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Final Mitigated Negative Declaration (MND)
Edgehill (E) Reservoir Replacement and Pump Station Project

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FINAL MITIGATED NEGATIVE DECLARATION

Edgehill (E) Reservoir Replacement and Pump Station Project

Prepared for:

Vista Irrigation District

1391 Engineer Street

Vista, California 92081

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AUGUST 2020

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
Action Plan	Integrated Natural and Working Lands Climate Change Action Plan
ANFO	ammonium nitrate/fuel oil
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CH ₄	methane
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide
dB	decibel
dBA	A-weighted decibel
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
I-	Interstate
ips	inches per second
L _{eq}	equivalent continuous sound level
L _{max}	maximum sound level during the measurement interval
MG	million gallons
MSCP	Multiple Species Conservation Program
MT	metric ton
NAAQS	National Ambient Air Quality Standards
N ₂ O	nitrous oxide
NO _x	oxides of nitrogen
NO ₂	nitrogen dioxide
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to 10 microns in size
PPM	peak particle velocity
PRS	pressure reducing station
RAQS	Regional Air Quality Strategy
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCADA	supervisory control and data acquisition
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric

Acronym/Abbreviation	Definition
SO _x	sulfur oxides
SO ₂	sulfur dioxide
SPL	sound pressure level
SR-	State Route
ST	short-term
SWPPP	stormwater pollution prevention plan
VID	Vista Irrigation District
VMT	vehicle miles traveled
VOC	volatile organic compound

1 Introduction

1.1 Project Overview

In accordance with its 2017 Potable Water Master Plan (VID 2018), the Vista Irrigation District (VID) is proposing the replacement of the existing oval shaped, partially buried, 1.5-million-gallon (MG) Edgehill (E) Reservoir with a new reservoir and construction of a new pump station (proposed project). The proposed project would implement an adopted plan for facility improvements. Based on land use and population projections, the 2017 Potable Water Master Plan identified a storage deficit. The Potable Water Master Plan identified seven projects along with their cost estimates in their Capital Improvement Program, including all components of the proposed project. These projects would allow VID to provide service to the expected 158,627 people that the service area is expected to contain by 2040. The project is located on a 1.88-acre property comprised of one parcel (Assessor's Parcel Number 174-240-33) located at 2558 Edgehill Road in unincorporated County of San Diego, California, just east of the City of Vista (Figure 1, Project Location). The new reservoir would increase storage capacity and provide VID with a facility that meets applicable current codes and standards. The new pump station would provide a redundant water supply to higher-pressure zones within VID's service area when disruptions occur to primary water supplies.

The project would require the demolition of the existing E Reservoir and accessory facilities. Within a similar footprint, the proposed project would construct a cast-in-place hexagonal shaped structure that would increase the on-site capacity to approximately 2.92 MG, which is a 1.42 MG net increase. The hexagonal shape would allow for more easily maintained water quality. The proposed project would also construct a new water pump station. The pumps, control panel, and other electric and supervisory control and data acquisition (SCADA) equipment would be housed in an aboveground structure with approximate dimensions of 20 feet by 38 feet that would match the architectural features of the existing adjacent pressure reducing station (PRS) facility.

1.2 California Environmental Quality Act Compliance

The proposed E Reservoir Replacement and Pump Station project is considered a "project" under the California Environmental Quality Act (CEQA) and must comply with its requirements. In accordance with Section 15051 of the CEQA Guidelines, "Criteria for Identifying the Lead Agency," VID, as a public agency proposing to carry out the project, is the lead agency.

This document is a Mitigated Negative Declaration (MND) prepared by VID pursuant to Title 14 of the California Code of Regulations, Section 15063 of the CEQA Guidelines. Section 15063 of the CEQA Guidelines requires the lead agency to prepare an Initial Study to analyze the potential environmental impacts associated with a project to determine if the project could have a significant effect on the environment. As a result of the Initial Study, this MND has been prepared (per CEQA Guidelines Sections 15070-15075) to identify potential environmental impacts of the proposed E Reservoir Replacement and Pump Station project and to identify mitigation measures to avoid or reduce the significance of those impacts. CEQA requires the lead agency to adopt a mitigation monitoring and reporting program for all required mitigation measures.

