARD, RICHARD C
29356 TYLER, ROBERT L
29358 FLETCHER, THOMAS L
29360 GRINEL, REGINA C
29362 BAXTER, GLENNA L
29364 THOMPSON, JAMES F
29366 FINN, JACK W
29368 ANDERSON, PATRICK A
29370 LEWIS, ROBERT D
29372 IRICK, JODIE D
29374 BONGINO, ANGELO L
29376 SCHEMEL, FERNANDO
29378 OCCUPANT UNKNOWN,
29380 LOWE, DOROTHY H
29382 SEE, JOSEPHINE
29384 ROBISON, WILLIAM H

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MURRIETA RD 2000

26135	GALEY, DAVID
26145	DICLEMENTE, NANCY
26399	GARDNER, JERRY
26429	OCCUPANT UNKNOWN,
26510	FINISHING TOUCHES
	FUHRMANN, OSCAR J
26704	ST STEPHENS EPISCOPAL CHURCH
26770	CREMATIONS MILLER JONES MORTUARY & CREMATORY
	MILLER JONES MORTUARY & CREMATORY
	MORTUARY MILLER JONES MORTUARY & CREMATORY
26805	SUN CITY CHURCH OF RELIGIOUS SCIENCE & METAPHYSICAL BOOKSTO
26815	SUN CITY BIBLE CHURCH
26975	WESTERN PINES
27225	AFFORDABLE TREES & SHRUBS
27250	ARIA, KAY
	AXEL, WILLIAM J
	BICKEL, MARY L
	BIRCH, MALCOLM F
	BLANKENSHIP, RUTH
	BOCKSTADTER, E A
	BOSKLOPPER, JACOB
	BOWER, LEE
	BRADY, MICHAEL
	BRIEN, ROBERT L
	BRISENDINE, GLENN E
	BURGETT, HOWARD S
	BYHRING, RAYMOND
	CALDWELL, BARBARA
	CARLSON, ELLIOTT B
	CARTIN, A
	CHAMBERLIN, HAROLD M
	COCHRAN, WILBUR D
	COLLINS, LARRY L
	CORDY, ROBERT
	COURTNEY, WALTER
	COX, BILLY
	CRAMER, LUCILLE
	CROTZ, JAMES H
	CULLEN, M
	DAINE, ROBERT E
	DIEKMANN, R F
	DUKE, EUGENE P
	ENGLAND, DON
	EVANS, GLADYS F
	FALCON, ALICIA A
	FARQUHAR, ELBERT
	FISCHER, A D
	FISHER, DOROTHY
	FLETCHER, R W
	FOGARTY, PETER H

MURRIETA RD 2000 (Cont'd)

27250 FORREST, PAUL
FRANCIS, JOHN R
FRAZIER, F P
GIBB, ROBERT J
GOLDMAN, MONROE O
GROTTOLO, ARMAND G
HAGEN, D
HAMILTON, DOYLE
HARDIN, ERNEST R
HARKEY, HUGH
HARVEY, K
HENNEMANN, C T
HERLICH, GUS
HINDS, MERLIN
HINKEL, VERNON J
HOOD, GRANT
HORTON, MEREL R
INGEL, EUGENE
JANIAK, BETTY P
JOHNSON, C A
KAMINSKY, L R
KENMUIR, JAMES D
KLINE, WALTER
KNERR, RALPH E
KOCH, FRANK
KOFLER, ALBERT P
KOLANOWSKI, GEORGE
KRIDER, MARY J
KROGH, ROBERT E
LAVERY, JOHN
LEACH, JAMES
LEBRESCO, HERBERT L
LEONE, JOSEPH
LITTLE, JIM
LOCKE, HOUSTON J
LOFTIN, RENA F
LOFTON, RENA F
LUQUE, M O
MALONEY, JOHN L
MANALATOS, PAUL
MANDALA, ELEANOR M
MARXEN, JOSEPH E
MCCAIN, HENRY L
MCCOIN, HENRY
MCDOWELL, ELLEN T
MELLINGER, MAURINE
MICHAUD, STANLEY J
MILES, VICTOR B
MILLER, JOHN
MONICA, R

MURRIETA RD 2000 (Cont'd)

27250 MORAN, HOWARD
MUNRO, HELEN M
MYERS, HARRY G
NACHTSHEIM, L
NICOLAY, PETER
OLIVER, EUGENE
PARMER, FLEMING
PASEK, FRANCIS J
PEFFER, CHARLES T
PETERSON, JOHN
PLUNKETT, ELMER E
PRIDGEN, ARNOLD
PROCTOR, P A
PROVOST, BARBARA M
QUIGLEY, MARIAN
REED, ELFIE
RICH, TED
ROBERTSON, CLAIR
ROLLOG, K W
RUEFF, ARMAND
RUTHERFORD, FRANK
RYKS, JOHN
SAYRE, M
SENIOR, JEFFREY C
SHROYER, JACK
SHURTZ, M J
SLEETH, MIRIAM
SLIGH, MARTINE
SMIEJA, VITUS J
SMITH, HENRY E
SMITH, LEONE M
SNYDER, ROSE M
SPAVEN, GEORGE D
SPOONER, LEONARD
STELLA, NANCY
STEPHENS, LELAND
STOVER, PAUL
SUN MEADOWS
SWARTWOOD, BILL
SWITZER, L
SYRE, M L
THOMPSON, DOROTHY O
THORN, ALVIN P
TOJA, PETER
TRUDEAU, ROSAIRE
VANMAREN, H R
VERNON, VICTOR A
VOBECKY, LUDEK
WATERMAN, HOWARD E
WIEKIE, HERBERT R

MURRIETA RD 2000 (Cont'd)

27250 WOOD, WILLIAM N
WRIGHT, CLAY W
27285 AFFORDABLE TREES & SHRUBS
SHADE NURSERY
27437 ASSURED MINI STORAGE
BENJAMIN, LEE
U STORE IT
27601 MENDEZ, RAYMOND
MENIFEE VALLEY GRANGE
27701 ADAMS, CHARLES
ADAMS, ROBERT
ANDERSON, ELDEN B
APPLEGATE, CECIL H
BARNES, DONALD
BARNES, WILLIAM
BAUER, R B
BAUMBACH, WALTER E
BAYLIFF, C
BENGSTON, ROBERT M
BENISH, NORMA
BENNETT, DONALD R
BLANKENSHIP, DOUG
BRAGG, BETTY
BREITENBACH, BETTE
BRENNER, J J
BRIGHT, MARY E
BRODY, NORMAN
BROWN, C M
BRUSS, WALTER K
BUZON, JOHN
CALIFORNIA, FRANK
CAMP, WILLIAM A
CARMICHAEL, EMERY
CARTER, BETTY
CARUSO, VINCENT T
CHARPENTIER, EVELYN
CHEYNE, DALE C
CHRIST, DOROTHY
CLAY, GRACE G
COLARUSSO, ANTHONY J
CONNARY, DAVID C
COY, DONALD
CRAMER, K
CRIPPS, KENNETH
CYNTHIA, A
DALBIS, M P
DAVIDSON, MARY J
DAVIS, GREGORY
DENSON, QUENTIN C
DEWEY, MELVIN R

MURRIETA RD 2000 (Cont'd)

27701 DIXON, PETER R
DORE, DARLENE
DOXEY, LEONORA
DUNCAN, J W
EAKER, DOYLE M
EDWARDS, TERRI K
ELLIS, ALICE
FORD, HALLIE M
FORMICOLA, FRANK
FORTI, JOHN H
FREATMAN, HAROLD
GALD, J V
GLODDECK, ALFRED
GOLDSMITH, E J
GOODMAN, E A
GRIFFITH, M E
HALL, DOROTHY
HALL, ROGER R
HARLAN, V
HENDERSON, WILMA O
HENNESSY, BERNARD J
HILL, HELEN
HILLSIDE MOBILEHOME ESTATES
HOGUE, DOROTHY
HOLLENBEAK, MARVIN R
HOP, JOHN
HOWE, ALFRED R
HUBBELL, GEORGE
ISAACS, SHARON
JACKSON, O E
JAMES, FRED
JOHNSON, BEVERLY
JOHNSON, G A
JOHNSON, JAMES W
JOHNSON, JUNE L
JOHNSON, WILLIAM W
KAPITZKE, MARLIN A
KELLIM, E L
KIRKPATRICK, W O
KIRTON, LUCILLE
KLIMUK, WALTER
KURTZ, RICHARD
LAW, RICHARD M
LEE, EVELYN E
LEFEBVRE, L
LEMEIEX, H E
LENBERG, ROLAND
LIEM, DON
LINDEMANN, MARVIN G
LITTLE, CURTIS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 2000 (Cont'd)

27701 LLOYD, JOY
LOGUE, HELEN C
LOPEZ, DIANA M
LOTGERING, NELLIE
LOWRY, FRANCIS J
MACEL, OLDRICH J
MALTBY, VIOLA
MAY, CHESTER
MCCAMBRIDGE, FRANK
MCCARTY, WALTER K
MCGINN, JAMES
MCKNIGHT, MAURICE P
MEYERDIRK, RALF P
MLACK, FELIX A
MOAG, E C
MONTGOMERY, GRACE G
MORGAN, G
MOTTER, ROBBIE
MYLORD, KURT
NASON, ROBERT
NAVARRO, RODRIGO
NEIBUHR, RICHARD W
NELSON, WILLIAM R
NIEBUHR, MILDRED
NOLTE, FRANCES
OESTREICH, KENNETH
OLDS, E M
PAGE, AL
PAGE, CECIL
PAMPLIN, JAMES R
PARK, H
PARKS, HARLON
PATMOR, GARY
PEARSALL, JAMES
PIELA, STAN M
PIERSON, HAZEL
POMILIA, VIOLET
RANDER, GRACE G
RAUSCHKOLB, RUTH E
REICH, C A
REIFF, VERLA L
RICH, LANDON
RIDGLEY, JACK
RIENSTRA, OTTO
RUSK, LINDA
SAABYE, HAROLD
SALAZAR, ABEL M
SALLEE, HOWARD A
SAVOIA, JOSEPH
SCOTT, DAVID R

MURRIETA RD 2000 (Cont'd)

27701	SHARPE, D R
	SHEEHAN, ROBERT F
	SHINN, WARREN
	SHIRK, EUGENE R
	SLAKEK, RICHARD
	SMITH, JACK
	SQUIRES, ED
	STCLAIR, BARBARA J
	STIKELEATHER, WALTER A
	STOUDT, ALVIN M
	STOUT, CHARLES D
	STOVALL, HENRY
	STRICKLAND, GEORGE
	SWINT, GILBERT A
	TETER, KEN
	THOMAS, CLIVE E
	THORN, JAMES A
	THORNE, RUTH
	TRYON, SHERMAN M
	VALENTIN, ROSA D
	VANTASSEL, WILLIAM L
	WALTON, JOSEPH
	WALTZ, ELSIE
	WEYHER, ELMER
	WOLOWIC, STAN
	WOLTER, WILLIAM H
	WORRELL, MARY P
	ZIEGLER, JAMES
	ZORH, ORVAL R
	ZORN, ORVAL R
27812	HOFFMAN, EVA
27830	COCHRAN, MARY J
27844	WATKINS, GEORGE B
27860	RAIMONDO, JOHN
27876	WOOD, T
27890	POSADA, JOHN B
27906	BAGWILL, HOWARD
27920	KETSDEVER, JOHN
27931	ST VINCENT FERRER CHURCH
28018	PAUL, V
28025	SIMON, JOHN
28026	ROBERG, L
28040	BENEFIELD, DONALD A
28041	MOLTER, MARY
28052	OCCUPANT UNKNOWN,
28055	SLAVEN, CLEATUS T
28066	OCCUPANT UNKNOWN,
28071	RICHARDSON, WILBERT E
28080	OCCUPANT UNKNOWN,
28085	OCCUPANT UNKNOWN,

MURRIETA RD 2000 (Cont'd)

28094 QUADE, JOAN
28106 OCCUPANT UNKNOWN,
28120 GODWIN, ROBERT M
28141 OCCUPANT UNKNOWN,
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28165 DAVISSON, L E
28181 BRACKETT, WILLIAM
28188 BEITLER, RICHARD W
28191 SALAZAR, JESUS
28225 GREENAMYRE, A
28286 OCCUPANT UNKNOWN,
28287 TAYLOR, ROBERT
28307 MCGOWAN, EVA Q
28314 SCHNEIDER, FRED
28315 BAINES, WILLIAM
28323 BLAKELEY, K M
28376 HOWES, J M
28391 CHASTAIN, DANIEL R
28406 DSABATER, ROY R
28407 HEYER, ROBERT
28420 VANRENSELAAR, ROY
28421 DORESCENZI, MICHAEL
28438 DENT, CHESTER
28439 OCCUPANT UNKNOWN,
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28464 KEHE, E G
28465 OCCUPANT UNKNOWN,
28477 EVRAETS, D M
28478 JOHNSON, JOHN B
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28491 BROWN, KEN
28520 TUOMI, FRANCES A
28521 DODDS, WAYNE
28536 OCCUPANT UNKNOWN,
28537 MILLER, ROBERT J
28546 OCCUPANT UNKNOWN,
28547 WILLIAMS, JEWELL C
28560 KEETON, LEON B
28561 KUGLER, JOSEPH
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28591 ADAMS, CONNIE W
28604 KINGSLEY, EDWIN L
28605 CALDERON, RUDOLFO
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28634 DUDLEY, JOHN
28635 ELLO, R
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MURRIETA RD 2000 (Cont'd)

28641 WATHEN, JAMES A
28656 MORRISSEY, GEORGE
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28670 GREGORY, HERBERT C
28671 INSOLO, MARIAN
28684 KOWAL, IRIS
28685 CURIEL, MANUEL
28699 ASHLEY, CHARLES A
28710 MCKINLEY, E
28711 MITCHELL, THOMAS D
28722 STOCK, WILLIAM
28738 CASTANON, CHARLES S
28739 BOREN, GRACE U
28750 OCCUPANT UNKNOWN,
28751 BARIBEAU, S
28764 OCCUPANT UNKNOWN,
28765 MORRIS, RALPH E
28777 PATMORE, LESTER C
28778 ALVARADO, PAGGY S
28798 AUSTIN, C C
28799 SANTILLO, JOSEPH
28810 LILLARD, CLINTON
28824 FREEMAN, BILL
28825 RUDESEAL, MARION J
28839 TOMA, ANNA
28850 LUND, CHRISTI P
28851 OCCUPANT UNKNOWN,
28864 FRYREAR, SHIRLEY A
28912 POOL, DAVID S
28926 SCHEINER, SANDRA
28927 DAWSON, DIANA P
28940 OCCUPANT UNKNOWN,
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29190 SCHUTZENHOFER, ALEX
29192 WRIGHT, BETTY R
29194 OCCUPANT UNKNOWN,
29196 AMADOR, F H
29198 BARR, SARAH
29202 OCCUPANT UNKNOWN,
29204 ANDERSON, COYLE E
29206 LEWIS, JOHN D
29208 CRAFT, DALE E
29210 SOLIZ, LOUIS
29212 OCCUPANT UNKNOWN,
29214 KNOTH, WILLIAM L
29218 LEEPER, JOHN E
29220 OCCUPANT UNKNOWN,
29222 PERSSON, THOMAS J
29224 COUGHRAN, JOHN
29228 HOWATT, GAYLE

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MURRIETA RD 2000 (Cont'd)

29232 GUZY, ALEX W
29234 CARTER, PAUL E
29236 JOHNSON, WAYNE C
29238 BLAKE, GISELA
29242 BEAN, BYRON B
29246 TRAYLOR, CHARLES A
29248 OCCUPANT UNKNOWN,
29250 DAVIE, DONALD
29252 CRAFT, GLEN
29254 BERLIN, STANLEY P
29258 EDWARDS, C D
29260 OCCUPANT UNKNOWN,
29262 OCCUPANT UNKNOWN,
29266 OCCUPANT UNKNOWN,
29270 BLAIR, B
29272 BOGAN, N J
29276 GARTEN, KARIN
29278 MCCLOWRY, CAROL
29280 BAILEY, HARRY
29282 OCCUPANT UNKNOWN,
29284 WESTWOOD, C M
29288 BEITLER, RICHARD
29290 OBERG, WILLIAM
29292 HINRICHS, M
29294 TEMPEL, HUBERT J
29296 RUSH, DONNA
29298 MONDAY, LINDA
29300 PETROWSKE, DUANE A
29302 ATWOOD, JAMES P
29304 OCCUPANT UNKNOWN,
29306 GILBERT, HAROLD C
29308 OCCUPANT UNKNOWN,
29310 OCCUPANT UNKNOWN,
29312 REQUA, CHARLES
29314 GREMARD, LESTER
29318 MCCLAIN, HARVEY S
29320 DESMAELE, JEANNE E
29322 RISSLING, T M
29328 WHEELER, DARLOU
29334 OCCUPANT UNKNOWN,
29336 POJAR, Q
29338 GOLD, NESTOR
29340 LAMARR, DAVID
29342 BEAVER, VANE
29346 LABAIR, ARCYNE M
29348 FAIRCHILD, JOAN S
29352 LAKE, J
29354 LYNARD, RICHARD C
29358 FLETCHER, THOMAS L
29360 GRINEL, REGINA

Target Street	Cross Street	Source
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MURRIETA RD 2000 (Cont'd)

29362 BAXTER, CORALYN
29364 OCCUPANT UNKNOWN,
29366 EVANS, HELEN L
29368 ANDERSON, PATRICK A
29370 LEWIS, ROBERT D
29372 IRICK, WANDA J
29374 OCCUPANT UNKNOWN,
29376 TURNER, MARILYN
29378 PISCIOTTA, GRACE
29382 SEE, J
29384 IMPERATO, GAETANO

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MURRIETA RD 1995

26510	FINISHING TOUCHES
	FUHRMANN, OSCAR
26770	MILLER JONES MORTUARY & CRMTRY
26975	WESTERN PINES
27250	AXEL, WILLIAM J
	BARBRE, C
	BLONDELL, LILA
	BOCKSTADTER, E A
	BOSKLOPPER, JACOB
	BRIEN, ROBERT L
	BYHRING, RAYMOND
	CARLSON, ELLIOTT B
	CHAMBERLIN, HAROLD M
	CHEESEMAN, JAMES
	CLIFFORD, EDWARD
	COURTNEY, WALTER
	CRAMER, LUCILLE
	CRANFORD, LUCY L
	CULLEN, M
	DAINE, ROBERT E
	DIEKMANN, R F
	DOWNING, MAXINE
	ENGLAND, DON
	FARQUHAR, ELBERT
	FISHBURN, E J
	FISHER, DOROTHY
	FLETCHER, R W
	FOGARTY, PETER H
	FORREST, PAUL
	FORTE, JOSEPH
	HAGEN, D
	HAMILTON, DOYLE
	HAND, RICHARD
	HARDIN, ERNEST R
	HARKEY, HUGH
	HARVEY, K
	HENICK, JOHN B JR
	HENNEMANN, C T
	HERLICH, GUS
	HINDS, MERLIN
	HINKEL, VERNON J
	HOOD, GRANT
	INGEL, EUGENE
	KAMINSKY, L R
	KNERR, RALPH E
	KOCH, FRANK
	KOLANOWSKI, GEORGE
	KRIDER, JOHN
	KROGH, ROBERT E
	LAVERY, JOHN

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MURRIETA RD 1995 (Cont'd)

27250 LEACH, JAMES
LEBRESCU, HERBERT
LEIGHLITER, SARAH F
LEONE, JOSEPH
LITTLE, JIM
LITTRELL, JAMES K
LUQUE, M O
MALONEY, JOHN L
MANALATOS, BETTY
MANALATOS, PAUL
MCCOIN, R W
MELLINGER, M
MESCHON, THEADOR C
MICHAUD, STANLEY J
MILLER, JACK
MILLER, JOHN
MILNE, MERLE H
MONICA, R
MORAN, HOWARD
NACHTSHEIM, L
OLIVER, E
PETERSON, JOHN
PLUNKETT, ELMER E
POTEET, GLENN
POWELL, RICHARD A
PROVOST, FRANK
PUGH, ROBERT
RICH, TED
ROLLOG, K W
RUEFF, ARMAND
RUTHERFORD, FRANK
RYKS, JOHN
SAYRE, M
SCOTT, DAVID M
SHURTZ, WILLARD
SLEETH, MIRIAM
SLIGH, MARTINE
SLY, WILLIAM T
SMITH, HENRY E JR
SMITH, LEONE M
SPENCER, FRED
STEVENS, VELENE
STONE, L M
SUN MEADOWS
SWITZER, L
SYLVESTRR, THOMAS
TAMBLYN, LETA
THORN, ALVIN P
TRUDEAU, ROSAIRE
VERNON, VICTOR A