1.3 Project Planning Setting

The proposed project would be located on a 1.88-acre parcel of land located at 2258 Edgehill Road, Vista. The project site falls within Section 16 of Township 11 South, Range 3 West of the San Marcos, CA 7.5-minute U.S. Geological Survey Topographic Quadrangle Map. The project site is located in unincorporated land in the County of San Diego (County) just to the east of the City of Vista (City) in the northern portion of the County. The project site is composed of one parcel (Assessor's Parcel Number 174-240-33). The project location is shown in Figure 1, Project Location, and Figure 2, Project Site and Surroundings.

1.4 Public Review Process

The MND is subject to a 30-day public review period. The public is encouraged to provide written comments during the 30-day review, and/or attend the Board of Directors' hearing at which the project and the MND will be considered for approval. In accordance with Section 15074 of the CEQA Guidelines, VID's Board of Directors must consider the MND along with any comments received during the public review process. Comments may be submitted to VID at gkepler@vidwater.org or by U.S. mail at:

ATTN: Greg Keppler, PE
Vista Irrigation District
1391 Engineer Street
Vista, California 92081

This MND ~~has been~~was made available for download or viewing at VID's website (<https://www.vidwater.org/>); at VID's main office in Vista, California; and provided for review to state agencies via the California State Clearinghouse. In accordance with Section 15072 of the CEQA Guidelines, notice of the document's availability and intent to adopt an MND ~~has been~~was filed at the San Diego County Clerk's office and provided via direct mailings to stakeholders, local agencies, owners/occupants contiguous to the project site, and other parties that have expressed interest in the proposed project.

1.5 Final MND

The Draft MND was circulated for a 30-day review period from March 25 to April 23, 2020, pursuant to Section 15105(b) of the CEQA Guidelines. Two (2) written comment letters were received on Draft EIR: Comment Letter A - Rincon Band of Luiseño Indians and Comment Letter B - State Clearinghouse.

Each of the written comment letters have been assigned a label, and the individual comments within each written comment letter are bracketed and numbered. For example, Comment Letter A contains one comment that is numbered A1-1. The responses to each comment on the Draft MND represent a good-faith, reasoned effort to address the environmental issues identified by the comments. Under the CEQA Guidelines, VID, as lead agency, is not required to respond to all comments on the Draft MND, but only those comments that raise environmental issues. In accordance with CEQA Guidelines 15074 and 15204, VID has independently evaluated the comments and prepared the attached written responses to any significant environmental issues raised.

This Final MND includes responses to public comments in Appendix G to this document. Additionally, a mitigation, monitoring, and reporting program is included in Appendix H.

2 Summary of Findings

2.1 Environmental Factors Potentially Affected

This MND analyzes the environmental impacts of the project consistent with the format and analysis prompts provided in Appendix G of the CEQA Guidelines. The analysis determined that the project would result in impacts associated with the following resource categories: Biological Resources, Cultural Resources, Noise, Tribal Cultural Resources, and Utilities and Services Systems. The analysis determined that all impacts identified in this MND would be less than significant with implementation of mitigation measures to avoid or minimize the impacts identified. Detailed analyses of impacts are provided under each resource section evaluated in this MND.

2.2 Environmental Determination

VID finds that this MND identifies potentially significant impacts, but that implementing the mitigation measures identified in Table 1 would avoid or minimize the impacts such that they would be less than significant. All mitigation measures are identified by analysis topic in Table 1, below.

Table 1. Mitigation Measures

Number	Mitigation Measure
Biological Resources	
MM-BIO-1	<p>Pre-Construction Nesting Birds Surveys and Reporting. To avoid impacts to breeding and nesting birds in accordance with the Migratory Bird Treaty Act and California Fish and Game Code, construction activities shall take place outside of the nesting season; nesting season is March 1 (January 1 for raptors) through September 15. If construction cannot take place outside the nesting season, a breeding/nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to ground-disturbing activities to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the impact area or within 300 feet of the impact area. If active nests are found, an avoidance buffer shall be established (typically 50 to 300 feet, depending on the species) until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. A survey and monitoring report documenting the pre-construction survey results and implemented avoidance measures shall be submitted.</p>
Cultural Resources	
MM-CUL-1	<ul style="list-style-type: none"> • Prior to the start of construction, a worker environmental awareness training program (WEAP) shall be implemented at the construction kickoff meeting to inform construction workers of the cultural sensitivity of the general area and of the types of artifacts that are commonly found during construction in the region. In the event that unanticipated discoveries are encountered during future project undertakings, all activity shall cease within 50 feet of the find until a qualified archaeologist can determine the significance of the find and appropriate mitigation. Examples of prehistoric resources may include: stone tools and manufacturing debris; milling equipment such as bedrock mortars, portable mortars, and pestles; darkened or stained soils (midden) that may contain dietary remains such as shell and bone; and human remains. Historic resources may include: burial plots; structural foundations; mining spoils piles and prospecting

Table 1. Mitigation Measures

Number	Mitigation Measure
	<p>pits; cabin pads; and trash scatters consisting of cans with soldered seams or tops, bottles, cut (square) nails, and ceramics; paleontological resources. The WEAP training shall also inform construction personnel on what to do in the event of a discovery.</p> <ul style="list-style-type: none"> • In the event that unanticipated archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring in the immediate vicinity of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (CEQA) (14 CCR 15064.5[f]; California Public Resources Code Section 21082) the archaeologist may record the find to appropriate standards (thereby addressing any data potential) and allow work to continue. If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the National Historic Preservation Act, additional efforts may be warranted as recommended by the qualified archaeologist.
MM-CUL-2	<p>In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, all work in the immediate vicinity shall be suspended and the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made. If the county coroner determines that the remains are, or are believed to be, Native American, they shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent (MLD) from the deceased Native American. Within 48 hours of their notification, the MLD will recommend to the lead agency their preferred treatment of the remains and associated grave goods.</p>
Noise	
MM-NOI-1	<p>Construction Noise Reduction. The Vista Irrigation District (VID) and/or its construction contractor shall comply with the following measures during construction:</p> <ol style="list-style-type: none"> 1. Construction activities shall not occur between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturdays, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required. 2. Equipment (e.g., portable generators) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured to minimize noise at nearby noise-sensitive receptors. 3. All noise-producing equipment and vehicles using internal combustion engines should be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) should be equipped with shrouds and noise control features that are readily available for that type of equipment. 4. All mobile or fixed noise-producing equipment used on the project facilities that are regulated for noise output by a local, state, or federal agency should comply with such regulation while in the course of project activity. 5. Idling equipment should be kept to a minimum and moved as far as practicable from noise-sensitive land uses. 6. Electrically powered equipment should be used instead of pneumatic or internal-combustion-powered equipment, where feasible. 7. Material stockpiles and mobile equipment staging, parking, and maintenance areas should be located as far as practicable from noise-sensitive receptors.