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 1995 (Cont'd)

27250 VOBECKY, LUDEK
WRIGHT, CLAY W
27437 ASSURED MINI STORAGE
27601 ABBEY, G
27701 ADAMS, CHARLES
APPLEGATE, CECIL H
BARNES, WILLIAM
BARNHART, WILBUR
BARRIE, J
BAUMBACH, W E
BAYLIFF, C
BENGSTON, ROBERT M
BENISH, JOSEPH J
BENNETT, DONALD R
BENNETT, LOUIS
BLANKENSHIP, DOUG
BONDS, LEON
BRAGG, BETTY J
BREITENBACH, BETTE A
BRENNER, J J
BROWN, JACK
BUCHER, HARRY
BUCKMASTER, H W
BURKHART, E C JR
BUTCHER, HERBERT
BUZON, BARBARA
CALIFORNIA, FRANK
CARMICHAEL, EMERY
CARUSO, VINCENT T
CHRIST, DOROTHY A
CLAYSMITH, M
CLINE, JOHN
COLBURN, HENRY T
CONDIT, I G
COOK, DOROTHY J
COOKE, GEORGE L
CRAIG, LUELLA
CRAMER, K
CROWE, JOHN T
CUMMINGS, H N
DAUDET, W L
DAVIS, GREGORY
DEWEY, MELVIN R
DORE, DARLENE
DOXEY, LEONORA
DUNCAN, J W
EASTERGARD, ANTON
ESTENSON, ERMINA
EVANS, FLOYD G
FARNSWORTH, JAMES F

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

MURRIETA RD 1995 (Cont'd)

27701 FICKEL, FRED
FLECK, L M
FORD, EUGENE
FORTI, JOHN H
FOSTER, EARL F
FREATMAN, HAROLD
FRIESEN, PETER
GALD, J V
GALLON, NORMAN L
GAST, DANIEL W
GATES, CHARLES A
GLODDECK, ALFRED
GOLDSMITH, E J
GOODMAN, E A
GORDON, DENNIS
GRIFFITH, M E
HALL, DOROTHY
HARLAN, V
HARPER, C A
HAUGEN, GEORGE C
HEBERT, KENNETH
HENDERSON, LEONARD
HILL, HELEN
HILLSIDE MOBILEHOME ESTATES
HOGUE, DOROTHY
HOP, JOHN
HOWE, ALFRED R
HUBBELL, GEORGE
JACKSON, O E
JAMES, FRED
JOHNSON, BERTIL
JOHNSON, JAMES W
JOHNSON, JUNE L
KANATZAR, W
KELLIM, E L
KIDD, NORMAN
KINGSBAKER, GILBERT
KIRTON, LUCILLE
KLEINMAN, CHARLES
KLIMUK, WALTER
KUBIAK, NORBERT R
KURTZ, RICHARD
LASKEY, STANLEY
LEFEBVRE, L
LEMUIEX, GUY
LERNER, MARIA
LINDEMANN, MARVIN G
LITTLE, CURTIS
LOCKWOOD, JAMES
LOGUE, HELEN C

MURRIETA RD 1995 (Cont'd)

27701 LOTGERING, NELLIE
LOWRY, FRANCIS J
LUHTALA, RENIO J
LUKE, CHARLES P
MACEL, O J
MACIAS, JUAN M
MAHER, TERRY
MARTIN, WILLIAM L
MATHER, PITA L
MCCABE, EDWARD
MCCAMBRIDGE, FRANK
MCCARTHY, WALTER
MCGINN, JAMES
MCGUIRE, FRANCIS
MLACK, FELIX A
MOAG, E C
MOTTER, ROBBIE
MUIR, ELWOOD
MUNDT, E
NAOMI, KENNETH
NASON, ROBERT
NELSON, WILLIAM R
NEWTON, WILLIAM W
NIEBUHR, MILDRED
ODONNELL, JAMES J
OESTREICH, KENNETH
OLDS, E M
OVERBY, C
PAGE, AL
PARK, H
PEARSALL, JAMES
PENNOYER, SAMUEL
POMILIA, VIOLET
POWELL, DONALD
PRETTYMAN, JOSEPH
RATZLAFF, IRVIN
RAUSCHKOLB, R E
REIFF, WILLIAM
RICE, MARVIN
RICH, LANDON
RIENSTRA, OTTO
ROBERTSHAW, JOSEPH F
RUSHING, HORACE
SCHMID, RUDOLF F
SCOTT, L W
SHINN, WARREN
SIMPSON, L J
SMITH, AGNES M
SMITH, JACK
SMOCK, HARRY F

MURRIETA RD 1995 (Cont'd)

27701	SOKOLOWSKI, JAMES T
	SPENCE, FORREST
	SPLITT, JAMES
	SQUIRES, ED
	STANTON, JAMES
	STEINER, E
	STEPHENS, MARY L
	STETTLER, FREDK E
	STIKELEATHER, WALTER A
	STOUT, CHARLES D
	STRICKLAND, GEORGE S
	TETZNER, HELEN V
	THOMAS, CLIVE E
	THORNE, HARRY
	TIEG, ARTHUR
	TRAVERS, DON
	TROLSON, CHARLES
	TWYMAN, HAROLD S
	VENZUELA, MYRTLE
	VOLLUCCI, EDWARD
	WAGNER, WILMA M
	WALTON, JOSEPH
	WARDELL, DAVID R
	WEBER, KENNETH N
	WEYHER, ELMER
	WHITEAKER, ERA
	WILKINS, EVELYN
	WOLOWIC, STAN
	WOODWARD, GEORGE W
27800	SCHENK, HEIN R
27812	SCHUMACHER, GERALD
27830	MUELLER, L
27844	WATKINS, GEORGE B
27860	RAIMONDO, JOHN
27876	WOOD, T
27890	POSADA, JOHN B
27920	KETSDEVER, ANN
27931	ST VINCENT FERRER CHURCH
28025	SIMON, JOHN
28026	ROBERG, L F
28040	LOCKE, W L
28041	MOLTER, MARY
28052	VORHES, JAMES L
28055	SLAVEN, CLEATUS T
28066	DURYEE, CHARLES B
28071	RICHARDSON, WILBERT E
28080	PELAYO, EXIQUIO S
28085	MALETTA, GUY JR
28094	STOCKTON, JEAN A
28120	GODWIN, BETTE J

MURRIETA RD 1995 (Cont'd)

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28151 FULLER, GEORGE R
28165 WOODARD, H B
28181 BRACKETT, WILLIAM
28191 ROSE, GARY D
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28215 OCCUPANT UNKNOWNN
28225 GREENAMYRE, A L
28286 WERRY, JOHN L
28287 TAYLOR, ROBERT
28306 JOHNSON, C A
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28377 LUTZ, MARY E
28390 OCCUPANT UNKNOWNN
28391 CHASTAIN, DANIEL R
28406 URBAN, F
28407 HEYER, ROBERT
28420 VANRENSELAAR, FLOYD
28421 DORESCENZI, MICHAEL
28438 LANGE, ERNEST W
28439 WILLIAMS, MARY
28450 OLSEN, ALICE E
28451 FEJES, ANDREW
28464 KEHE, E G
28477 EVRAETS, D M
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28490 HAINES, WAYLAND L
28491 SENGER, DONALD
28520 TUOMI, FRANCES A
28521 DODDS, WAYNE
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28537 MILLER, ROBERT J
28546 HAYWOOD, GALE D
28547 WILLIAMS, JEWELL C
28560 KEETON, LEON B
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28573 CHASE, NORMAN L
28590 AMOS, HOWARD
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28620 BURG, K A
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28634 HASEMANN, ELMER
28635 OCCUPANT UNKNOWNN

Target Street	Cross Street	Source
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MURRIETA RD 1995 (Cont'd)

28640 WILLIAMS, BEVERLY J
28641 WATHEN, JAMES A
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28657 GETZELMAN, E
28671 REID, DORIS G
28684 BUCELLATO, JOHN
28685 STOWE, EARNEST
28698 JOY, JOHN
28699 LAVOIE, HENRY J
28710 MCKINLEY, LINDA R
28711 MITCHELL, THOMAS D
28721 MAZANOWSKI, ALFRED
28722 VANDYKE, ROSE S
28738 CASTANON, CHARLES S
28739 SHARPE, FRIEDA D
28750 VANALLEN, FRED
28751 GREINER, VINCENT K
28764 BRIDGES, NAYOMA
28765 MORRIS, RALPH E
28777 PATMORE, LESTER C SR
28778 FEDERSPILL, BERNARD L
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28799 OCCUPANT UNKNOWNN
28810 PATTEN, H G
28811 MECARTEA, CHARLES
28825 RUDESEAL, MARION J
28838 JONES, K
28839 OCCUPANT UNKNOWNN
28850 LUND, C P
28851 RIGGS, L K
28864 WORSTER, RAYMOND G
28913 PACHECO, JOHN A
28926 ALVO, SAM
28927 ARRIAGA, HAROLD D
28940 MCCURRY, JOHN J
28941 CABULE, NELSON
28947 CAUBLE, NELSON E
29029 FIRST BAPTIST CHURCH SUN CITY
29190 SCHUTZENHOFER, ALEX
29192 OCCUPANT UNKNOWNN
29198 LILLY, EDITH
29202 OCCUPANT UNKNOWNN
29204 ANDERSON, COYLE E
29206 HACKETT, RICHARD A
29208 CANDELARIO, M
29210 FRIZZLE, REBA R
29212 OCCUPANT UNKNOWNN
29214 KNOTH, WILLIAM L
29218 LEEPER, J E
29220 CALOIA, ENNIS V

MURRIETA RD 1995 (Cont'd)

29222 PERSSON, THOMAS J
29224 COUGHRAN, JOHN
29226 HILL, THERESA J
29228 HOWATT, GAYLE
29232 ADKINS, P M
29234 CARTER, PAUL E
29236 JOHNSON, WAYNE C
29238 BLAKE, GISELA
29242 BEAN, BYRON B
29246 OCCUPANT UNKNOWNN
29248 OCCUPANT UNKNOWNN
29250 PAGE, SYBIL
29252 WERTZ, V L
29254 COMBS, M
29258 GALEZIEWSKI, GLORIA J
29260 OCCUPANT UNKNOWNN
29262 BOGAN, N J
29266 MERRY, EMIKO Y
29268 OCCUPANT UNKNOWNN
29270 MARTIN, CARL
29272 OCCUPANT UNKNOWNN
29276 OCCUPANT UNKNOWNN
29278 LAND, LUCINDA
29280 BAILEY, HARRY J
29282 COLLINS, G F
29284 OCCUPANT UNKNOWNN
29286 OCCUPANT UNKNOWNN
29288 BALLARD, ROBERT D
29290 OBERG, WILLIAM
29292 BENEDICT, DONALD
29294 TEMPEL, HUBERT J
29296 RAFTER, JACK
29298 JORGENSEN, LEONA
29300 ADAMS, RICHARD M
29304 STOCKWELL, CHARLES
29306 GILBERT, HAROLD C
29308 OCCUPANT UNKNOWNN
29310 MISAK, JOHN M
29312 REQUA, CHARLES
29314 GREMARD, C
29316 OCCUPANT UNKNOWNN
29318 OCCUPANT UNKNOWNN
29320 DESMAELE, JEANNE E
29322 CLEWETT, DOUGLAS W
29326 TARKE, MARTHA
29328 OCCUPANT UNKNOWNN
29330 SPURGEON, DON
29332 OCCUPANT UNKNOWNN
29334 DALBERG, RICHARD M
29336 CARR, JOHN M

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MURRIETA RD 1995 (Cont'd)

29338 GOLD, NESTOR
29340 FERGUSON, LISA
29342 BEAVER, VANE
29344 WAYMIRE, JAMES R
29348 FAIRCHILD, JOAN S
29350 LUTZ, EDWARD G
29352 LAKE, J
29354 GULLATT, BILL
29358 FLETCHER, THOMAS L
29360 GRINEL, REGINA
29362 BAXTER, CORALYN
29364 OCCUPANT UNKNOWNN
29366 EVANS, HELEN L
29368 ANDERSON, PATRICK A
29370 LEWIS, ROBERT D
29372 OCCUPANT UNKNOWNN
29376 TURNER, MARILYN
29378 OCCUPANT UNKNOWNN
29380 OCCUPANT UNKNOWNN
29382 HOULIHAN, JOHN E
29384 IMPERATO, RACHEL

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MURRIETA RD 1992

26510	FINISHING TOUCHES
26704	ST STEPHENS EPSCPL
26770	MORTUARY MILLER
26815	SUN CTY BIBLE CH
26975	WESTRN PINES
27250	AXEL, WILLIAM J
	BARBRE, C
	BLONDELL, LILA
	BOCKSTADTER, MARVIN
	BOSKLOPPER, JACOB
	BRIEN, ROBERT L
	BYHRING, RAYMOND
	CARLSON, ELLIOTT B
	CHAMBERLIN, HAROLD M
	CLAUS, O P
	COURTNEY, WALTER
	CRAMER, LUCILLE
	CRISWELL, RAY
	CULLEN, M
	DAIN, ROBERT E
	DENNISON, RUDY R
	DIEKMANN, R F
	DOWNING, MAXINE
	ELLINGTON, ROBERT
	ENGLAND, DON
	FARQUHAR, ELBERT
	FISHBURN, E J
	FISHER, DOROTHY
	FLETCHER, R W
	FORREST, PAUL
	FORTE, JOSEPH
	GILBERT, KENNETH
	HAGEN, D
	HAMILTON, DOYLE
	HAND, RICHARD
	HARKEY, HUGH
	HARVEY, K
	HAUGEN, GEORGE C
	HENICK, JOHN B JR
	HENNEMANN, C T
	HERLICH, GUS
	HINDS, MERLIN
	HINKEL, VERNON J
	HOOD, GRANT
	INGEL, EUGENE
	KAMINSKY, FRANCIS
	KNERR, RALPH E
	KOCH, FRANK
	KOLANOWSKI, GEORGE
	KRIDER, JOHN

MURRIETA RD 1992 (Cont'd)

27250 KROGH, ROBERT E
LAVERY, JOHN
LEACH, JAMES
LEBRESCU, HERBERT
LEIGHLITER, SARAH F
LEONE, JOSEPH
LEWIS, JEAN L
LITTLE, JIM
LITTRELL, JAMES K
LUQUE, M O
MALONEY, JOHN L
MANALATOS, BETTY
MANALATOS, PAUL
MCCOIN, R W
MELLINGER, M
MESCHON, THEADOR C
MICHAUD, STANLEY J
MILLER, JEAN
MILNE, MERLE H
MONICA, R
MORAN, HOWARD
NACHTSHEIM, L
PETERSON, JOHN
PLUNKETT, ELMER E
PROVOST, FRANK
PUGH, ROBERT
QUALITY COMMUNITIES
REINA, J R
RICH, TED
RUEFF, ARMAND
RUTHERFORD, FRANK
RYKS, JOHN
SAYRE, M
SCOTT, DAVID M
SHURTZ, WILLARD
SLEETH, DON
SLIGH, MARTINE
SLY, WILLIAM T
SMITH, HENRY E JR
SMITH, LEONE M
STEVENS, VELENE
STIMSON, M
STONE, L M
SUN MEADOWS
SWITZER, L
SYLVESTRR, THOMAS
TAMBLYN, LETA
THORN, ALVIN P
TRUDEAU, ROSAIRE
VERNON, VICTOR A

MURRIETA RD 1992 (Cont'd)

27250 VOBECKY, LUDEK
WILLIAMS, WILLIAM
WRIGHT, CLAY W
27285 MOUNTAIN VW NURSERY
27437 ASSURED MINI STRG
27601 ABBEY, G
27701 ADAMS, DAVID
ANOSKEY, CECELIA
APAMIAN, LENA
APPLEGATE, CECIL H
BARNES, WILLIAM
BARNHART, WILBUR
BARONE, M
BARRIE, J
BAYLIFF, C
BENISH, JOSEPH J
BENNETT, DONALD R
BENNETT, LOUIS
BENSTON, ROBERT M
BERENTSCHOT, JOHN M
BLANKENSHIP, DOUG
BOUVY, NORMAN
BOVELL, BILL
BOYD, ALBERT
BRAGG, ROBERT
BRENNER, J J
BROWN, JACK
BUCHER, HARRY
BUCKMASTER, H W
BURGE, HOWARD JR
BURKHART, E C JR
CALIFORNIA, FRANK
CARMICHAEL, EMERY
CARUSO, VINCENT T
CHECANSKY, HESSIE
CHRIST, MARK
CLAYSMITH, M
CLINE, JOHN
COLBURN, HENRY T
COLE, EARL
COLE, WILLARD F
CONDIT, I G
COOK, DOROTHY J
COOKE, GEORGE L
CRAMER, W E
CROWE, JOHN T
CUMMINGS, H N
DAUDET, W L
DAVIDSON, DONALD
DAVIS, GREGORY

MURRIETA RD 1992 (Cont'd)

27701 DAVIS, ROSS
DELLALBA, BELLA
DOXEY, LEONORA
DRAKE, MILDRED G
DUNCAN, J W
EASTERGARD, ANTON
EVANS, FLOYD G
FARNSWORTH, JAMES F
FLECK, L M
FORD, EUGENE
FORTI, JOHN H
FOSTER, EARL F
FREATMAN, HAROLD
FRIESEN, PETER
GALD, J V
GALLON, NORMAN L
GAMSBY, H L
GARCIA, JOHN R
GARRISON, CLAUDE O
GATES, CHARLES A
GENSCH, MILTON G
GLODDECK, ALFRED
GOLDSMITH, E J
GOODMAN, E A
GORDON, DENNIS
GRIFFITH, M E
HALL, DOROTHY
HARLAN, V
HARPER, C A
HEBERT, KENNETH
HENDERSON, LEONARD
HILLSIDE MBLHM EST
HOGUE, DOROTHY
HOP, JOHN
HOWE, ALFRED R
HUBBELL, GEORGE
JACKSON, O E
JAMES, FRED
JAMIESON, VIVIAN
JOHNSON, BERTIL
JOHNSON, JAMES W
JOHNSON, JUNE L
KANATZAR, W
KELHART, WILLIAM M
KELLIM, E L
KIDD, NORMAN
KINGSBAKER, GILBERT
KLEINMAN, CHARLES
KLIMUK, WALTER
KURTZ, RICHARD

MURRIETA RD 1992 (Cont'd)

27701 LASKEY, STANLEY
LEFEBVRE, L
LEMUIEX, GUY
LERNER, MARIA
LINDEMANN, MARVIN G
LITTLE, CURTIS
LOCKWOOD, JAMES
LOGUE, HELEN C
LOTGERING, NELLIE
LOWRY, FRANCIS J
LUHTALA, RENIO J
LUKE, CHARLES P
MABEN, JACK
MACEL, O J
MARINER, HERBERT
MARTIN, WILLIAM L
MCCAMBRIDGE, FRANK
MCCARTHY, WALTER
MCGINN, JAMES
MCGUIRE, FRANCIS
MLACK, FELIX A
MOAG, E C
MUIR, ELWOOD
MYLORD, KURT
NELSON, WILLIAM R
NICHOLSON, A
NIEBUHR, V M
ODONNELL, JAMES J
OESTREICH, KENNETH
OESTREICH, TED
OVERBY, WILLIAM G
PAGE, AL
PAGE, CECIL
PARK, H
PEARSALL, JAMES
PENNOYER, SAMUEL
PERRY, GLADYS
POMILIA, VIOLET
POWELL, DONALD
PRETTYMAN, JOSEPH
PURSELL, STANLEY JR
RATZLAFF, IRVIN
RAUSCHKOLB, R E
REIFF, WILLIAM
RENO, W B
RICE, MARVIN
RICH, LANDON
RICHARDS, VICTOR
RIENSTRA, OTTO
ROBERTS, LEROY