Table 1. Mitigation Measures

Number	Mitigation Measure
	<p>8. The use of noise-producing signals, including horns, whistles, alarms, and bells, should be for safety warning purposes only.</p> <p>9. Residences within 500 feet of the construction site should be notified of the construction schedule in writing at least 3 calendar days prior to construction. VID or its contractor(s) shall designate a noise disturbance point of contact who would be responsible for responding to complaints regarding construction noise. The point of contact should make reasonable effort to investigate the cause of the complaint and, if indeed related to construction noise attributed to the project, see that reasonable measures are implemented to help address the problem. A contact number for the noise disturbance point of contact should be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.</p>
<p>MM-NOI-2</p>	<p>Blasting Requirements. Blasting for rock excavation shall be only be used by the contractor upon receipt of approval by Vista Irrigation District and after other non-explosive techniques have been exhausted, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, and expansive chemical agents. If blasting is required for rock excavation, Vista Irrigation District or its contractor shall prepare a blasting plan that will reduce impacts associated with construction-related noise, drilling operations and vibrations related to blasting. The blasting plan shall be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan shall include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan shall account for blasting activities and all supplemental construction equipment. The final blasting plan and pre-blast survey shall meet the requirements provided below.</p> <ul style="list-style-type: none"> • Prior to blasting, a qualified geotechnical professional shall inspect and document the existing conditions of facades and other visible structural features or elements of the nearest residential buildings. Should this inspector determine that some structural features or elements appear fragile or otherwise potentially sensitive to vibration damage caused by the anticipated blasting activity, the maximum per-delay charge weights and other related blast parameters shall be re-evaluated to establish appropriate quantified limits. • All blasting shall be performed by a blast contractor and blasting personnel licensed to operate per appropriate regulatory agencies. • Each blast shall be monitored and recorded with an air-blast overpressure monitor and groundborne vibration accelerometer that is located outside the closest residence to the blast. This data shall be recorded, and a post-blast summary report shall be prepared and be available for public review or distribution as necessary. • Blasting shall not exceed 1 inch per second peak particle velocity (PPV) (transient or single-event), or a lower PPV determined by the aforesaid inspector upon completion of the pre-blast inspection, at the façade of the nearest occupied residence • To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 500 feet of the project at least 1 week prior to a scheduled blasting event. • Drilling operations associated with blasting preparations shall be performed in a manner consistent with adherence to guidance that emulates Sections 36.408, 36.409, and 36.410 of the San Diego County Code Noise Ordinance.
<p>Utilities and Services Systems</p>	
<p>–</p>	<p>Refer to mitigation measures MM-BIO-1, MM-CUL-1, MM-CUL-2, MM-NOI-1, and MM-NOI-2.</p>

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3 Initial Study Checklist

1. Project title:

E Reservoir Replacement and Pump Station

2. Lead agency name and address:

Vista Irrigation District
1391 Engineer Street
Vista, California 92081

3. Contact person and phone number:

Greg Keppler, PE, Vista Irrigation District
Phone: 760.597.3136
Email: gkeppler@vidwater.org

4. Project location:

Assessor's Parcel Number: 174-240-33; Unincorporated land in the County of San Diego just to the east of the City of Vista in the northern portion of San Diego County. Refer to Figures 1 and 2.

5. Project sponsor's name and address:

Vista Irrigation District
1391 Engineer Street
Vista, California 92081

6. General plan designation:

Semi-Rural Residential (SR-1)

7. Zoning:

A70 (Limited Agricultural)

8. Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):

Demolition

The proposed project would require the demolition of the existing E Reservoir and accessory facilities, which are shown on Figure 3, Existing Project Site. The existing reservoir is comprised of a 3-inch-thick reinforced concrete hopper bottom type floor, square concrete columns and footings, a reinforced perimeter stem wall, timber roof framing, and several layers of painted galvanized corrugated sheet metal which serve as

roofing. Hazardous materials testing was conducted and it was found that the pressure treated timber framing within the reservoir and railroad tie retaining wall fronting Edgehill road require further testing and/or special disposal and handling. It is not anticipated that the remaining reservoir demolition and disposal activities would require special equipment or handling. There are numerous buried pressure and gravity pipes that require removal or abandonment to accommodate the proposed improvements. Additional demolition includes the on-site paved access road and cul-de-sac, existing trees and landscaping, chain-link fencing, irrigation, and drainage swales and catch basins. The existing site has several mature pepper trees that flank the slope on the western side of the reservoir and aid in partial concealment of the existing reservoir. There is other existing vegetation ground cover and non-distinct landscaping that would be removed along with the pepper trees as part of the proposed improvements.

Proposed Project Components

As shown in Figure 4, Proposed Project Site Plan, the new reservoir would have a capacity of approximately 2.92 MG with a floor elevation of approximately 739 feet to match the existing reservoir elevation and high water level of 758 feet, which is 6 feet higher than the existing reservoir. The proposed reservoir would be approximately 4.5 feet taller than the existing reservoir. The internal dimensions would be approximately 230 feet by 110 feet. The reinforced concrete floor would be 12 inches thick; the wall footing would be 5 feet by 18 inches; the wall itself would be 18 inches thick; and the roof would be 9 inches thick. Additionally the dimensions of the column footing would be 54 inches by 54 inches by 18 inches, and the drop panel would be 78 inches by 78 inches by 14 inches. Belowground walls would be water proofed with a sheet membrane waterproofing system. The observation and access roof hatches, roof guardrail, and roof vent would be constructed of anodized aluminum. Reservoir roof access would be via a 5-foot-wide concrete stairwell. Access into the reservoir interior would be through a roof hatch and a 3-foot-wide stainless steel stairway.

Reservoir inlet and outlet valves would be located in a cast-in-place concrete vault at a location accessible by maintenance vehicles. The vault would be open, non-grated, protected by bollards on two sides from vehicles and maintenance equipment, and equipped with a perimeter guard rail for fall prevention. The top of the vault would be constructed approximately 6 inches above the adjacent grades to prevent surface water entry from storm events. Access in and out of the vault would be controlled through a ship's ladder with handrails and fall protection.

The proposed pump station would provide redundant water supply and would have a capacity of 3,000 gallons per minute to meet peak hour during max day demand conditions. The pump station would consist of skid-mounted multi-stage vertical pumps with aboveground headers. The pumps would be housed in an aboveground structure that would match the architectural features of the existing PRS facility. The pump station structure would also house the pump station control panel, electrical panels, and SCADA equipment for the site. The station would be approximately 20 feet by 38 feet with a height of 14 feet. It would be constructed of a 12-inch, cast-in-place concrete floor with an 8- to 12-inch concrete masonry wall. Additionally, the roof would be composed of sloped composite shingles supported by wood trusses and plywood sheathing, with a 20-pounds-per-square-foot load limit. The pump station would also include louvers and ventilation fans to remove heat generated by the pump equipment. Access to the structure would be provided through two entry points: a single solid door, and a 14-foot-wide and 12-foot-tall roll-up door.

Visual renderings of the proposed project from several vantage points in the surrounding area are provided in Figures 5a through 5c.

Electrical Improvements

An existing San Diego Gas & Electric (SDG&E) electric service supplies power to the existing on-site PRS and reservoir. The pump station addition requires an upgrade of the electric service, which would be supplied by a pad-mounted utility transformer. During construction and commissioning of the new pump station, concurrent utility power supply to the existing 120/240-volt service panel and the new 480-volt service panel would be required to prevent interruption of power service to the existing loads.

Lighting

Interior and exterior lighting fixtures would be wet-location rated with energy-efficient LED lamping. Interior fixtures would be linear type similar in appearance to linear fluorescent fixtures. Interior lighting controls would utilize vacancy sensors and manual override switches. Exterior fixtures would be small form, wall pack fixtures. Exterior lighting controls would utilize a timeclock control panel with photocell sensor for shutoff of the lights when daylight is present. All lighting would be consistent with County Zoning Ordinance Number 9716. The ordinance list standards for outdoor lighting based on location, land use type, lumen intensity, required shielding, and hours of operation. The proposed project would have Class II lighting within Zone B (not adjacent to Palomar Observatory) and would be required to have fully shielded outdoor lighting.