MURRIETA RD 1992 (Cont'd)

27701 ROBERTSHAW, JOSP F
ROSHENSKY, BERNARD
RUSHING, HORACE
RUSSELL, DAVID J
SCHMID, RUDOLF F
SCHWARTZ, I E
SCOTT, L W
SHINN, WARREN
SMITH, FRED L
SMOCK, HARRY F
SOKOLOWSKI, JAMES T
SPENCE, FORREST
STANTON, JAMES
STEINER, E
STEPHENS, MARY L
STIKELEATHER, WALTER A
STOUT, CHARLES D
STREIB, ROBERT
STRICKLAND, GEORGE S
SUTTERFIELD, RUDY
THOMAS, CLIVE E
THOMPSON, JAY
TIEG, ARTHUR
TRAMONTANO, THERESA
TRAVERS, DON
TROLSON, CHARLES
TWYMAN, HAROLD S
UNDERHILL, EDDIE
WALTON, JOSEPH
WEBER, KENNETH N
WEISKE, MELVIN J
WEYHER, ELMER
WHETSTONE, MARY L
WHITEAKER, ERA
WILKINS, EVELYN
WOLOWIC, STAN
WOODWARD, GEORGE W
27800 SCHENK, HEIN R
27812 NEWTON, WILLIAM W
27830 MUELLER, CHESTER E
27844 WATKINS, GEORGE B
27860 RAIMONDO, JOHN
27876 WOOD, T
27906 RICH, M W
27920 BORCHERT, D W
27931 ST VINCENT FERRER
28025 SIMON, JOHN
28026 ROBERG, L F
28040 LOCKE, W L
28041 MOLTER, MARY

MURRIETA RD 1992 (Cont'd)

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28066 DURYEE, CHARLES B
28085 MALETTA, GUY JR
28094 STOCKTON, JEAN A
28106 MCDONALD, C A
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28151 FULLER, GEORGE R
28181 BRACKETT, WILLIAM
28191 FERMAN, IDA
28201 FOLLIN, STEPHEN F
28225 GREENAMYRE, A L
28286 WERRY, JOHN L
28287 TAYLOR, ROBERT
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28315 BAINES, WILLIAM
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28390 STUBER, L R
28407 PHARO, RICHARD G
28420 COLEMAN, EDWARD
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28438 LANGE, ERNEST W
28439 WILLIAMS, MARY
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28451 FEJES, ANDREW
28464 KEHE, ALWIN W
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28490 HAINES, WAYLAND L
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SENGER, DONALD
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28640 WILLIAMS, EDWARD M
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28656 MORRISSEY, GEORGE
28657 GETZELMAN, E
28670 GREGORY, HERBERT C
28671 REID, DORIS G
28685 RUFFINO, DONALD
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28710 MCKINLEY, LINDA R
28721 MAZANOWSKI, ALFRED

MURRIETA RD 1992 (Cont'd)

28739 SHARPE, FRIEDA D
28764 MOORE, GEORGE T
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28940 MCCURRY, JOHN J
28941 CABULE, NELSON
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29206 HACKETT, RICHARD A
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29222 PERSSON, THOMAS J
29224 COUGHRAN, JOHN
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TURNER, MARILYN
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29326 HOWARD, DAVID L
29328 HUDDY, EMMA
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29346 LABAIR, C
29352 LAKE, J
29358 FLETCHER, THOMAS L
29362 BAXTER, CORALYN
29364 DOMER, BARRY
29370 LEWIS, ROBERT D
29380 LOWE, L E
29382 HOULIHAN, JOHN E
29384 IMPERATO, GAETANO
29541 PAC MECHANICAL CORP

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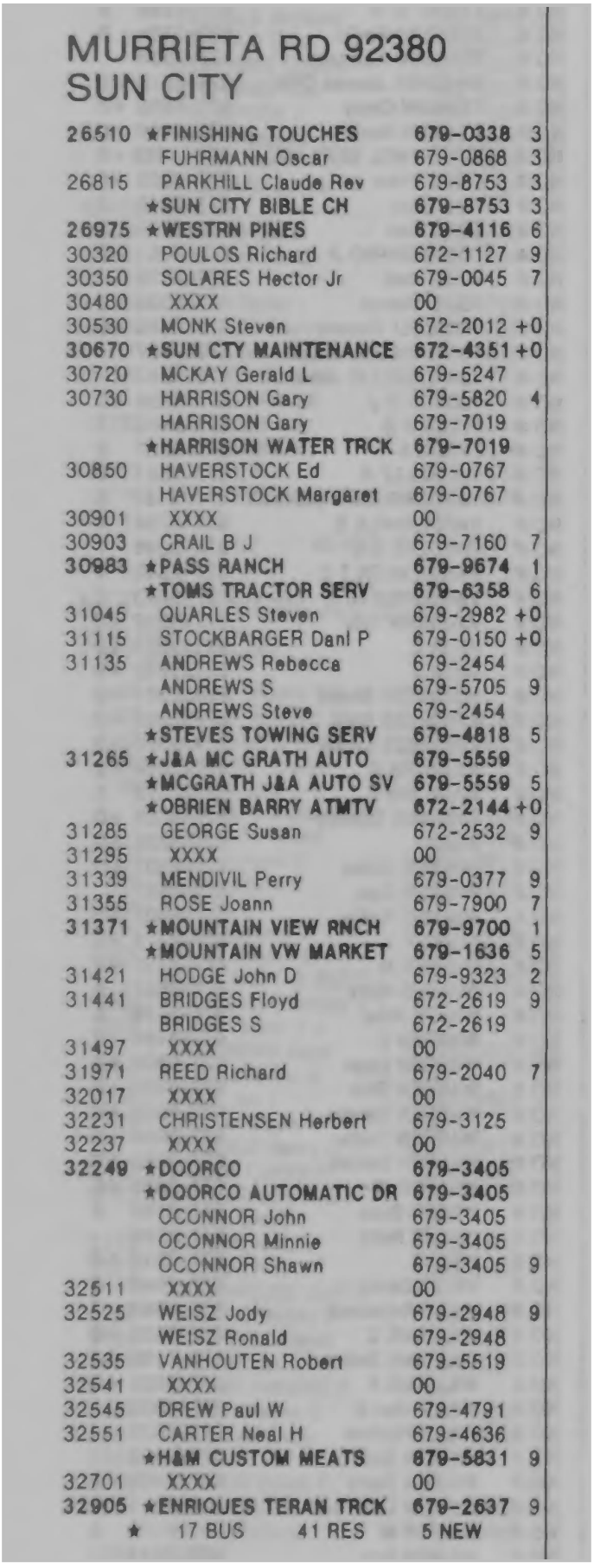

MURRIETA RD 92380
SUN CITY

26510	★FINISHING TOUCHES	679-0338	3
	FUHRMANN Oscar	679-0868	3
26815	PARKHILL Claude Rev	679-8753	3
	★SUN CITY BIBLE CH	679-8753	3
26975	★WESTRN PINES	679-4116	6
30320	POULOS Richard	672-1127	9
30350	SOLARES Hector Jr	679-0045	7
30480	XXXX	00	
30530	MONK Steven	672-2012	+0
30670	★SUN CTY MAINTENANCE	672-4351	+0
30720	MCKAY Gerald L	679-5247	
30730	HARRISON Gary	679-5820	4
	HARRISON Gary	679-7019	
	★HARRISON WATER TRCK	679-7019	
30850	HAVERSTOCK Ed	679-0767	
	HAVERSTOCK Margaret	679-0767	
30901	XXXX	00	
30903	CRAIL B J	679-7160	7
30983	★PASS RANCH	679-9674	1
	★TOMS TRACTOR SERV	679-6358	6
31045	QUARLES Steven	679-2982	+0
31115	STOCKBARGER Danl P	679-0150	+0
31135	ANDREWS Rebecca	679-2454	
	ANDREWS S	679-5705	9
	ANDREWS Steve	679-2454	
	★STEVES TOWING SERV	679-4818	5
31265	★J&A MC GRATH AUTO	679-5559	
	★MCGRATH J&A AUTO SV	679-5559	5
	★OBRIEN BARRY ATMTV	672-2144	+0
31285	GEORGE Susan	672-2532	9
31295	XXXX	00	
31339	MENDIVIL Perry	679-0377	9
31355	ROSE Joann	679-7900	7
31371	★MOUNTAIN VIEW RNCH	679-9700	1
	★MOUNTAIN VW MARKET	679-1636	5
31421	HODGE John D	679-9323	2
31441	BRIDGES Floyd	672-2619	9
	BRIDGES S	672-2619	
31497	XXXX	00	
31971	REED Richard	679-2040	7
32017	XXXX	00	
32231	CHRISTENSEN Herbert	679-3125	
32237	XXXX	00	
32249	★DOORCO	679-3405	
	★DOORCO AUTOMATIC DR	679-3405	
	OCONNOR John	679-3405	
	OCONNOR Minnie	679-3405	
	OCONNOR Shawn	679-3405	9
32511	XXXX	00	
32525	WEISZ Jody	679-2948	9
	WEISZ Ronald	679-2948	
32535	VANHOUTEN Robert	679-5519	
32541	XXXX	00	
32545	DREW Paul W	679-4791	
32551	CARTER Neal H	679-4636	
	★H&M CUSTOM MEATS	679-5831	9
32701	XXXX	00	
32905	★ENRIQUES TERAN TRCK	679-2637	9
	★ 17 BUS 41 RES 5 NEW		

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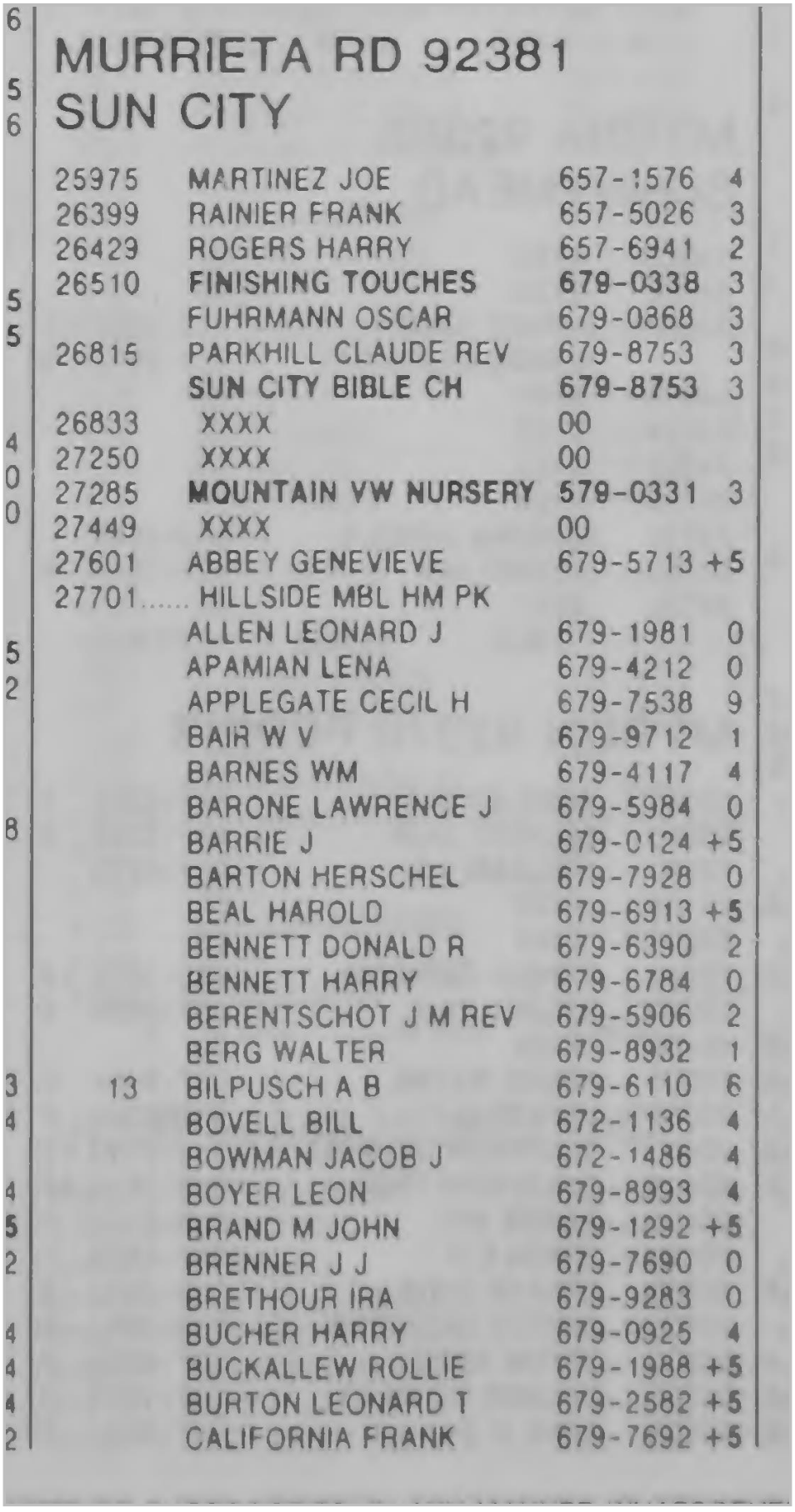

MURRIETA RD 92381
SUN CITY

25975	MARTINEZ JOE	657-1576	4
26399	RAINIER FRANK	657-5026	3
26429	ROGERS HARRY	657-6941	2
26510	**FINISHING TOUCHES**	**679-0338**	3
	FUHRMANN OSCAR	679-0868	3
26815	PARKHILL CLAUDE REV	679-8753	3
	SUN CITY BIBLE CH	**679-8753**	3
26833	XXXX	00	
27250	XXXX	00	
27285	**MOUNTAIN VW NURSERY**	**579-0331**	3
27449	XXXX	00	
27601	ABBEY GENEVIEVE	679-5713	+5
27701.....	HILLSIDE MBL HM PK		
	ALLEN LEONARD J	679-1981	0
	APAMIAN LENA	679-4212	0
	APPLEGATE CECIL H	679-7538	9
	BAIR W V	679-9712	1
	BARNES WM	679-4117	4
	BARONE LAWRENCE J	679-5984	0
	BARRIE J	679-0124	+5
	BARTON HERSCHEL	679-7928	0
	BEAL HAROLD	679-6913	+5
	BENNETT DONALD R	679-6390	2
	BENNETT HARRY	679-6784	0
	BERENTSCHOT J M REV	679-5906	2
	BERG WALTER	679-8932	1
13	BILPUSCH A B	679-6110	6
	BOVELL BILL	672-1136	4
	BOWMAN JACOB J	672-1486	4
	BOYER LEON	679-8993	4
	BRAND M JOHN	679-1292	+5
	BRENNER J J	679-7690	0
	BRETHOUR IRA	679-9283	0
	BUCHER HARRY	679-0925	4
	BUCKALLEW ROLLIE	679-1988	+5
	BURTON LEONARD T	679-2582	+5
	CALIFORNIA FRANK	679-7692	+5

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MURRIETA RD 1985

MURRIETA RD 92381 CONT

	CANALES GEO	679-0077 3
39	CANGEMI JOS	679-3688 8
42	CARSTENSEN BURTON	679-3662 8
	CARUSO VINCENT T	672-1758 4
	CHAPMAN HAROLD J	679-9652 2
30	CHARBONNEAU LOUISE	679-7126 9
	CHECANSKY HESSIE	679-5766 1
	CHRIST MARK	679-9585 1
	CLOW KENNETH	679-9713 1
	COLE EARL	672-2513 +5
	COLE WILLARD F	679-6353 3
	CONN ALBERT	679-6186 1
	COULES VICTOR W	679-4107 0
	CRAMER CLARENCE	672-1368 4
	CRAMER W E	679-3158 3
	CREIGHTON WM	679-1386 0
	CROWE JOHN T	679-9470 1
	CUMMINGS H N	679-5397 0
	DAUDET FRANK L	679-6654 7
	DAVIS GREGORY	679-0514 +5
	DAVIS ROSS	679-7038 +5
	DOXEY LEONORA	672-2550 +5
	DOXIE CLIFFORD	679-3861 +5
	DRAKE MILDRED G	679-9476 3
	DUNSMOOR C PHIL	679-7877 0
	EAVNS FLOYD G	679-0715 +5
	EBERHART BURRIS	679-9573 0
	EDWARDS FRED	679-7814 +5
	FARNSWORTH JAS F	672-1363 +5
	FATZ HARRY	679-0976 4
	FENIMORE MARIE	679-9286 0
	FEST JUSTIN	679-3685 0
	FISHER SID	679-6397 +5
	FLECK WM	679-4875 0
34	FLEENER J F	679-5474
	FOSTER EARL F	672-2604 4
	FREATMAN HAROLD	679-9716 1
	FRIESEN PETER	679-6928 9
	GAGER DOYLE R	679-9257 0
	GALD J V	679-5349 3
	GALLAGHER BOBBIE	679-1674 +5
8	GAMSBY AMOS R	679-5371 9
2	GARLAND C B	679-5747
	GARRISON CLAUDE O	679-6026 +5
	GENSCH MILTON G	679-4325 0
	GLASS T L	679-6512 4
	GLODDECK ALFREAD	672-1271 +5
	GORDON DENNIS	679-9396 3
	HALL HOWARD R	672-2387 +5
	HARVEY DEVERA	679-3513 +5
	HEACOCK CHAS	679-1951 4
	HENDERSON LEONARD	679-8041 1
	HERMANCE F C	679-6275 +5
	HILLSIDE MBLHM EST	**679-2317** 6
	HOLSINGER DAVID O	679-3865 2
	HUTCHINSON ARTHUR	679-5072 +5
	IMLER CARL	679-8430 4
	JACKSON O E	679-8276 1
	JAMIESON VIVIAN	679-9405 0
	JARVIS LESTER J	679-0226 3
	JOHNSON A R	679-9665 1
	JOHNSON BERTIL	679-4487 0
	KAMPFF R G	679-9609 1
	KANATZAR WOODVILLE	679-0649 3
	KELHART WM M	679-9262 0
	KIDD NORMAN	679-1063 +5
20	KINGSBAKER GILBERT	679-7260 9
	KINNEY HENRY E	679-1957 +5
	KLIMUK WALTER	672-1031 4
	KLUGMAN LOUIS	672-2182 +5
	KNIGHT CHAS F	672-2162 +5
	KRAVETZ JULIUS	679-0313 +5
	KROCHOSKY PAULINE	679-4112 0
	LASKEY STANLEY	679-8721 1
	LAUTERWASSER C E	679-6723 +5
	LEVINSON J	679-1040 0
	LEVITT IRVING M	679-1309 3
	LITTLE JOHN	672-2538 +5
	LIUBETICH KATTIE	672-2028 +5
	LORD M E	679-1757 0
	LUHTALA REINO	679-1654 1
	LUKE CHAS P	679-9497 4
	LYNN LE ROY	672-2264 +5
	MACEL O J	679-4208 +5
	MACPHERSON F D	679-7924 0
	MADDOX R E	679-7895 0
	MARINE ELROY	679-6217 +5
	MARTIN JOS	672-2851 +5
	MARTIN MELVIN	679-9843 1
	MCCAMBRIDGE FRANK	679-6218 6
33	MCCORD CLARE	679-4812 8
	MCGINN JAS	679-9776 1
	MCGUIRE FRANCIS	679-5396 6
	MCNEIL W F	679-7861 0
	MCNISH ED	679-9245 0
	MESSENGER GEO H	679-6140 +5
	MILLER IDA	679-1365
35	MILLER WM P	679-3964 9
	MITCHELL H D COL	679-5325 +5
	MLACK FELIX A	679-7976 1
	MOAG E C	679-9360 0
	MORRIS DORIS	679-9060 2
	MOSS HARRY	679-1982 1
	MUELLER AL	679-7906 0
	MURPHY IOWA	679-1668 1
	NELSON E C	679-0180 +5
	NIEBUHR V M	679-7416 +5
	ODONNELL JAS J	679-3490 3
	OESTREICH KENNETH	679-7439 3
	OGILVIE M L	679-6147 0
69	OVERBY W G	679-6327 6
	PAGE CECIL	679-0210 3
	PARK H	672-1146 +5
	PERRY GLADYS	679-1474 +5
	PERRY HERBERT	672-1092 4
	PILOT WALTER	679-7809 0
	POWELL DONALD	679-9096 +5
	RADKE L L	679-6573 2
	RANKIN RALPH H	679-7680 0
	RATZLAFF IRVIN	679-9659 1
	RAUSCHKOLB R E	679-6098 0
	REICH R M	679-7920 0
	REIFF WILLIAM	679-8284 1
	RICE MARVIN	679-7724 0
	RICH LANDON	672-2489 +5
	RIENSTRA OTTO	679-3344 0
	ROBERTS LEROY	679-3083 +5
	ROCKWELL GEO C JR	679-9288 0
	ROLLO J C	679-7846 0
	ROSHENSKY BERNARD	679-9520 +5
	RUSHING HORACE	679-7632 +5
	RUSSELL DAVID J	679-6760 4
	RUST EDGAR H	672-1168 +5
	SCHMID RUDOLF F	672-1595 4
	SCHRODER RUTH E	672-2151 +5
	SCHWARTZ I EDW	679-3015 4
	SCOTT LAWRENCE W	679-0954 4
19	SERTIC ROSE	679-7247 9
16	SHAFFER GENE G	679-5504 8
	SHAPEN NICHOLAS	679-9316 0
	SHATTUCK FRANK L	679-9343 3
	SHUFF MARTHA	672-1229 +5
	SIEBER JOS M	679-7942 4
	SMITH BLAKE	672-1725 4
	SMITH FRED L	672-2642 +5
70	SMITH HERBERT L	679-5115 8
	SMITH REED M	679-6931 9
	SMOCK HARRY F	679-9686 2
	SPENCE FORREST	679-9740 1
	STEINER E	679-0304 +5
	STEWART MARK G	679-7331 1
	STIKELEATHER W A	679-6595 2
	STREIB ROBT	679-8058 2
	THOMAS CLIVE E	679-9038 2
	TRAVERS DON	679-7353 +5
41	UNDERHILL EDDIE	679-7481 9
23	VADNAIS NORMAN G	679-1023 9

MURRIETA RD 92381 CONT

	WALTER CHRISTIAN	679-9258 0
	WALTON JOSEPH	679-9868 1
31	WATKINS RICHARD E	679-5433 9
17	WEBER JOHN	679-6139 8
	WEBER KENNETH N	672-2204 4
	WEISKE MELVIN J	679-9215 0
	WEYHER ELMER	679-7083 2
	WILSON ARVEL T	679-8931 +5
	WOODWARD GEORGE W	679-1910
	YATES FRED	679-9802 1
27701		
27800	SCHENK HEINRICH	679-9139 3
27812	XXXX	00
27830	MUELLER CHESTER E	679-5630 6
27844	WATKINS GEO B	672-1630 4
27860	RAIMONDO JOHN	679-5134
27876	OTIS GERALD W	679-4641
	OTTIS GERALD W	679-4641
27890	ALTHER EDW A	679-6735 8
27906	RICH M W DR	679-6577 8
27920	BORCHERT D W COL	679-5833
27931	**ST VINCENT FERRER**	**679-4531** 3
28018	BURENS GERTRUDE M	679-1308 +5
28025	SIMON JOHN	679-3470
28026	ROBERG L F	679-2616 2
28040	LOCKE W L	679-4168
28041	LAMAR EVELYN	679-5230
28052	VORHES JAS L	679-1862
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28066	XXXX	00
28071	REDLICH MORRIS	679-4830 6
28080	PELAYO EXIQUIO S	679-6922 8
28085	CRUZ CHIC	679-0033 +5
28094	STOCKTON A W	679-5336
28106	MCDONALD C A	679-1652
28120	XXXX	00
28141	NEWMAN GEO	679-5539
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28165	WILSON JOYCE	679-4881
	WOODARD ETHEL	679-4881
28181	BRACKETT WM	679-0178 3
28191	FERMAN ABE	679-4747
28201	FOLLIN STEPHEN F	679-4214 8
28215	SHOEMAKER E W	679-1389
28225	GREENAWYRE A L	679-4706
28286	WERRY JOHN L	672-1542 +5
28287	**TAYLOR ROBT CONCRTE**	**679-7251** 9
28306	ANDERSON RICHARD J	679-1266
28307	WEIDEMANN WALTER J	679-4379
28314	SCHNEIDER FRED	679-6306 6
28315	BAINES WM	679-5612 2
28322	KENEALY ED	679-4506
28323	BERRY F A	679-3535
28376	HOWES OSCAR L	679-2998
28377	XXXX	00
28390	CLARK ESTA RN	679-1058
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28405	WALTERS H D	679-1059
28407	PHARO C H	679-1574 6
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28421	XXXX	00
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28439	BANGS JOS L	679-3508
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28464	KEHE ALWIN W	679-1557
28465	XXXX	00
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28478	GILSON WM	679-1937 4
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28507	PATON N J	679-4553 8
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28537	XXXX	00
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28561	KUGLER LILA	679-5542 7
28572	HEISLER JOHN	679-2486
28573	CHASE NORMAN L	679-1801 8
28590	WRIGHT THOS J	679-7931 0
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28634	HASEMANN ELMER	679-4741
28635	STRICKLAND PAUL B	679-1240 1
28640	PECHA WM	679-4436
28641	RIPLEY FRANK M	679-6305 6
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	MORRISSEY RICHARD	679-5089 +5
28657	GETZELMAN E	679-3140
28670	GREGORY HERBERT C	679-6237 8
28671	REID DORIS G	679-3598
28684	BUCELLATO JOHN	679-7965 0
28685	RUFFINO DONALD	679-9593 1
28698	JOY JOHN	679-1418 4
28699	LEWIS E	679-5655 7
28710	THOMAS KATHLEEN	679-8689 1
	WALLAIN LOY	679-8689 1
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28721	MAZANOWSKI ALFRED	672-1517 4
28722	XXXX	00
28738	VACCA JOHN	679-9424 0
28739	SHARPE WM M	679-3743
28750	WINTER NINA	679-1707 +5
28751	ANDERSEN JOY A	679-3047 2
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28765	MORRIS RALPH E	679-1986
28777	PATMORE LESTER C SR	679-3590
28778	ENGEL HENRY R	672-2187 +5
28798	LEBARON BERNARD	679-2484 6
28799	BILLINGS ELDRIDGE	679-2169 6
28810	HOWARD CHARLOTTE	679-0170 3
28811	XXXX	00
28824	MOORE L K	679-6972 +5
28825	BURNS E J	672-1645 4
28838	CONTRERAS A H	679-3792
28839	NAZARIO ERNEST	679-0902 +5
28850	LUND CHRISTIAN P	679-4639
28851	ROBLEY GEO	679-4504
28864	OLDENBURG HARRY	679-4349
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28913	MOORE LOUIS W	679-5225 7
28926	WILLARD FRED J	679-1994
28927	SCHMOELZER CARL	679-3206
28940	MCCURRY JOHN J	679-6125 6
28941	RENO W B	679-1235 7
29198	CARAVAGALA THOS	679-5864 +5
29202	BRUNSTEDT A J	679-6298 +5
29206	**HELLERS LARRY CONST**	**679-1451** +5
29210	BOMBARD WALTER	672-1779 +5
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29252	BRADDOCK JIM	679-5523 +5
29254	BOGAN WM	679-0318 +5
29256	CAWTHORNE EDW W	679-0045 +5
29260	HUSEN JAS	672-1337 +5
29264	FORSBERG VIOLA B	679-5275 +5
29266	GUTHRIE MARILYN	679-4693 +5
29268	DEAN MARK C	679-9131 +5
29274	HOWATT GAYLE	679-0391 4
29278	LAND LUCINDA	679-7945 +5
29280	BRIDGES M L	672-2114 +5
29282	GULLATT RENE	679-9772 +5
29286	NOTO ED	679-5901 +5
29288	GONZALEZ RALPHINE	679-7333 +5
29322	**PAC SW COMMUNITIES**	**672-1951** +5
29326	TORRISI AL	679-5031 +5
29328	SOOP ELMER C	679-9028 +5
29330	XXXX	00
29332	PAZDERSKI EDW R	679-3365 +5
29336	ROBERTSON CARL W	679-5964 +5
29338	GUNDERSON WILLIS W	679-9020 +5
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MURRIETA RD

MURRIETA RD		92381 CONT
30485	XXXX	00
30530	WARD DAVID F	679-2560
30670	WAREN EDD	679-6446 2
30720	MCKAY GERALD L	679-5247 9
30730	BONZI DOZER	679-7019 4
	HARRISON GARY	679-5820 4
	HARRISON GARY	679-7019 4
30850	HAVERSTOCK ED	679-0767 +5
30901	XXXX	00
30983	CRAIL B J	679-7160 2
	PASS RANCH	679-9674 1
31045	COKE JACK	679-8507 +5
31115	GILDENS DIGGING SRV	679-7705 9
	ROWLES LAMOYNE	679-7705 9
31135	ANDREWS STEVE	679-2454 4
	STEVES TOWING SERV	679-4818 +5
31161	XXXX	00
31265	J&A MCGRATH ATO RPR	679-5559 0
	MCGRATH J&A AUTO SV	679-5559 +5
31285	HARRISON R	672-2521 +5
	S&R EARTH MOVERS	679-2026 +5
31339	SMITH JOLENE	672-2322 4
31355	BREWER OLGA	679-4492 8
31361	GRIEVE GLENN	679-4378 8
31371	MOUNTAIN VW FEED	679-9700 1
	MOUNTAIN VW MARKET	679-1636 +5
31421	HODGE JOHN D	679-9323 2
31497	XXXX	00
31765	XXXX	00
31925	XXXX	00
32231	CHRISTENSEN HERBERT	679-3125
32249	DOORCO	679-3405
32535	VANHOUTEN ROBERT	679-5519 9
32541	ISBELL NICK	679-3275 +5
32545	DREW PAUL W	679-4791 6
32551	CARTER NEAL H	679-4636 8
32701	XXXX	00
32843	XXXX	00
32850	XXXX	00
32905	BEHLING DONALD A	679-1767 6
32935	XXXX	00
★	18 BUS 370 RES	96 NEW

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MURRIETA RD 92381 SUN CITY

27102	BOURIS MIKE	679-6334 6
27601	XXXX	00
27701	HILLSIDE MBL HM PK	
	ALLEN LEONARD J	679-1981 +0
	ANDRUS LEWIS H	679-5913 +0
	APAMIAN ARMEN	679-4212 +0
	APPLEGATE CECIL H	679-7538 9
	APPLEGATE MELINDA	679-7538 9
	BAKER VERN W	679-2885 +0
	BARONE LAWRENCE J	679-5984 +0
	BARTON HERSCEL	679-7928 +0
	BENISH JOS J	679-7757 +0
	BENNETT HARRY	679-6784 +0
13	BILPUSCH A B	679-6110 6
10	BISH L E	679-7439 9
	BRENNER J J	679-7690 +0
	BRETHOUR IRA	679-9283 +0
94	BROWN W A	679-5626 9
15	CALDWELL ROBERT L	679-5132 8
39	CANGEMI JOS	679-3688 8
42	CARSTENSEN BURTON	679-3662 8
	CATCHPOLE MARVIN J	679-5967 +0
	CHAMPION GEO L	679-7052 +0
30	CHARBONNEAU LOUISE	679-7126 9
	CLEMENT GEO N	679-1721 5
29	COLE FRANK E	679-1012 9
23	COLE WILLARD F	679-6353 9
	COLTON SAML J	679-7626 +0
	COULES VICTOR W	679-4107 +0
	CREIGHTON WM	679-1386 +0
	CUMMINGS H N	679-5397 +0
96	DAUDET FRANK L	679-6654 7
	DUNSMOOR C PHIL	679-7877 +0
	EBERHART BURRIS	679-9573 +0
	ENYART LEE E	679-6050 +0
	FENIMORE MARIE	679-9286 +0

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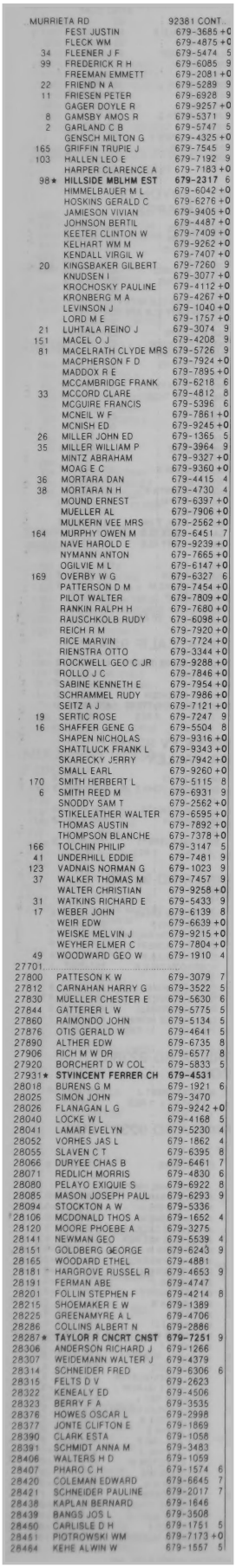

MURRIETA RD 92381 CONT

	FEST JUSTIN	679-3685 +0
	FLECK WM	679-4875 +0
34	FLEENER J F	679-5474 5
99	FREDERICK R H	679-6085 9
	FREEMAN EMMETT	679-2081 +0
22	FRIEND N A	679-5289 9
11	FRIESEN PETER	679-6928 9
	GAGER DOYLE R	679-9257 +0
8	GAMSBY AMOS R	679-5371 9
2	GARLAND C B	679-5747 5
	GENSCH MILTON G	679-4325 +0
165	GRIFFIN TRUPIE J	679-7545 9
103	HALLEN LEO E	679-7192 9
	HARPER CLARENCE A	679-7183 +0
98★	**HILLSIDE MBLHM EST**	**679-2317** 6
	HIMMELBAUER M L	679-6042 +0
	HOSKINS GERALD C	679-6276 +0
	JAMIESON VIVIAN	679-9405 +0
	JOHNSON BERTIL	679-4487 +0
	KEETER CLINTON W	679-7409 +0
	KELHART WM M	679-9262 +0
	KENDALL VIRGIL W	679-7407 +0
20	KINGSBAKER GILBERT	679-7260 9
	KNUDSEN I	679-3077 +0
	KROCHOSKY PAULINE	679-4112 +0
	KRONBERG M A	679-4267 +0
	LEVINSON J	679-1040 +0
	LORD M E	679-1757 +0
21	LUHTALA REINO J	679-3074 9
151	MACEL O J	679-4208 9
81	MACELRATH CLYDE MRS	679-5726 9
	MACPHERSON F D	679-7924 +0
	MADDOX R E	679-7895 +0
	MCCAMBRIDGE FRANK	679-6218 6
33	MCCORD CLARE	679-4812 8
	MCGUIRE FRANCIS	679-5396 6
	MCNEIL W F	679-7861 +0
	MCNISH ED	679-9245 +0
26	MILLER JOHN ED	679-1365 5
35	MILLER WILLIAM P	679-3964 9
	MINTZ ABRAHAM	679-9327 +0
	MOAG E C	679-9360 +0
36	MORTARA DAN	679-4415 4
38	MORTARA N H	679-4730 4
	MOUND ERNEST	679-6397 +0
	MUELLER AL	679-7906 +0
	MULKERN VEE MRS	679-2562 +0
164	MURPHY OWEN M	679-6451 7
	NAVE HAROLD E	679-9239 +0
	NYMANN ANTON	679-7665 +0
	OGILVIE M L	679-6147 +0
169	OVERBY W G	679-6327 6
	PATTERSON D M	679-7454 +0
	PILOT WALTER	679-7809 +0
	RANKIN RALPH H	679-7680 +0
	RAUSCHKOLB RUDY	679-6098 +0
	REICH R M	679-7920 +0
	RICE MARVIN	679-7724 +0
	RIENSTRA OTTO	679-3344 +0
	ROCKWELL GEO C JR	679-9288 +0
	ROLLO J C	679-7846 +0
	SABINE KENNETH E	679-7954 +0
	SCHRAMMEL RUDY	679-7986 +0
	SEITZ A J	679-7121 +0
19	SERTIC ROSE	679-7247 9
16	SHAFFER GENE G	679-5504 8
	SHAPEN NICHOLAS	679-9316 +0
	SHATTLUCK FRANK L	679-9343 +0
	SKARECKY JERRY	679-7942 +0
	SMALL EARL	679-9260 +0
170	SMITH HERBERT L	679-5115 8
6	SMITH REED M	679-6931 9
	SNODDY SAM T	679-2562 +0
	STIKELEATHER WALTER	679-6595 +0
	THOMAS AUSTIN	679-7892 +0
	THOMPSON BLANCHE	679-7378 +0
166	TOLCHIN PHILIP	679-3147 5
41	UNDERHILL EDDIE	679-7481 9
123	VADNAIS NORMAN G	679-1023 9
37	WALKER THOMAS M	679-7457 9
	WALTER CHRISTIAN	679-9258 +0
31	WATKINS RICHARD E	679-5433 9
17	WEBER JOHN	679-6139 8
	WEIR EDW	679-6639 +0
	WEISKE MELVIN J	679-9215 +0
	WEYHER ELMER C	679-7804 +0
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27800	PATTESON K W	679-3079 7
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27830	MUELLER CHESTER E	679-5630 6
27844	GATTERER L W	679-5775 5
27860	RAIMONDO JOHN	679-5134 5
27876	OTIS GERALD W	679-4641 5
27890	ALTHER EDW	679-6735 8
27906	RICH M W DR	679-6577 8
27920	BORCHERT D W COL	679-5833 5
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28018	BURENS G M	679-1921 6
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28026	FLANAGAN L G	679-9242 +0
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28055	SLAVEN C T	679-6395 8
28066	DURYEE CHAS B	679-6461 7
28071	REDLICH MORRIS	679-4830 6
28080	PELAYO EXIQUIE S	679-6922 8
28085	MASON JOSEPH PAUL	679-6293 9
28094	STOCKTON A W	679-5336
28106	MCDONALD THOS A	679-1652 4
28120	MOORE PHOEBE A	679-3275
28141	NEWMAN GEO	679-5539 4
28151	GOLDBERG GEORGE	679-6243 9
28165	WOODARD ETHEL	679-4881
28181	HARGROVE RUSSEL R	679-4653 9
28191	FERMAN ABE	679-4747
28201	FOLLIN STEPHEN F	679-4214 8
28215	SHOEMAKER E W	679-1389
28225	GREENAMYRE A L	679-4706
28286	COLLINS ALBERT N	679-2886
28287★	**TAYLOR R CNCRT CNST**	**679-7251** 9
28306	ANDERSON RICHARD J	679-1266
28307	WEIDEMANN WALTER J	679-4379
28314	SCHNEIDER FRED	679-6306 6
28315	FELTS D V	679-2623
28322	KENEALY ED	679-4506
28323	BERRY F A	679-3535
28376	HOWES OSCAR L	679-2998
28377	JONTE CLIFTON E	679-1869
28390	CLARK ESTA	679-1058
28391	SCHMIDT ANNA M	679-3483
28406	WALTERS H D	679-1059
28407	PHARO C H	679-1574 6
28420	COLEMAN EDWARD	679-6645 7
28421	SCHNEIDER PAULINE	679-2017 7
28438	KAPLAN BERNARD	679-1646
28439	BANGS JOS L	679-3508
28450	CARLISLE D H	679-1751 5
28451	PIOTROWSKI WM	679-7173 +0
28464	KEHE ALWIN W	679-1557 5