Access and Circulation

The existing fencing and gates would be removed and replaced as part of the proposed improvements along with the two site entry gates. There is an existing 20-foot-wide private dirt road easement that would continue to run from Edgehill Road through the eastern third of the project site. Access to the reservoir would be provided by a gravel driveway off of the dirt road easement. New 7-foot-tall tubular steel fencing topped with spiked pickets would be constructed around the perimeter of the site. Manual double swing gates would be constructed in the same or nearly identical location to the existing gate. A new motor-operated rolling gate will be constructed at the PRS/pump station entrance at the southwest corner of the site. Fencing and gates would be constructed in compliance with the Standard Specifications for Public Works Construction and Standard Plans. The proposed project would maintain the asphalt concrete curb that run parallel to the southern boundary and would connect to the proposed AC curb along the proposed gravel driveway as to provide pedestrian access to the E Reservoir.

Materials Storage Areas and Equipment Staging

The proposed project does not require storage of operations and maintenance materials on-site, as VID will utilize existing off-site operations and maintenance storage yards.

On-site Landscaping and Drainage

Landscaping would be provided along Edgehill Road and around the perimeter of the site on the west, north, and east sides of the structure to provide screening and visually break up large sections of the tank wall. Landscaping would conform to the City of Vista Landscape Manual. Plant species would feature a mix of native and other drought-tolerant species appropriate to the area, and no invasive species, defined as species with a rating of moderate or high in the California Invasive Plant Council database, would be used. Landscape design would follow fire-safe principles. Healthy existing native vegetation would be retained

where possible and suitable, and existing non-native ornamental species may be retained if structurally sound, drought-tolerant, and individual plants work with the overall facility design.

The project includes the addition of a water quality basin on site. The basin would be equipped with a standpipe and outlet along the western boundary of the project site to the on-site channel and would be conveyed to Edgemoor Road. It is important to note that while the project is not required to comply with San Diego County stormwater standards as VID is a special district, the on-site detention basins would meet San Diego County Flood Control design standards.

Project Construction

For the purposes of analysis, it was assumed that construction of the proposed project would commence in September 2020¹ and would last approximately 18 months, ending in February 2022². The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate):

- Demolition – 3 months
- Site preparation and grading – 3 months
- Reservoir construction – 12 months
- Pump station construction – 4 months
- Paving – 1 week
- Piping – 4 months
- Retaining wall construction – 1 month
- Architectural coating – 1 week

The majority of the phases listed above would occur concurrently and would not occur sequentially in isolation. The estimated construction duration was provided by the project engineering team. Refer to Section 3.3, Air Quality, for more detailed information regarding construction assumptions.

For the analysis, it was assumed that heavy construction equipment would be operating 5 days per week (22 days per month) during proposed project construction. Proposed project construction would include approximately 1,830 cubic yards of cut and 1,337 cubic yards of fill as represented in the site preparation and grading phase. It is anticipated that earth movement would be primarily, if not completely, accomplished using off-road equipment (e.g., scrapers and excavators); however, on-site truck trips were conservatively assumed in the event cut and fill would be transported via trucks within the site boundary. There would also be export of approximately 650 tons of waste during the demolition phase.

Based on the known presence of hard rock at the project site, there is a high likelihood that rock excavation would be required. Rock excavation methods would generally consist of non-explosive techniques, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, or expansive chemical agents.

¹ The analysis assumes a construction start date of September 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

² It is understood that once construction commences, potential circumstances unknown at this time (such as inclement weather) may cause delays in the schedule. The construction schedule represents the best known anticipated phasing/timing, based on known site information, input from project engineers, and expert construction contractors. Such potential delays would not substantially affect the emissions modeling and the analysis contained herein represents a worst-case scenario.

There is some potential that these methods would be unable to excavate the underlying rock and limited blasting would be required. Because of this potential, the analysis presented in this MND conservatively assumes blasting would be required. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut. It is anticipated that blasting operations would occur during the site preparation and grading phase. No more than one blast per day would occur during construction activities. All blasting activity would require appropriate permits and approvals consistent with local and state requirements, such as Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code. Consistent with state and local requirements, the fire district/local fire department, San Diego Sheriff's Department, and utilities require notification prior to the start of any blasting activity.