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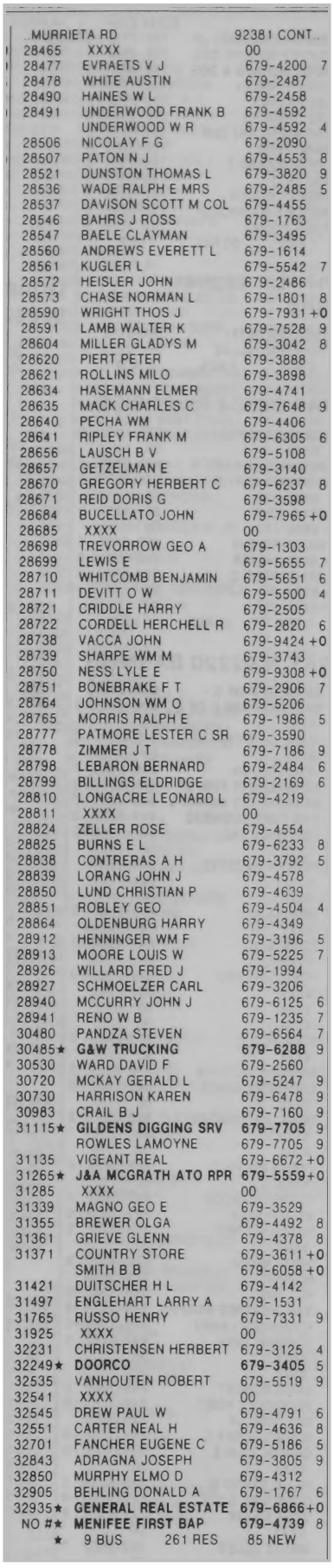
MURRIETA RD 1980



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28491	UNDERWOOD FRANK B	679-4592	
	UNDERWOOD W R	679-4592	4
28506	NICOLAY F G	679-2090	
28507	PATON N J	679-4553	8
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28536	WADE RALPH E MRS	679-2485	5
28537	DAVISON SCOTT M COL	679-4455	
28546	BAHRS J ROSS	679-1763	
28547	BAELE CLAYMAN	679-3495	
28560	ANDREWS EVERETT L	679-1614	
28561	KUGLER L	679-5542	7
28572	HEISLER JOHN	679-2486	
28573	CHASE NORMAN L	679-1801	8
28590	WRIGHT THOS J	679-7931	+0
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28621	ROLLINS MILO	679-3898	
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28670	GREGORY HERBERT C	679-6237	8
28671	REID DORIS G	679-3598	
28684	BUCELLATO JOHN	679-7965	+0
28685	XXXX	00	
28698	TREVORROW GEO A	679-1303	
28699	LEWIS E	679-5655	7
28710	WHITCOMB BENJAMIN	679-5651	6
28711	DEVITT O W	679-5500	4
28721	CRIDDLE HARRY	679-2505	
28722	CORDELL HERCHELL R	679-2820	6
28738	VACCA JOHN	679-9424	+0
28739	SHARPE WM M	679-3743	
28750	NESS LYLE E	679-9308	+0
28751	BONEBRAKE F T	679-2906	7
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28778	ZIMMER J T	679-7186	9
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28799	BILLINGS ELDRIDGE	679-2169	6
28810	LONGACRE LEONARD L	679-4219	
28811	XXXX	00	
28824	ZELLER ROSE	679-4554	
28825	BURNS E L	679-6233	8
28838	CONTRERAS A H	679-3792	5
28839	LORANG JOHN J	679-4578	
28850	LUND CHRISTIAN P	679-4639	
28851	ROBLEY GEO	679-4504	4
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28912	HENNINGER WM F	679-3196	5
28913	MOORE LOUIS W	679-5225	7
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30530	WARD DAVID F	679-2560	
30720	MCKAY GERALD L	679-5247	9
30730	HARRISON KAREN	679-6478	9
30983	CRAIL B J	679-7160	9
31115★	**GILDENS DIGGING SRV**	**679-7705**	9
	ROWLES LAMOYNE	679-7705	9
31135	VIGEANT REAL	679-6672	+0
31265★	**J&A MCGRATH ATO RPR**	**679-5559**	+0
31285	XXXX	00	
31339	MAGNO GEO E	679-3529	
31355	BREWER OLGA	679-4492	8
31361	GRIEVE GLENN	679-4378	8
31371	COUNTRY STORE	679-3611	+0
	SMITH B B	679-6058	+0
31421	DUITSCHER H L	679-4142	
31497	ENGLEHART LARRY A	679-1531	
31765	RUSSO HENRY	679-7331	9
31925	XXXX	00	
32231	CHRISTENSEN HERBERT	679-3125	4
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32541	XXXX	00	
32545	DREW PAUL W	679-4791	6
32551	CARTER NEAL H	679-4636	8
32701	FANCHER EUGENE C	679-5186	5
32843	ADRAGNA JOSEPH	679-3805	9
32850	MURPHY ELMO D	679-4312	
32905	BEHLING DONALD A	679-1767	6
32935★	**GENERAL REAL ESTATE**	**679-6866**	+0
NO #★	**MENIFEE FIRST BAP**	**679-4739**	8
★	9 BUS 261 RES	85 NEW	

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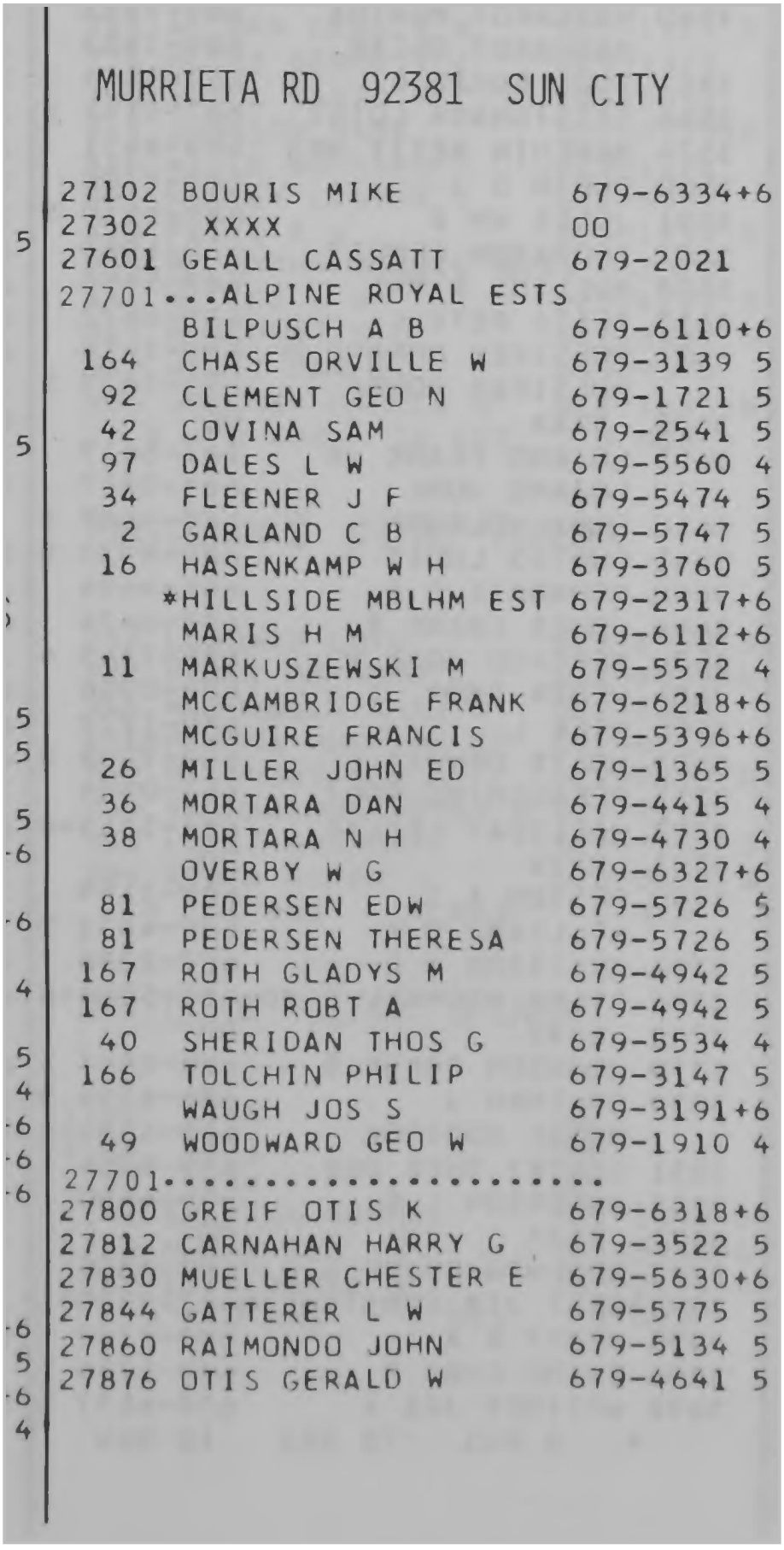
MURRIETA RD 1976



MURRIETA RD 92381 SUN CITY

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	27601	GEALL CASSATT	679-2021
	27701	...ALPINE ROYAL ESTS	
		BILPUSCH A B	679-6110+6
	164	CHASE ORVILLE W	679-3139 5
	92	CLEMENT GEO N	679-1721 5
5	42	COVINA SAM	679-2541 5
	97	DALES L W	679-5560 4
	34	FLEENER J F	679-5474 5
	2	GARLAND C B	679-5747 5
	16	HASENKAMP W H	679-3760 5
		*HILLSIDE MBLHM EST	679-2317+6
		MARIS H M	679-6112+6
	11	MARKUSZEWSKI M	679-5572 4
5		MCCAMBRIDGE FRANK	679-6218+6
5		MCGUIRE FRANCIS	679-5396+6
	26	MILLER JOHN ED	679-1365 5
5	36	MORTARA DAN	679-4415 4
·6	38	MORTARA N H	679-4730 4
		OVERBY W G	679-6327+6
·6	81	PEDERSEN EDW	679-5726 5
	81	PEDERSEN THERESA	679-5726 5
4	167	ROTH GLADYS M	679-4942 5
	167	ROTH ROBT A	679-4942 5
5	40	SHERIDAN THOS G	679-5534 4
4	166	TOLCHIN PHILIP	679-3147 5
·6		WAUGH JOS S	679-3191+6
·6	49	WOODWARD GEO W	679-1910 4
·6	27701	.....	
	27800	GREIF OTIS K	679-6318+6
	27812	CARNAHAN HARRY G	679-3522 5
	27830	MUELLER CHESTER E	679-5630+6
·6	27844	GATTERER L W	679-5775 5
5	27860	RAIMONDO JOHN	679-5134 5
·6	27876	OTIS GERALD W	679-4641 5
4			

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..MURRIETA RD 92381 CONT..

27890 SOLTIS MARGARET R 679-3454 5
27906 HALL WILBUR T 679-2668 5
27920 BORCHERT D W COL 679-5833 5
27931*ST VINCENT FERR CH 679-4531
28018 BURENS G M 679-1921+6
28025 SIMON JOHN 679-3470
28026 WILLEMIN A V 679-2792+6
28040 LOCKE W L 679-4168 5
28041 LAMAR EVELYN 679-5230 4
28052 VORHES JAS L 679-1862 4
28055 RITNER LOUIS 679-1694
28066 WATTS PAUL L 679-6188+6
28071 REDLICH MORRIS 679-4830+6
28080 XXXX OO
28085 THOMPSON C R LT COL 679-4902
28094 STOCKTON A W 679-5336
28106 MCDONALD THOS A 679-1652 4
28120 MOORE PHOEBE A 679-3275
28141 NEWMAN GEO 679-5539 4
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28191 FERMAN ABE 679-4747
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28215 SHOEMAKER E W 679-1389
28225 GREENAMYRE A L 679-4706
28286 COLLINS ALBERT N 679-2886
28287 SMITH R LEE 679-3589
28306 ANDERSON RICHARD J 679-1266
28307 WEIDEMANN WALTER J 679-4379
28314 SCHNEIDER FRED 679-6306+6
28315 FELTS E B 679-2623
28322 KENEALY ED 679-4506
28323 BERRY F A 679-3535
28376 HOWES OSCAR L 679-2998
28377 JONTE CLIFTON E 679-1869
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28439 BANGS JOS L 679-3508
28450 CARLISLE D H 679-1751 5
28451 FILLER ESTHER MRS 679-3486
28464 KEHE ALWIN W 679-1557 5
28465 COLE VALENTINA 679-5144+6
28477 XXXX OO
28478 WHITE AUSTIN 679-2487
28490 HAINES W L 679-2458
28491 UNDERWOOD FRANK B 679-4592
UNDERWOOD W R 679-4592 4
28506 NICOLAY F G 679-2090
28507 XXXX OO
28521 DENNEY RUSSELL E 679-5084+6
28536 WADE ALICE E 679-2485 5
28537 DAVISON SCOTT M COL 679-4455
28546 BAHRS J ROSS 679-1763
28547 BAELE CLAYMAN 679-3495
28560 ANDREWS EVERETT L 679-1614
28561 LODWICK A R JR 679-5387+6
28572 HEISLER JOHN 679-2486
28573 TYLER A CLIFFORD 679-3053 4
28590 SIMPSON ALAN F 679-5593 4
28591 KING J VICTOR 679-5573 5
28604 MILLER DENVER LYAL 679-3042
28620 PIERT PETER 679-3888
28621 ROLLINS MILO 679-3898
28634 HASEMANN ELMER 679-4741
28635 ANDREWS WM M 679-3770
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28670 ASH C W 679-2004
VANGINKEL A A MRS 679-2004
28671 REID DORIS G 679-3598
28684 XXXX OO
28685 ROBINSON H A 679-4863
28698 TREVORROW GEO A 679-1303
28699 WOODY DAN 679-2168
28710 WHITCOMB BENJAMIN 679-5651+6
28711 DEVITT O W 679-5500 4
28721 CRIDDLE HARRY 679-2505
28722 CORDELL HERCHELL R 679-2820+6
28738 LOEFFLER LEO 679-3263+6
28739 SHARPE WM M 679-3743
28750 KUNTZMANN LEROY M 679-3892
28751 HODSDON I E 679-2734 4
28764 JOHNSON WM O 679-5206
28765 MORRIS RALPH E 679-1986 5
28777 PATMORE LESTER G SR 679-3590
28778 BALOUGH PAUL C 679-2830
28798 LEBARON BERNARD 679-2484+6
28799 BILLINGS ELDRIDGE 679-2169+6
28810 LONGACRE LEONARD L 679-4219
28811 XXXX OO
28824 ZELLER ROSE 679-4554
28825 JARRETT DOUGLAS R 679-3469
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28839 LORANG JOHN J 679-4578
28850 LUND CHRISTIAN P 679-4639
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31295 GONZALES DAVID S 679-2804+6
32545 DREW PAUL W 679-4791+6
32551*CARTER N H LNDSCPNG 679-4636+6
32905 BEHLING DONALD A 679-1767+6
* 3 BUS 149 RES 32 NEW

APPENDIX G

Site Owner/Occupant Questionnaire

The following questions are for: (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 and/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 multi-family property containing both residential and commercial uses, residential occupants do not need to respond to this questionnaire unless they are involved in or have knowledge of the commercial or other uses.

Address: Located between Thorton Ave and Esther Lane (future) east of upper Crest Ct
Description of Site: 2 vacant parcels totaling 10 acres. Flat.

Question	Owner			Occupants (if applicable)		
1a. Is the property used for an industrial use?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
1b. Is any adjoining property used for an industrial use?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
2a. Have you observed evidence of or do you have any knowledge that the property has been used for an industrial use in the past?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
2b. Have you observed evidence of or do you have any knowledge that any adjoining property has been used for an industrial use in the past?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
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)?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
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)?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						

Question	Owner			Occupants (if applicable)		
4a. Have you observed evidence of or do you have any knowledge that the property was previously 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)?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
4b. Have you observed evidence of or do you have any knowledge that any adjoining property was previously 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)?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
5a. Are there currently any damaged or discarded automotive or industrial batteries, petroleum products, pesticides, paints or other chemicals in individual containers of > 5gal (19L) in volume or 50gal (190L) in the aggregate, stored on or used at the property or facility?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
5b. Have you observed evidence of or do you have any knowledge that there have been previously any damaged or discarded automotive or industrial batteries, petroleum products, pesticides, paints or other chemicals in individual containers of > 5gal (19L) in volume or 50gal (190L) in the aggregate, stored on or used at the property or facility?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
6a. Are there currently any industrial drums (typically 55 gal [208L]) or sacks of chemicals located on the property or at the facility?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
6b. Have you observed evidence of or do you have any knowledge that there have been previously any industrial drums (typically 55 gal [208L]) or sacks of chemicals located on the property or at the facility?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
7a. Have you observed evidence of or do you have any knowledge that fill dirt has been brought onto the property that originated from a contaminated site?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						

7b. Have you observed evidence of or do you have any knowledge that fill dirt has been brought onto the property that is of an unknown origin?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
8a. Are there currently any pits, ponds, or lagoons located on the property in connection with waste treatment or disposal?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
8b. Have you observed evidence of or do you have any knowledge that there have been previously any pits, ponds, or lagoons located on the property in connection with waste treatment or disposal?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
9a. Is there currently any stained soil on the property?	Yes ☐	No ☐	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
9b. Have you observed evidence of or do you have any knowledge that there has been previously any stained soil on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
10a. Are there currently any registered or unregistered storage tanks (aboveground or underground) located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
10b. Have you observed evidence of or do you have any knowledge that there have been previously any registered or unregistered storage tanks (aboveground or underground) located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
11a. Are there currently any vent pipe, 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 ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
11b. Have you observed evidence of or do you have any knowledge that there have been previously any vent pipe, 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 ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						

12a. Are there currently any flooring, drains, or walls located within the facility that are stained by substances other than water or were emitting foul odors?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
12b. Have you observed evidence of or do you have any knowledge that there have been previously any flooring, drains, or walls located within the facility that are stained by substances other than water or were emitting foul odors?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
13a. If the property is served by a private well or non-public water system, is there evidence of or do you have knowledge that contaminants have been identified in the well or system that exceed guidelines applicable to the water system?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
13b. If the property is served by a private well or non-public water system, is there evidence of or do you have knowledge that the well has been designated as contaminated by any government/health agency?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
14. Do you have any knowledge of environmental liens of governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
15a. Have you been informed of the past existence of hazardous substances and/or petroleum products with respect to the property or any facility located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
15b. Have you been informed of the current existence of hazardous substances and/or petroleum products with respect to the property or any facility located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
15c. Have you been informed of the past existence of environmental violations with respect to the property or any facility located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
15d. Have you been informed of the current existence of environmental violations with respect to the property or any facility located on the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						

16. Do you have any knowledge of any environmental site assessment of the property or facility that indicated the presence of hazardous substances and/or petroleum products on, or contamination of, the property or recommended further assessment of the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
17. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substances and/or petroleum products involving the property by any owner or occupant of the property?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
18a. Does the property discharge wastewater, on or adjacent to the property, other than stormwater, into a stormwater sewer system?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
18b. Does the property discharge wastewater, on or adjacent to the property, other than stormwater, into a sanitary sewer system?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
19. Have you observed evidence of or do you have any knowledge that any hazardous substances and/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 ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						
20. Is there a transformer, capacitor, or any hydraulic equipment for which there are records indicating the presence of PCBs?	Yes ☐	No ☑	Unk ☐	Yes ☐	No ☐	Unk ☐
Explain if yes:						

Unk – “unknown” or “no response”

Additional Questions

A) Describe the current use of the property.

vacant

B) How long has the property been used for this purpose?

unknown

C) How long have you owned the property?