9. Surrounding land uses and setting (Briefly describe the project's surroundings):

The project site is bounded by agriculture and residential land to the north; open land including the San Marcos mountain range and agriculture and rural residential buildings to the east; commercial and residential development to the south; and commercial and agriculture and rural residential uses to the west. Refer to Figure 2.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- Encroachment Permit by the County of San Diego
- Blasting Permit by the County of San Diego
- Haul Route Permit by the City of Vista
- National Pollutant Discharge Elimination System Permit by the San Diego Regional Water Quality Control Board (RWQCB)
- Amendment to Existing Domestic Water Supply Permit by the Department of Public Health Division of Drinking Water

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

Letters were sent to each of the representatives on February 07, 2019, for any additional information of resources that may be located in the project Area of Potential Effect. To date, five responses have been received for the current proposed project.

- On February 14, 2019, the Tribal Historic Preservation Office for the Agua Caliente Band of Cahuilla Indians responded the project is out of their tribe's Traditional Use Area and therefore they defer to other tribes in the area once formal government-to-government consultation is initiated by the lead agency for this project.
- On February 20, 2019, representatives of the Cultural Department for the Rincon Band of Luiseño Indians contacted Dudek and shared that the identified Area of Potential Effect is within the Ancestral Territory of the Luiseño people, and is also within Rincon's specific Area of Historic Interest. While they did not have knowledge of cultural resources within or near the proposed project area, this does not mean that none exist. They suggested archival research be conducted for the project and that they were interested in participation in any survey.
- On February 20, 2019, representatives of the Campo Band of Mission Indians responded, indicating that the project area has a rich history for the Kumeyaay people and requesting that a qualified Kumeyaay monitor be present for any cultural work and additional ground-disturbing activities to ensure that Kumeyaay resources are not overlooked.
- Dudek received a response on March 12, 2019, from Clinton Linton, Cultural Resources Director, representing the Iipay Nation of Santa Ysabel. Mr. Linton stated that, for the project, Santa Ysabel defers to and supports the comments and requests of the San Luis Rey Band.
- Dudek received a response on March 18, 2019, from Ray Teran, resources management, representing the Viejas Band of Kumeyaay Indians. Mr. Teran stated that, for the project, Viejas recommends that the San Pasqual Band of Mission Indians be notified of the project. In addition, Mr. Teran requested that all National Environmental Policy Act/CEQA/Native American Graves Protection and Repatriation Act laws be followed, and that San Pasqual be notified of any project changes and updates.

Additionally, in accordance with Assembly Bill (AB) 52, VID provided a notification letter to tribal groups that have formally requested such notification under AB 52. This notification letter was sent to the Rincon Band of Luiseño Indians and the Torres Martinez Desert Cahuilla Indians on November 7, 2018. Neither tribe responded with a request for consultation within the 30-day response period provided by AB 52. On December 21, 2018, the Rincon Band of Luiseño Indians requested consultation under AB 52 and that an archaeological records search be conducted. However, because this request was outside of the response period, consultation is no longer required under AB 52. Regardless, communication regarding the project outside of AB 52 with the Rincon Band of Luiseño Indians is ongoing.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature 

Date 7/15/2020

3.1 Aesthetics

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The site is approximately 1.88 acres, and a portion of Edgehill Road is constructed on the southern edge of the parcel. Existing elevations on the site range from 765 to 730 feet above mean sea level, sloping generally from northeast to southwest. The existing oval-shaped reservoir on site was constructed in 1929. It is partially buried with sloped walls and constructed of reinforced gunite concrete walls and floor. The roof is comprised of two layers of corrugated metal roofing with wood timber framing. Other facilities on the site include a slump block building, fencing, access roads, and associated landscaping. The site is currently characterized by developed and ornamental planting land cover. The project site is adjacent to Edgehill Road and is visible from the surrounding semi-rural residential area.