1 month

D) List the existing structures on the property and their age.

none

E) Describe the past uses, owners, and operators of the property. (Be as detailed as possible and note approximate time periods.)

unknown

This questionnaire was completed by:

Name:	Stefan LaCasse
Title:	President - Quinn Communities
Address:	364 2nd Str. #5
	Encinitas CA 92024
Phone number:	760 942 9991 x101
Date:	3-25-22

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

Section not applicable

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

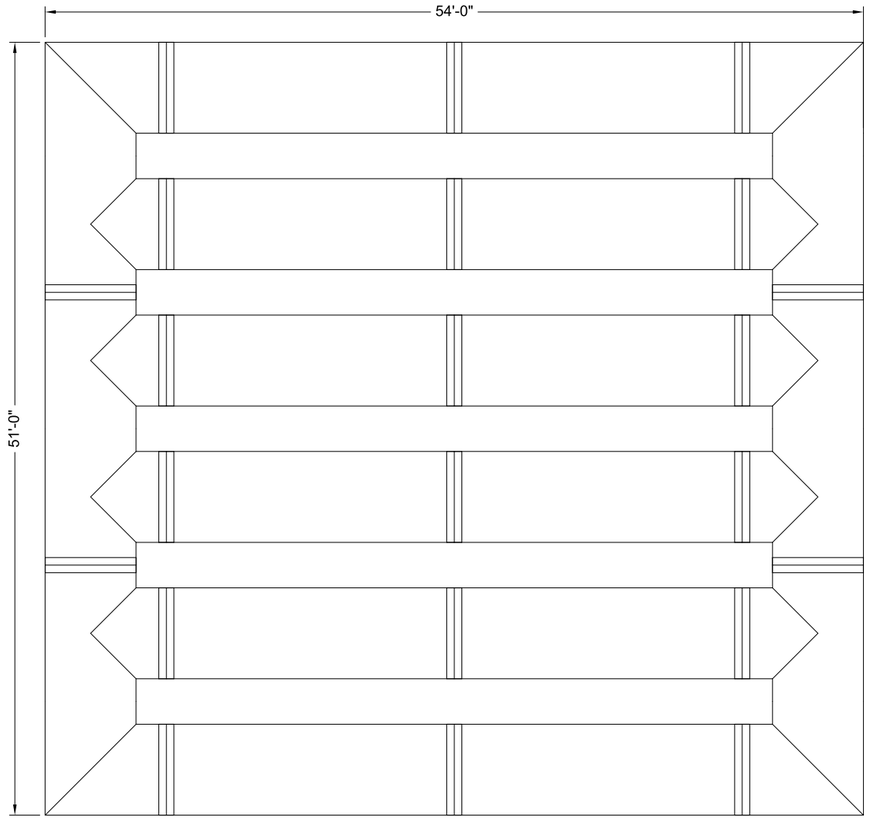
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 354 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 15,000 CF
- PIPE STORAGE VOLUME = 10,009 CF
- BACKFILL STORAGE VOLUME = 5,197 CF
- TOTAL STORAGE PROVIDED = 15,206 CF

PIPE DETAILS
- DIAMETER = 72"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = PERFORATED
- BARREL SPACING = 36"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 12"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 9"



ASSEMBLY
SCALE: 1" = 10'

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE $2\frac{2}{3}$" x $\frac{1}{2}$" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

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www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
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CONTECH® CMP DETENTION SYSTEMS
CONTECH **DYODS** DRAWING

DYO16282 Quinn Communities Menifee
Central Chamber
Sun City, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
10422	16282	4/25/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		

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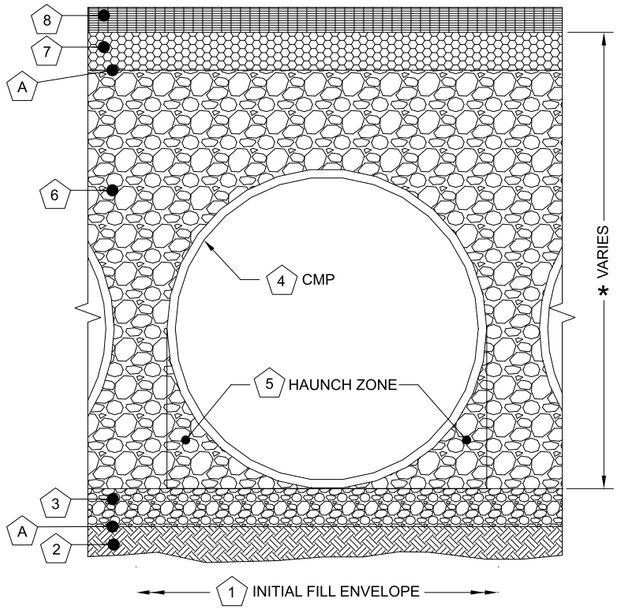


	Infiltration Systems - CMP Infiltration & CMP Perforated Drainage Pipe			
	Material Location	Description	Material Designation	Designation
8	Rigid or Flexible Pavement (if applicable)			
7	Road Base (if applicable			
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types. Wrap the trench only.
6	Backfill	Infiltration pipe systems have a pipe perforation sized of 3/8" diameter. An open graded, free draining stone, with a particle size of ½" – 2 ½" diameter is recommended.	AASHTO M 145-A-1 or AASHTO M 43 - 3, 4	Material shall be worked into the pipe haunches by means of shovel-slicing, rodding, air-tamper, vibratory rod, or other effective methods. Compaction of all placed fill material is necessary and shall be considered adequate when no further yielding of the material is observed under the compactor, or under foot, and the Project Engineer or his representative is satisfied with the level of compaction"
3	Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57	For soil aggregates larger than 3/8" a dedicated bedding layer is not required for CMP. Pipe may be placed on the trench bottom comprised of native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Soil aggregates less than 3/8" and unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation.
A	Geotextile Layer	None	None	Contech does not recommend geotextiles be placed under the invert of Infiltration systems due to the propensity for geotextiles to clog over time.
*	Note: The listed AASHTO designations are for gradation only. The stone must also be angular and clean.			

1 MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT.

FOUNDATION/BEDDING PREPARATION

2 PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

5 HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS.

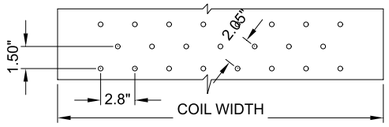
BACKFILL

MATERIAL SHALL BE PLACED IN 8"-10" MAXIMUM LIFTS. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE DEFLECTIONS WITHIN THE SYSTEM AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

EQUIPMENT USED TO PLACE AND COMPACT THE BACKFILL SHALL BE OF A SIZE AND TYPE SO AS NOT TO DISTORT, DAMAGE, OR DISPLACE THE PIPE. ATTENTION MUST BE GIVEN TO PROVIDING ADEQUATE MINIMUM COVER FOR SUCH EQUIPMENT. MAINTAIN BALANCED LOADING ON ALL PIPES IN THE SYSTEM DURING ALL SUCH OPERATIONS.

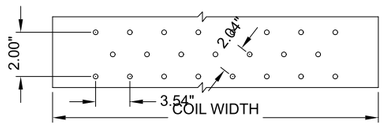
OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. REFER TO TYPICAL BACKFILL DETAIL FOR MATERIAL REQUIRED.

2 2/3" x 1/2" CORRUGATION - STEEL AND ALUMINUM CMP EDGE SPACING EQUAL ON BOTH SIDES



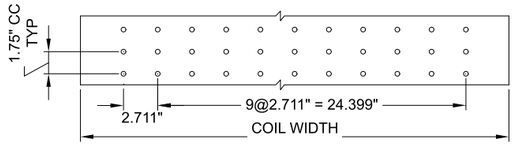
OPEN AREA = 3.76 SQ IN/SQ FT

3" x 1" CORRUGATION - STEEL AND ALUMINUM CMP (COIL PROVIDED FROM CONTECH LANTANA, FL PLANT)



OPEN AREA = 4.16 SQ IN/SQ FT

5" x 1" CORRUGATION - STEEL ONLY
EDGE SPACING EQUAL ON BOTH SIDES



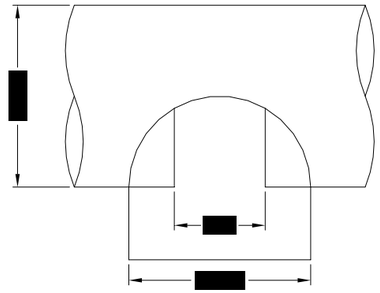
OPEN AREA = 3.33 SQ IN/SQ FT

NOTES:

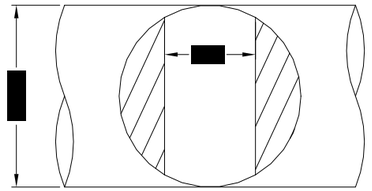
1. PERFORATIONS MEET AASHTO AND ASTM SPECIFICATIONS.
2. PERFORATION OPEN AREA PER SQUARE FOOT OF PIPE IS BASED ON THE NOMINAL DIAMETER AND LENGTH OF PIPE.
3. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
4. ALL HOLES ⌀3/8".

TYPICAL PERFORATION DETAIL

SCALE: N.T.S.



PLAN

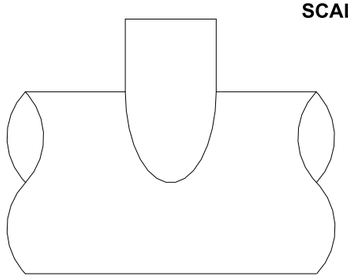


FRONT

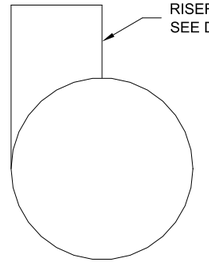
TYPICAL MANWAY DETAIL

SCALE: N.T.S.

NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.



ELEVATION

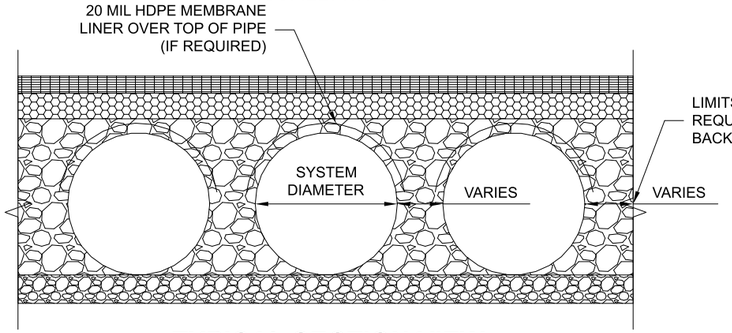


END

NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.

TYPICAL RISER DETAIL

SCALE: N.T.S.



TYPICAL SECTION VIEW

LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

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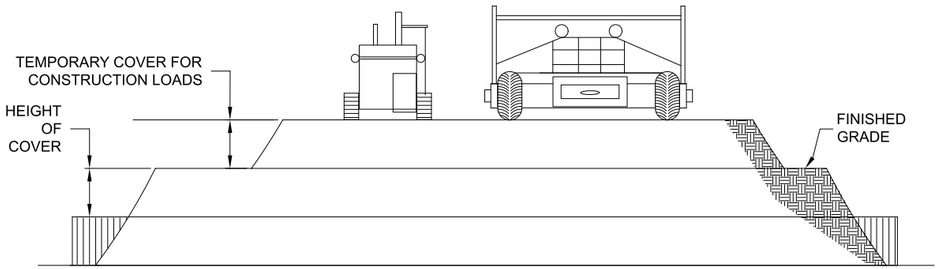


CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

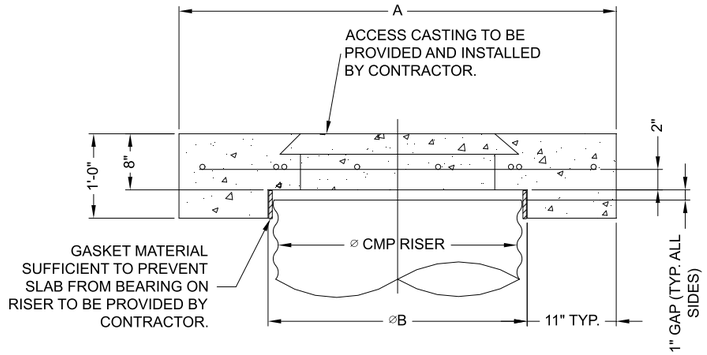
APPLICABLE POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

APPLICABLE
HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.
REQUIREMENTS
INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

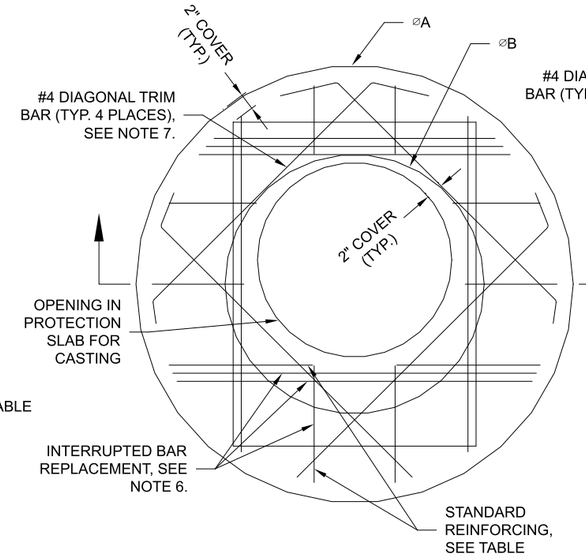
NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



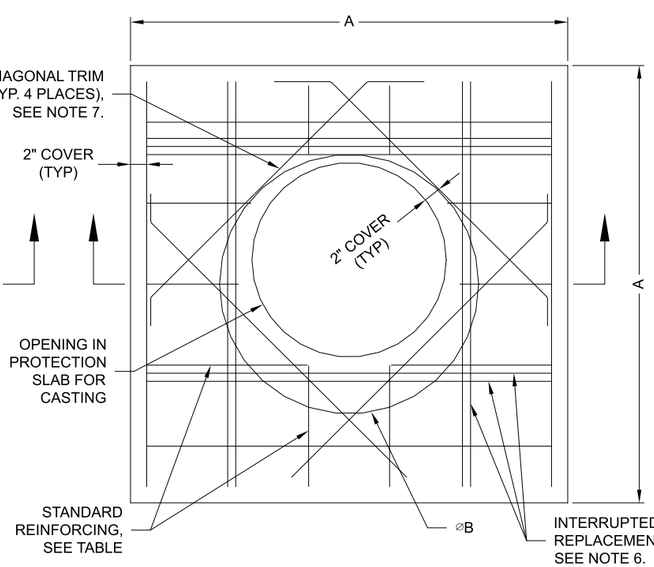
SECTION VIEW

REINFORCING TABLE				
⌀ CMP RISER	A	⌀ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	⌀ 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	⌀ 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	⌀ 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	⌀ 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	⌀ 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO16282 Quinn Communities Menifee
Central Chamber
Sun City, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
10422	16282	4/25/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		

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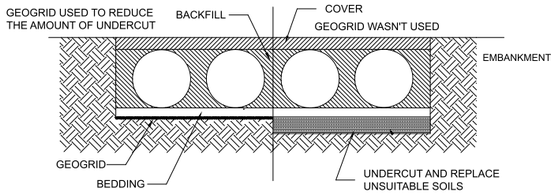
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

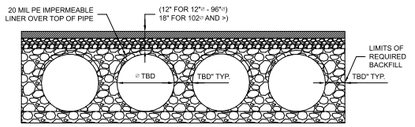


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

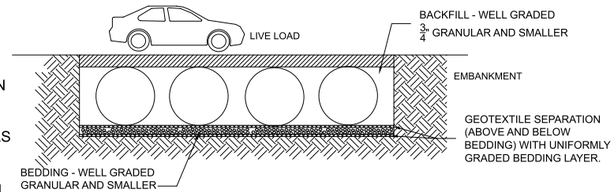
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

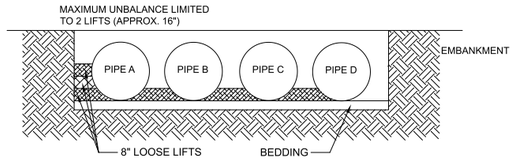
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



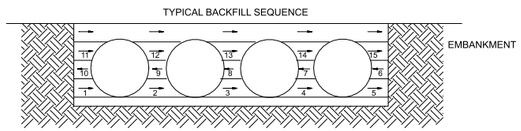
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

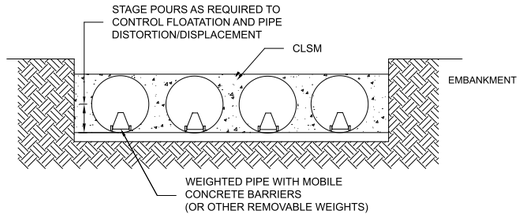


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

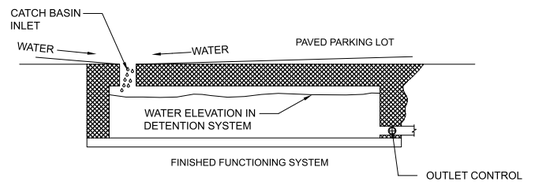


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO16282 Quinn Communities Menifee
Central Chamber
Sun City, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
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DESIGNED: DYO	DRAWN: DYO	
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SHEET NO.: 1		

Hydrodynamic Separation Product Calculator

Quinn Communities

DA 1

CDS CDS2025-5-C

Project Information					
Project Name	Quinn Communities			**Option #**	A
Country	UNITED_STATES	**State**	California	**City**	Menifee

Contact Information			
First Name	Hector	**Last Name**	Paez
Company	FMCivil Engineers	**Phone #**	951-412-1412
Email	hector.paez@fmcivil.com		

Design Criteria					
Site Designation	DA 1			**Sizing Method**	Treatment Flow Rate
Screening Required?	Yes	**Treatment Flow Rate**	1.20	**Peak Flow (cfs)**	12.00
Groundwater Depth (ft)	>15	**Pipe Invert Depth (ft)**	5 - 10	**Bedrock Depth (ft)**	>15
Multiple Inlets?	No	**Grate Inlet Required?**	Yes	**Pipe Size (in)**	12.00
Required Particle Size Distribution?	No	**90° between two inlets?**	N/A		

Treatment Selection				
Treatment Unit	CDS	**System Model**	CDS2025-5-C	
Target Removal	80%	**Particle Size Distribution (PSD)**	WADOE	

Hydrodynamic Separation Product Calculator

Quinn Communities

DA 1

CDS CDS2025-5-C

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	% Rainfall Volume[1]	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	
1 -								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								

SECTION (_____)
STORM WATER TREATMENT DEVICE

1.0 GENERAL

1.1 This item shall govern the furnishing and installation of the CDS® by Contech Engineered Solutions LLC, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.

1.2 The Contractor shall furnish all labor, equipment and materials necessary to install the storm water treatment device(s) (SWTD) and appurtenances specified in the Drawings and these specifications.

1.3 The manufacturer of the SWTD shall be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least five (5) years and which have a history of successful production, acceptable to the Engineer. In accordance with the Drawings, the SWTD(s) shall be a CDS® device manufactured by:

Contech Engineered Solutions LLC
9025 Centre Pointe Drive
West Chester, OH, 45069
Tel: 1 800 338 1122

1.4 Related Sections

1.4.1 Section 02240: Dewatering
1.4.2 Section 02260: Excavation Support and Protection
1.4.3 Section 02315: Excavation and Fill
1.4.4 Section 02340: Soil Stabilization

1.5 All components shall be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.

1.6 The manufacturer shall guarantee the SWTD components against all manufacturer originated defects in materials or workmanship for a period of twelve (12) months from the date the components are delivered to the owner for installation. The manufacturer shall upon its determination repair, correct or replace any manufacturer originated defects advised in writing to the manufacturer within the referenced warranty period. The use of SWTD components shall be limited to the application for which it was specifically designed.

1.7 The SWTD manufacturer shall submit to the Engineer of Record a “Manufacturer’s Performance Certification” certifying that each SWTD is capable of achieving the specified removal efficiencies listed in these specifications. The certification shall be supported by independent third-party research

1.8 No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

2.0 MATERIALS

2.1 Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Precast concrete components shall conform to applicable sections of ASTM C 478, ASTM C 857 and ASTM C 858 and the following:

- 2.1.1 Concrete shall achieve a minimum 28-day compressive strength of 4,000 pounds per square-inch (psi);
- 2.1.2 Unless otherwise noted, the precast concrete sections shall be designed to withstand lateral earth and AASHTO H-20 traffic loads;
- 2.1.3 Cement shall be Type III Portland Cement conforming to ASTM C 150;
- 2.1.4 Aggregates shall conform to ASTM C 33;
- 2.1.5 Reinforcing steel shall be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A 615, A 185, or A 497.
- 2.1.6 Joints shall be sealed with preformed joint sealing compound conforming to ASTM C 990.
- 2.1.7 Shipping of components shall not be initiated until a minimum compressive strength of 4,000 psi is attained or five (5) calendar days after fabrication has expired, whichever occurs first.

2.2 Internal Components and appurtenances shall conform to the following:

- 2.2.1 Screen and support structure shall be manufactured of Type 316 and 316L stainless steel conforming to ASTM F 1267-01;
- 2.2.2 Hardware shall be manufactured of Type 316 stainless steel conforming to ASTM A 320;
- 2.2.3 Fiberglass components shall conform to applicable sections of ASTM D-4097
- 2.2.4 Access system(s) conform to the following:
- 2.2.5 Manhole castings shall be designed to withstand AASHTO H-20 loadings and manufactured of cast-iron conforming to ASTM A 48 Class 30.

3.0 PERFORMANCE

3.1 The SWTD shall be sized to either achieve an 80 percent average annual reduction in the total suspended solid load with a particle size distribution having a mean particle size (d_{50}) of 125 microns unless otherwise stated.

3.2 The SWTD shall be capable of capturing and retaining 100 percent of pollutants greater than or equal to 2.4 millimeters (mm) regardless of the pollutant's specific gravity (i.e.: floatable and neutrally buoyant materials) for flows up to the device's rated-treatment capacity. The SWTD shall be designed to retain all previously captured pollutants addressed by this

subsection under all flow conditions. The SWTD shall be capable of capturing and retaining total petroleum hydrocarbons. The SWTD shall be capable of achieving a removal efficiency of 92 and 78 percent when the device is operating at 25 and 50 percent of its rated-treatment capacity. These removal efficiencies shall be based on independent third-party research for influent oil concentrations representative of storm water runoff (20 ± 5 mg/L). The SWTD shall be greater than 99 percent effective in controlling dry-weather accidental oil spills.

3.3 The SWTD shall be designed with a sump chamber for the storage of captured sediments and other negatively buoyant pollutants in between maintenance cycles. The minimum storage capacity provided by the sump chamber shall be in accordance with the volume listed in Table 1. The boundaries of the sump chamber shall be limited to that which do not degrade the SWTD's treatment efficiency as captured pollutants accumulate. The sump chamber shall be separate from the treatment processing portion(s) of the SWTD to minimize the probability of fine particle re-suspension. In order to not restrict the Owner's ability to maintain the SWTD, the minimum dimension providing access from the ground surface to the sump chamber shall be 16 inches in diameter.

3.4 The SWTD shall be designed to capture and retain Total Petroleum Hydrocarbons generated by wet-weather flow and dry-weather gross spills and have a capacity listed in Table 1 of the required unit.

3.5 The SWTD shall convey the flow from the peak storm event of the drainage network, in accordance with required hydraulic upstream conditions as defined by the Engineer. If a substitute SWTD is proposed, supporting documentation shall be submitted that demonstrates equal or better upstream hydraulic conditions compared to that specified herein. This documentation shall be signed and sealed by a Professional Engineer registered in the State of the work. All costs associated with preparing and certifying this documentation shall be born solely by the Contractor.

3.6 The SWTD shall have completed field tested following TARP Tier II protocol requirements

4.0 EXECUTION

4.1 The contractor shall exercise care in the storage and handling of the SWTD components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be borne by the contractor.

4.2 The SWTD shall be installed in accordance with the manufacturer's recommendations and related sections of the contract documents. The manufacturer shall provide the contractor installation instructions and offer on-site guidance during the important stages of the installation as identified by the manufacturer at no additional expense. A minimum of 72 hours notice shall be provided to the manufacturer prior to their performance of the services included under this subsection.

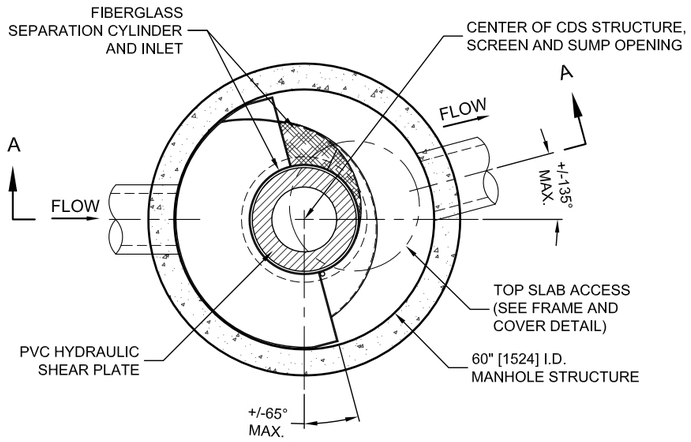
4.3 The contractor shall fill all voids associated with lifting provisions provided by the manufacturer. These voids shall be filled with non-shrinking grout providing a finished surface consistent with adjacent surfaces. The contractor shall trim all protruding lifting provisions flush with the adjacent concrete surface in a manner, which leaves no sharp points or edges.

4.4 The contractor shall removal all loose material and pooling water from the SWTD prior to the transfer of operational responsibility to the Owner.

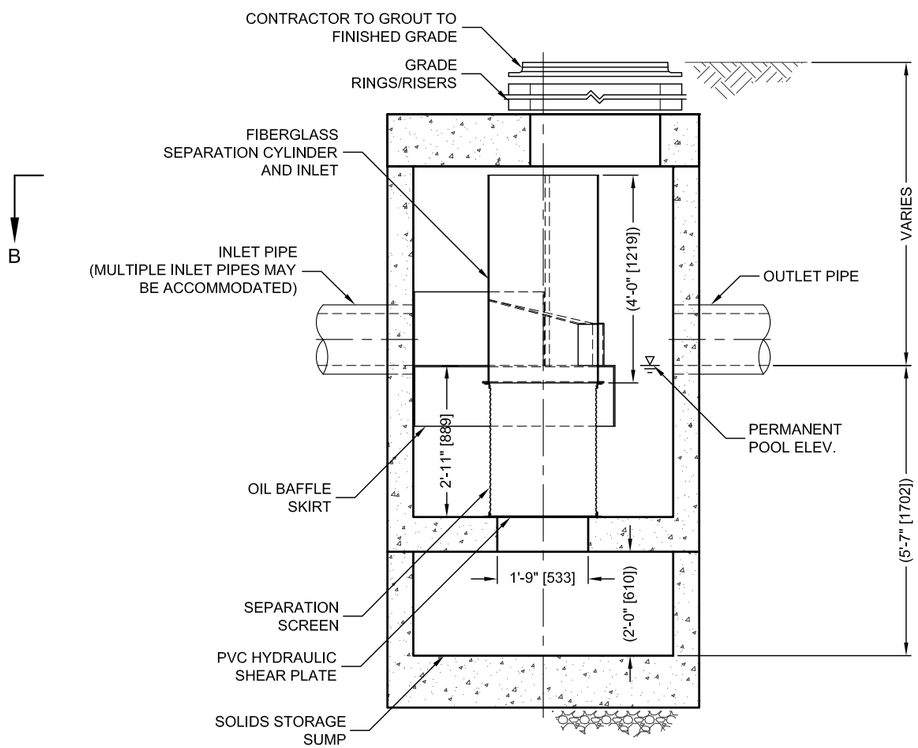
TABLE 1
Storm Water Treatment Device
Storage Capacities

CDS Model	Minimum Sump Storage Capacity $(yd^3)/(m^3)$	Minimum Oil Storage Capacity (gal)/(L)
CDS2015-4	0.9(0.7)	61(232)
CDS2015-5	1.5(1.1)	83(313)
CDS2020-5	1.5(1.1)	99(376)
CDS2025-5	1.5(1.1)	116(439)
CDS3020-6	2.1 (1.6)	184(696)
CDS3025-6	2.1(1.6)	210(795)
CDS3030-6	2.1 (1.6)	236(895)
CDS3035-6	2.1 (1.6)	263(994)
CDS3535-7	2.9(2.2)	377(1426)
CDS4030-8	5.6(4.3)	426(1612)
CDS4040-8	5.6 (4.3)	520(1970)
CDS4045-8	5.6 (4.3)	568(2149)
CDS5640-10	8.7(6.7)	758(2869)
CDS5653-10	8.7(6.7)	965(3652)
CDS5668-10	8.7(6.7)	1172(4435)
CDS5678-10	8.7(6.7)	1309(4956)
CDS7070-DV	3.6(2.8)	914 (3459)
CDS10060-DV	5.0 (3.8)	792 (2997)
CDS10080-DV	5.0 (3.8)	1057 (4000)
CDS100100-DV	5.0 (3.8)	1320 (4996)

END OF SECTION



PLAN VIEW B-B
N.T.S.

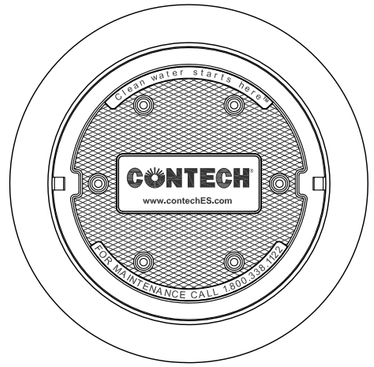


ELEVATION A-A
N.T.S.

CDS2025-5-C DESIGN NOTES

THE STANDARD CDS2025-5-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2025-5-C
INLINE CDS
STANDARD DETAIL

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID Basin1Da2&3	Legend:	Required Entries / Calculated Cells
Company Name: FMCivil			Date: 2/8/2023
Designed by: HP			County/City Case No.:

Design Volume

a) Tributary area (BMP subarea)	A_T =	0.62	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	960	ft^3

Maximum Depth

a) Infiltration rate	I =	5.7	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	3	
c) Calculate D_1 $D_1 = \frac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	11.4	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		50	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		60	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	39.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	11.4	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	4	:1
b) Proposed basin depth (excluding freeboard)	d_B =	1.5	ft
c) Minimum bottom surface area of basin ($A_S = V_{BMP}/d_B$)	A_S =	640	ft^2
d) Proposed Design Surface Area	A_D =	675	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	5	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	5	ft^2
d) Full height notch-type weir	Width (W) =	6.0	in

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name FMCivil | Date 5/2/2023
Designed by | Case No
Company Project Number/Name 22-003 - Coronado Condos Menifee

BMP Identification

BMP NAME / ID Underground Chamber 1

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth,
from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.60 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1A - Road	*43824.31*	*Concrete or Asphalt*	*1*	*0.89*	*39091.3*			
1B - Concrete	*69301.942*	*Concrete or Asphalt*	*1*	*0.89*	*61817.3*			
1C-LS	*142107.3*	*Ornamental Landscaping*	*0.1*	*0.11*	*15696.9*			
1D - Homes (Roof & Hardscape)	*114600.362*	*Roofs*	*1*	*0.89*	*102223.5*			
	369833.914	***Total***			**218829**	**0.60**	***10941.5***	***15206***

Notes:

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: FMCivil | Date: 5/2/2023

Designed by: | Case No:

Company Project Number/Name: 22-003 - Coronado Condos Menifee

BMP Identification

BMP NAME / ID: CDS Pretreatment 1 for Underground Chambers 1

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
DMAs								
1A - Road	*43824.31*	*Concrete or Asphalt*	*1*	*0.89*	*39091.3*			
1B - Concrete	*69301.942*	*Concrete or Asphalt*	*1*	*0.892*	*61817.3*			
1C-LS	*142107.3*	*Ornamental Landscaping*	*0.1*	*0.110458*	*15696.9*			
1D - Homes (Roof & Hardscape)	*114600.362*	*Roofs*	*1*	*0.892*	*102223.5*			
	369833.914		*Total*		**218829**	**0.20**	*1*	*1.2*

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name FMCivil | Date 5/2/2023

Designed by | Case No

Company Project Number/Name 22-003 - Coronado Condos Menifee

BMP Identification

BMP NAME / ID Infiltration Basin 1

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth,
from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.60 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
2A	*820.2*	*Ornamental Landscaping*	*0.1*	*0.11*	*90.6*			
2B	*1403.12*	*Ornamental Landscaping*	*0.1*	*0.11*	*155*			
2C	*952.82*	*Natural (B Soil)*	*0.15*	*0.14*	*134.8*			
3A	*14191.19*	*Concrete or Asphalt*	*1*	*0.89*	*12658.5*			
3B	*6545.86*	*Concrete or Asphalt*	*1*	*0.89*	*5838.9*			
3C	*2913.62*	*Ornamental Landscaping*	*0.1*	*0.11*	*321.8*			
	26826.81	***Total***			**19199.6**	**0.60**	***960***	***1012***

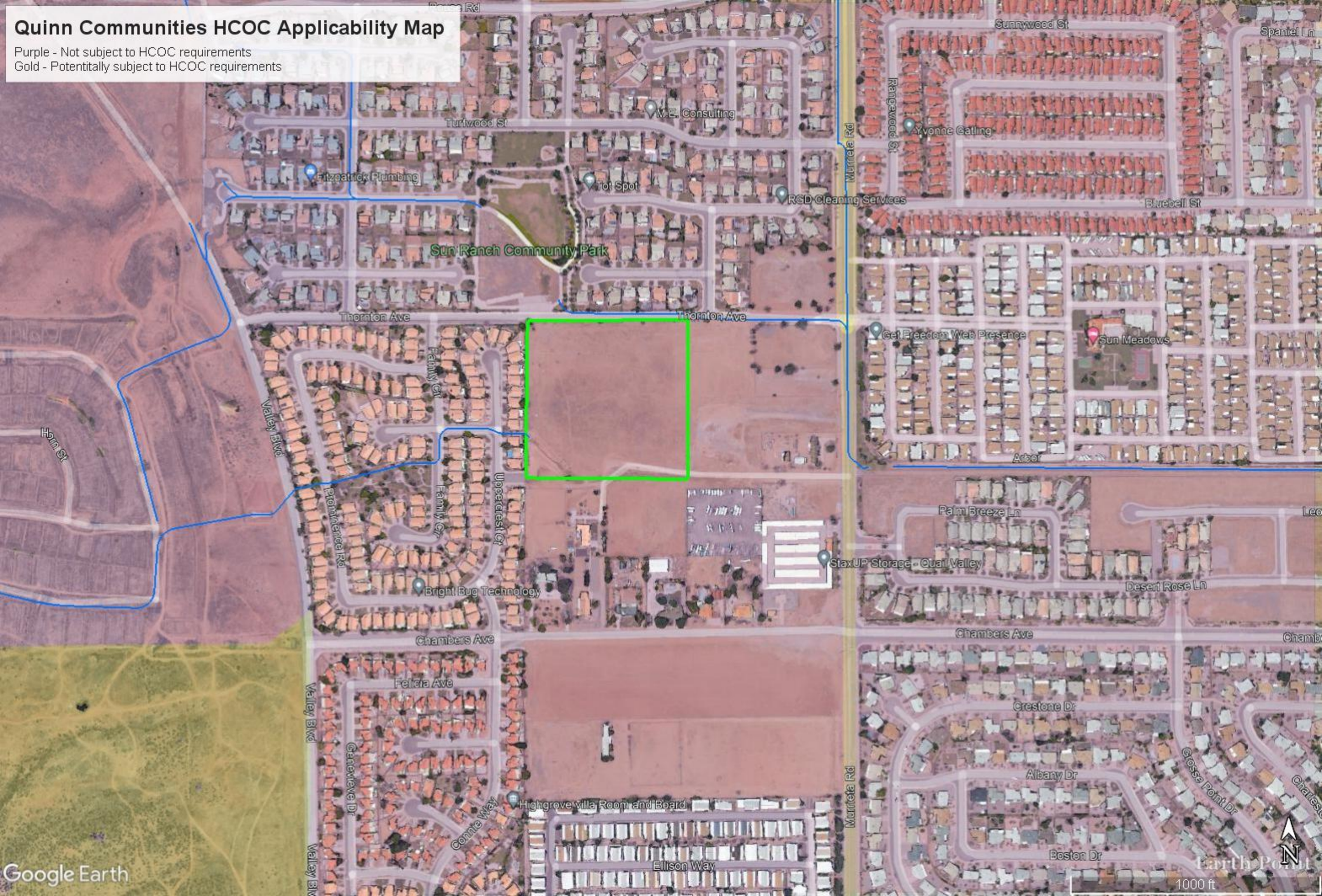
Notes:

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern

Quinn Communities HCOC Applicability Map

Purple - Not subject to HCOC requirements
Gold - Potentitally subject to HCOC requirements



Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section G of the WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table G.1on page 23 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ A. **On-site storm drain inlets**	☒ **Locations of inlets.**	☒ **Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.**	☒ **Maintain and periodically repaint or replace inlet markings.** ☒ **Provide stormwater pollution prevention information to new site owners, lessees, or operators.** ☒ **See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** ☒ **Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
☐ B. **Interior floor drains and elevator shaft sump pumps**		☐ **State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**
☐ C. **Interior parking garages**		☐ **State that parking garage floor drains will be plumbed to the sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ D1. **Need for future indoor & structural pest control**		☐ **Note building design features that discourage entry of pests.**	☐ **Provide Integrated Pest Management information to owners, lessees, and operators.**
☒ D2. **Landscape/ Outdoor Pesticide Use**	☒ **Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.** ☒ **Show self-retaining landscape areas, if any.** ☒ **Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)**	**State that final landscape plans will accomplish all of the following.** ☐ **Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.** ☒ **Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.** ☒ **Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.** ☒ **Consider using pest-resistant plants, especially adjacent to hardscape.** **To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.**	☒ **Maintain landscaping using minimum or no pesticides.** ☒ **See applicable operational BMPs in "What you should know for…..Landscape and Gardening"** at http://rcflood.org/stormwater/**Error! Hyperlink reference not valid.** ☒ **Provide IPM information to new owners, lessees and operators.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ E. **Pools, spas, ponds, decorative fountains, and other water features.**	☒ **Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)**	**If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.**	☒ **See applicable operational BMPs in** "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
☐ F. **Food service**	☐ **For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.** ☐ **On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.**	☐ **Describe the location and features of the designated cleaning area.** ☐ **Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.**	☐ **See the brochure, "**The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ **Provide this brochure to new site owners, lessees, and operators.**
☐ G. **Refuse areas**	☐ **Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.** ☐ **If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.** ☐ **Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.**	☐ **State how site refuse will be handled and provide supporting detail to what is shown on plans.** ☐ **State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.**	☐ **State how the following will be implemented:** **Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ H. **Industrial processes.**	❑ **Show process area.**	❑ **If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."**	❑ **See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ I. **Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)**	❑ **Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.** ❑ **Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.** ❑ **Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.**	**Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.** **Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for:** ▪ **Hazardous Waste Generation** ▪ **Hazardous Materials Release Response and Inventory** ▪ **California Accidental Release (CalARP)** ▪ **Aboveground Storage Tank** ▪ **Uniform Fire Code Article 80 Section 103(b) & (c) 1991** ▪ **Underground Storage Tank** **www.cchealth.org/groups/hazmat/**	❑ **See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ J. **Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.** **(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.** **(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures to implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.** Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑**Car dealerships and similar may rinse cars with water only.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ K. **Vehicle/Equipment Repair and Maintenance**	❑ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ❑ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ❑ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	❑ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ❑ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ❑ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ❑ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ❑ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ❑ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ L. **Fuel Dispensing Areas**	❑ **Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ❑ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		❑ **The property owner shall dry sweep the fueling area routinely.** ❑ **See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[6] **The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ M. **Loading Docks**	❑ **Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer.** ❑ **Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.** ❑ **Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.**		❑ **Move loaded and unloaded items indoors as soon as possible.** ❑ **See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ N. **Fire Sprinkler Test Water**		☐ **Provide a means to drain fire sprinkler test water to the sanitary sewer.**	☐ **See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**
O. **Miscellaneous Drain or Wash Water or Other Sources** ☐ **Boiler drain lines** ☐ **Condensate drain lines** ☐ **Rooftop equipment** ☐ **Drainage sumps** ☒ **Roofing, gutters, and trim.** ☐ **Other sources**		☐ **Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.** **Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system.** ☐ **Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.** ☐ **Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.** ☒ **Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.** **Include controls for other sources as specified by local reviewer.**	

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ P. **Plazas, sidewalks, and parking lots.**			☒ **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

Section to be completed during the Final WQMP Submittal

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Storm Drain Signage SD-13

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include “NO DUMPING

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Infiltration Basin TC-11

Design Considerations

- Soil for Infiltration
- Slope
- Aesthetics

Targeted Constituents

☑	Sediment	■
☑	Nutrients	■
☑	Trash	■
☑	Metals	■
☑	Bacteria	■
☑	Oil and Grease	■
☑	Organics	■

Legend ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

Description

An infiltration basin is a shallow impoundment that is designed to infiltrate stormwater. Infiltration basins use the natural filtering ability of the soil to remove pollutants in stormwater runoff. Infiltration facilities store runoff until it gradually exfiltrates through the soil and eventually into the water table. This practice has high pollutant removal efficiency and can also help recharge groundwater, thus helping to maintain low flows in stream systems. Infiltration basins can be challenging to apply on many sites, however, because of soils requirements. In addition, some studies have shown relatively high failure rates compared with other management practices.

California Experience

Infiltration basins have a long history of use in California, especially in the Central Valley. Basins located in Fresno were among those initially evaluated in the National Urban Runoff Program and were found to be effective at reducing the volume of runoff, while posing little long-term threat to groundwater quality (EPA, 1983; Schroeder, 1995). Proper siting of these devices is crucial as underscored by the experience of Caltrans in siting two basins in Southern California. The basin with marginal separation from groundwater and soil permeability failed immediately and could never be rehabilitated.

Advantages

- Provides 100% reduction in the load discharged to surface waters.
- The principal benefit of infiltration basins is the approximation of pre-development hydrology during which a

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significant portion of the average annual rainfall runoff is infiltrated and evaporated rather than flushed directly to creeks.

- If the water quality volume is adequately sized, infiltration basins can be useful for providing control of channel forming (erosion) and high frequency (generally less than the 2-year) flood events.

Limitations

- May not be appropriate for industrial sites or locations where spills may occur.
- Infiltration basins require a minimum soil infiltration rate of 0.5 inches/hour, not appropriate at sites with Hydrologic Soil Types C and D.
- If infiltration rates exceed 2.4 inches/hour, then the runoff should be fully treated prior to infiltration to protect groundwater quality.
- Not suitable on fill sites or steep slopes.
- Risk of groundwater contamination in very coarse soils.
- Upstream drainage area must be completely stabilized before construction.
- Difficult to restore functioning of infiltration basins once clogged.

Design and Sizing Guidelines

- Water quality volume determined by local requirements or sized so that 85% of the annual runoff volume is captured.
- Basin sized so that the entire water quality volume is infiltrated within 48 hours.
- Vegetation establishment on the basin floor may help reduce the clogging rate.

Construction/Inspection Considerations

- Before construction begins, stabilize the entire area draining to the facility. If impossible, place a diversion berm around the perimeter of the infiltration site to prevent sediment entrance during construction or remove the top 2 inches of soil after the site is stabililized. Stabilize the entire contributing drainage area, including the side slopes, before allowing any runoff to enter once construction is complete.
- Place excavated material such that it can not be washed back into the basin if a storm occurs during construction of the facility.
- Build the basin without driving heavy equipment over the infiltration surface. Any equipment driven on the surface should have extra-wide ("low pressure") tires. Prior to any construction, rope off the infiltration area to stop entrance by unwanted equipment.
- After final grading, till the infiltration surface deeply.
- Use appropriate erosion control seed mix for the specific project and location.

Performance

As water migrates through porous soil and rock, pollutant attenuation mechanisms include precipitation, sorption, physical filtration, and bacterial degradation. If functioning properly, this approach is presumed to have high removal efficiencies for particulate pollutants and moderate removal of soluble pollutants. Actual pollutant removal in the subsurface would be expected to vary depending upon site-specific soil types. This technology eliminates discharge to surface waters except for the very largest storms; consequently, complete removal of all stormwater constituents can be assumed.

There remain some concerns about the potential for groundwater contamination despite the findings of the NURP and Nightingale (1975; 1987a,b,c; 1989). For instance, a report by Pitt et al. (1994) highlighted the potential for groundwater contamination from intentional and unintentional stormwater infiltration. That report recommends that infiltration facilities not be sited in areas where high concentrations are present or where there is a potential for spills of toxic material. Conversely, Schroeder (1995) reported that there was no evidence of groundwater impacts from an infiltration basin serving a large industrial catchment in Fresno, CA.

Siting Criteria

The key element in siting infiltration basins is identifying sites with appropriate soil and hydrogeologic properties, which is critical for long term performance. In one study conducted in Prince George's County, Maryland (Galli, 1992), all of the infiltration basins investigated clogged within 2 years. It is believed that these failures were for the most part due to allowing infiltration at sites with rates of less than 0.5 in/hr, basing siting on soil type rather than field infiltration tests, and poor construction practices that resulted in soil compaction of the basin invert.

A study of 23 infiltration basins in the Pacific Northwest showed better long-term performance in an area with highly permeable soils (Hilding, 1996). In this study, few of the infiltration basins had failed after 10 years. Consequently, the following guidelines for identifying appropriate soil and subsurface conditions should be rigorously adhered to.

- Determine soil type (consider RCS soil type 'A, B or C' only) from mapping and consult USDA soil survey tables to review other parameters such as the amount of silt and clay, presence of a restrictive layer or seasonal high water table, and estimated permeability. The soil should not have more than 30% clay or more than 40% of clay and silt combined. Eliminate sites that are clearly unsuitable for infiltration.

- Groundwater separation should be at least 3 m from the basin invert to the measured ground water elevation. There is concern at the state and regional levels of the impact on groundwater quality from infiltrated runoff, especially when the separation between groundwater and the surface is small.

- Location away from buildings, slopes and highway pavement (greater than 6 m) and wells and bridge structures (greater than 30 m). Sites constructed of fill, having a base flow or with a slope greater than 15% should not be considered.

- Ensure that adequate head is available to operate flow splitter structures (to allow the basin to be offline) without ponding in the splitter structure or creating backwater upstream of the splitter.

- Base flow should not be present in the tributary watershed.

Secondary Screening Based on Site Geotechnical Investigation

- At least three in-hole conductivity tests shall be performed using USBR 7300-89 or Bouwer-Rice procedures (the latter if groundwater is encountered within the boring), two tests at different locations within the proposed basin and the third down gradient by no more than approximately 10 m. The tests shall measure permeability in the side slopes and the bed within a depth of 3 m of the invert.

- The minimum acceptable hydraulic conductivity as measured in any of the three required test holes is 13 mm/hr. If any test hole shows less than the minimum value, the site should be disqualified from further consideration.

- Exclude from consideration sites constructed in fill or partially in fill unless no silts or clays are present in the soil boring. Fill tends to be compacted, with clays in a dispersed rather than flocculated state, greatly reducing permeability.

- The geotechnical investigation should be such that a good understanding is gained as to how the stormwater runoff will move in the soil (horizontally or vertically) and if there are any geological conditions that could inhibit the movement of water.

Additional Design Guidelines

(1) Basin Sizing - The required water quality volume is determined by local regulations or sufficient to capture 85% of the annual runoff.

(2) Provide pretreatment if sediment loading is a maintenance concern for the basin.

(3) Include energy dissipation in the inlet design for the basins. Avoid designs that include a permanent pool to reduce opportunity for standing water and associated vector problems.

(4) Basin invert area should be determined by the equation:

$$A = \frac{WQV}{kt}$$

where A = Basin invert area (m^2)

WQV = water quality volume (m^3)

k = 0.5 times the lowest field-measured hydraulic conductivity (m/hr)

t = drawdown time (48 hr)

(5) The use of vertical piping, either for distribution or infiltration enhancement shall not be allowed to avoid device classification as a Class V injection well per 40 CFR146.5(e)(4).

Maintenance

Regular maintenance is critical to the successful operation of infiltration basins. Recommended operation and maintenance guidelines include:

- Inspections and maintenance to ensure that water infiltrates into the subsurface completely (recommended infiltration rate of 72 hours or less) and that vegetation is carefully managed to prevent creating mosquito and other vector habitats.
- Observe drain time for the design storm after completion or modification of the facility to confirm that the desired drain time has been obtained.
- Schedule semiannual inspections for beginning and end of the wet season to identify potential problems such as erosion of the basin side slopes and invert, standing water, trash and debris, and sediment accumulation.
- Remove accumulated trash and debris in the basin at the start and end of the wet season.
- Inspect for standing water at the end of the wet season.
- Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons.
- Remove accumulated sediment and regrade when the accumulated sediment volume exceeds 10% of the basin.
- If erosion is occurring within the basin, revegetate immediately and stabilize with an erosion control mulch or mat until vegetation cover is established.
- To avoid reversing soil development, scarification or other disturbance should only be performed when there are actual signs of clogging, rather than on a routine basis. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a very light tractor.

Cost

Infiltration basins are relatively cost-effective practices because little infrastructure is needed when constructing them. One study estimated the total construction cost at about $2 per ft (adjusted for inflation) of storage for a 0.25-acre basin (SWRPC, 1991). As with other BMPs, these published cost estimates may deviate greatly from what might be incurred at a specific site. For instance, Caltrans spent about $18/ft^3 for the two infiltration basins constructed in southern California, each of which had a water quality volume of about 0.34 ac.-ft. Much of the higher cost can be attributed to changes in the storm drain system necessary to route the runoff to the basin locations.

Infiltration basins typically consume about 2 to 3% of the site draining to them, which is relatively small. Additional space may be required for buffer, landscaping, access road, and fencing. Maintenance costs are estimated at 5 to 10% of construction costs.

One cost concern associated with infiltration practices is the maintenance burden and longevity. If improperly maintained, infiltration basins have a high failure rate. Thus, it may be necessary to replace the basin with a different technology after a relatively short period of time.

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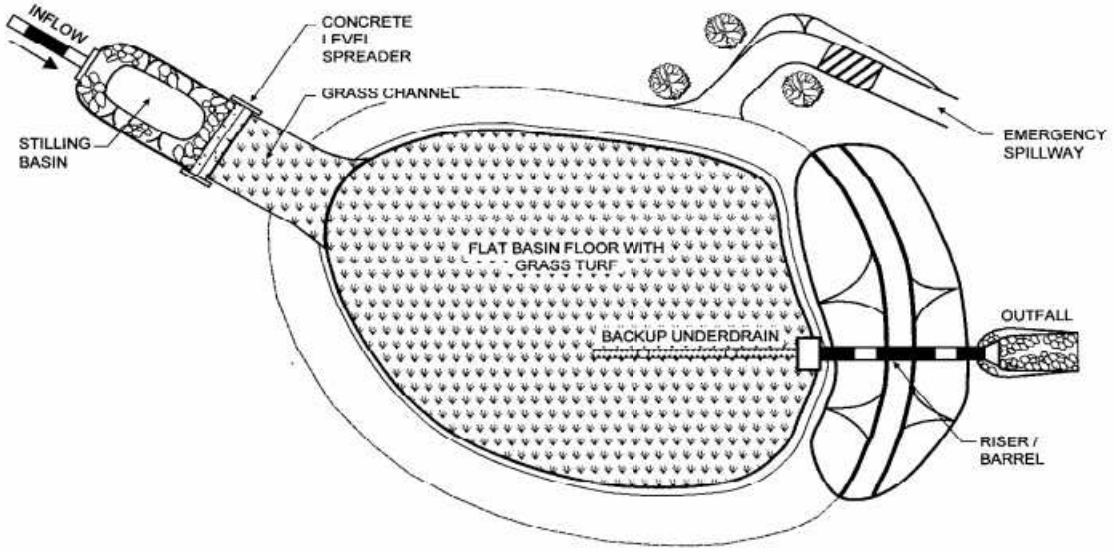
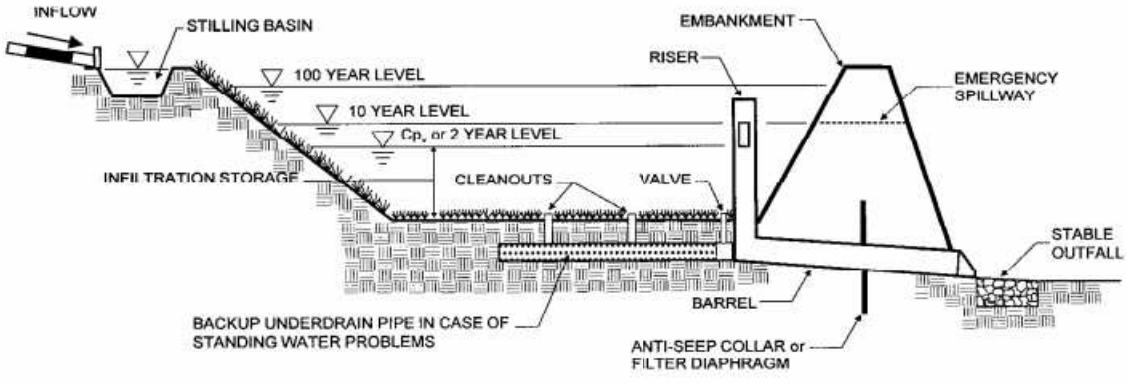


PLAN VIEW



PROFILE

Site Design & Landscape Planning SD-10

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

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Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “ redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

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Drainage System Maintenance SC-44

Description

As a consequence of its function, the stormwater drainage facilities on site convey stormwater that may contain certain pollutants either to the offsite conveyance system that collects and transports urban runoff and stormwater, or directly to receiving waters. The protocols in this fact sheet are intended to reduce pollutants leaving the site to the offsite drainage infrastructure or to receiving waters through proper on-site conveyance system operation and maintenance. The targeted constituents will vary depending on site characteristics and operations.

Approach

Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.
- Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

Good Housekeeping

Illicit Connections and Discharges

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ✓ Identify evidence of spills such as paints, discoloring, odors, etc.
- ✓ Record locations of apparent illegal discharges/illicit connections.
- ✓ Track flows back to potential discharges and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- ✓ Eliminate the discharge once the origin of flow is established.

- ☐ Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Illegal Dumping

- ☐ Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- ☐ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills); and
  - ✓ Responsible parties.
- ☐ Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Preventative Maintenance

Catch Basins/Inlet Structures

- ☐ Staff should regularly inspect facilities to ensure compliance with the following:
  - ✓ Immediate repair of any deterioration threatening structural integrity.
  - ✓ Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.

- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Prioritize storm drain inlets; clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Wildlife. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Army Corps of Engineers and USFWS.

Spill Response and Prevention Procedures

- Keep your spill prevention control plan up-to-date.

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- Train employees and subcontractors in proper hazardous waste management.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - ✓ OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - ✓ OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
  - ✓ Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for drainage system maintenance, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Keep accurate logs of illicit connections, illicit discharges, and illegal dumping into the storm drain system including how wastes were cleaned up and disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Provided below are typical limitations and recommended "work-arounds" for drainage system maintenance:

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

  - ✓ Perform all maintenance onsite and do not flush accumulated material downstream to private property or riparian habitats.

- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, and liquid/sediment disposal.

  - ✓ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

- Regulations may include adoption of substantial penalties for illegal dumping and disposal.

  - ✓ Do not dump illegal materials anywhere onsite.

  - ✓ Identify illicit connections, illicit discharge, and illegal dumping.

  - ✓ Cleanup spills immediately and properly dispose of wastes.

- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the sanitary sewer system.

  - ✓ Collect all materials and pollutants accumulated in drainage system and dispose of according to local regulations.

  - ✓ Install debris excluders in areas with a trash TMDL.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and characteristics of the drainage system. Significant capital costs may be associated with purchasing water trucks, vacuum trucks, and any other necessary cleaning equipment or improving the drainage infrastructure to reduce the potential .

- Developing and implementing a site specific drainage system maintenance plan will require additional capital if a similar program is not already in place.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.
- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Supplemental Information

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used if allowed or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual*.

Knox County Tennessee *Stormwater Management Manual* Chapter 5 Drainage System Maintenance, 2008. Available online at: http://www.knoxcounty.org/stormwater/manual/Volume%201/knoxco_swmm_v1_chap5_jan2008.pdf.

US EPA. Storm Drain System Cleaning, 2012. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=102.

Saltwater Pools

- Salt water pools, although different from regular pools, are in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. The same harmful effects of chlorine still apply.
- A salt water pool is still maintained with chemicals such as Muriatic acid, soda ash and sodium carbonate to help keep a proper pH, total Alkalinity, Calcium Hardness and Stabilizer levels.

- It may be illegal to discharge salt water to land. The salt may kill plants and the build-up of salt in soil puts animals, plants, and groundwater at risk. Consult your city representatives to determine local requirements regarding salt water drainage.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

IMPORTANT: The discharge of pollutants into the street, gutter, storm drain system or waterways - without a permit or waiver - is strictly prohibited by local ordinances, state and federal law. Violations may result in monetary fines and enforcement actions.

Helpful telephone numbers and links

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Events.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our
Riverside County Flood Control and Water Conservation District
website at: www.rcflood.org

Other links to additional storm drain pollution information:

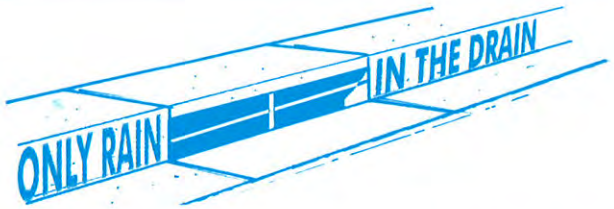
- County of Riverside Environmental Health: www.rivcoeh.org
- State Water Resources Control Board: www.waterboards.ca.gov
- California Stormwater Quality Association: www.casqa.org
- United States Environmental Protection Agency (EPA): www.epa.gov/compliance/assistance (compliance assistance information)

Riverside County's, "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

Guidelines for Maintaining your...

Swimming Pool, Jacuzzi and Garden Fountain

Where does the water go?



Pool, Jacuzzi and Fountain wastewater and rain water runoff (also called stormwater) that reach streets can enter the storm drain and be conveyed directly into local streams, rivers and lakes.

A storm drain's purpose is to prevent flooding by carrying rain water away from developed areas. Storm drains are not connected to sanitary sewers systems and treatment plants!

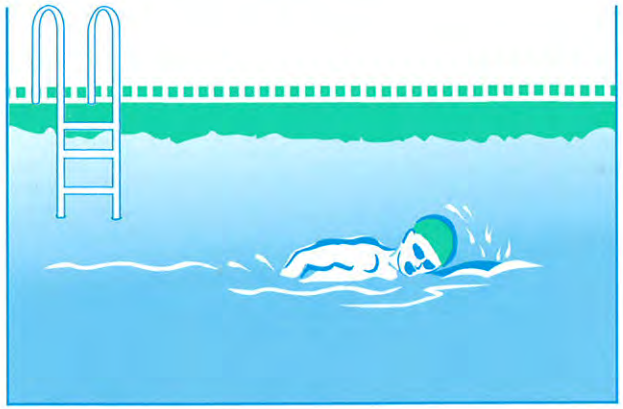
Wastewater, from residential swimming pools, Jacuzzis, fishponds and fountains, often contains chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) may pollute the environment when discharged into a storm drain system.

The Cities and County of Riverside have adopted ordinances that prohibit the discharge of wastewater to the street and storm drain system.

Discharge Regulations

Regulatory requirements for discharging wastewater from your pool may differ from city to city. Chlorinated water should not be discharged into the street, storm drain or surface waters. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse for Riverside County sewer agencies).

If allowed, a hose can be run from the pool Jacuzzi, or fountain to the private sewer cleanout, washing machine drain or a sink or bathtub.



If you cannot discharge to the sewer, you may drain your fountain, pool, or jacuzzi to your landscaping by following these guidelines:

First, reduce or eliminate solids (e.g. debris, leaves or dirt) in the pool water and allow the chemicals in the pool water to dissipate before draining the pool (this could take up to 7 days, verify using a home pool test kit).

Second, slowly drain to a landscaped area away from buildings or structures. Control the flow to prevent soil erosion; it may take more than one day to empty. Do not allow sediment to enter the street, gutter or storm drain.

Maintenance & Chemicals

Cleaning Filters

Filter rinse water and backwash must be discharged to the sanitary sewer, on-site septic tank and drain field system (if properly designed and adequately sized), or a seepage pit. Alternatively, rinse water or backwash may be diverted to landscaped or dirt areas. Filter media and other non-hazardous solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life when you drain your pool.

Chemical Storage and Handling

- Use only the amount indicated on product labels
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels before draining your pool.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or storm drain system.

Take unwanted chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for taking HHW items to collection events – it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.