Officially, designated state scenic highways within the unincorporated San Diego County are State Route (SR-) 78 through the Anza-Borrego Desert State Park and SR-125 between Interstate (I-) 8 and SR-94. Additionally, there are several portions of highways that may be eligible for scenic designation: I-5, I-15, SR-94, I-8, SR-79, SR-78, and SR-76. The proposed project is not within the viewshed of these highways.

County of San Diego General Plan Environmental Impact Report (EIR) Resource Conservation Areas include the following (County of San Diego 2011a):

- Jesmond Dene Oaks. The scenic value of the oaks contributes to the character of the semi-rural residential community of Jesmond Dene.
- Valley Center Ridge. This steep, high ridge contains a diversity of oak woodlands and large growth chaparral that provides a scenic backdrop for the subregion.
- Burnt Mountain. This area serves as wildlife habitat and is a visual landmark for residents of the Subregion as well as the Valley Center Community Plan Area.
- San Marcos Mountains: These mountains are an important visual landmark for residents of the subregion and the Bonsall Community Plan Area and are especially significant because they contain rare and endangered plant species such as Cleveland sage and southern mountain misery.

Impact Discussion

- a) ***Would the project have a substantial adverse effect on a scenic vista?***
- b) ***Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***
- c) ***In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

As discussed above under Setting, the project site is not within a Resource Conservation Area (scenic vista) identified in the San Diego County General Plan EIR. While the project is adjacent to the San Marcos Mountains, the project involves the reconstruction of an existing water reservoir with no significant increase in elevations. As discussed below, the project includes revegetation that would reduce the impact of the proposed reconstruction of the site. Additionally, the project site is not visible from a designated State Scenic Highway. The project would be visible from Edgehill Road and the surrounding residential homes, similar to the existing condition.

The project would replace and expand the existing water reservoir. During project implementation, construction equipment and materials may be temporarily visible from vantage points located along Edgehill Road, but these views would be temporary, occurring only during construction periods. The proposed project includes revegetation with native vegetation of disturbed areas serving as a natural screen and thereby reducing visual contrast of areas disturbed as a result of the project. Because post-project conditions would be similar to the current visible conditions, the project would not result in a substantial change in the visual environment as viewed from surrounding roadways or residences. Proposed improvements would require removal of the existing trees. However, revegetation of these areas would be completed, which would help blend these project-affected areas with the surrounding natural landscape. Additionally, the project would include replanting of trees throughout the project site, which, at maturity, would aid in visual softening and screening of the project. Therefore, tree removal associated with the project would not result in a substantial change in the visual character as viewed from surrounding roadways or vantage points.

The project is located immediately adjacent to the urbanized City of Vista and within its sphere of influence. Overall, the project would result in the development similar to that of the existing reservoir on site. Once construction is complete and plantings reach maturity, the project would be visually similar to the existing condition. Refer also to Figures 5a through 5c for visual simulations of the proposed project. Based on the provided analysis, the project would result in no substantial change in the existing visual condition of the project area as viewed from Edgehill Road and the surrounding areas, such that visual character or quality would be substantially degraded. Impacts to scenic vistas, scenic resources within a scenic highway, and degradation of the existing visual character or quality of the site and the surrounding area would be **less than significant**.

d) ***Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

The project does not include an increase in lighting for security or other purposes. Construction may occur over nighttime hours and would introduce temporary sources of light to areas that are normally not illuminated, but construction activities during nighttime would be short term, if necessary at all. Interior and exterior lighting fixtures would be wet-location rated with energy-efficient LED lighting. Interior fixtures would be linear type similar in appearance to linear fluorescent fixtures. Interior lighting controls would utilize vacancy sensors and manual override switches. Exterior fixtures would be small form, wall pack fixtures. Exterior lighting controls would utilize a timeclock control panel with photocell sensor for shutoff of the lights when daylight is present. Therefore, impacts associated with light or glare would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<p>II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The project would occur on land within San Diego County and is located adjacent to the City of Vista. The project site is designated in the General Plan land use designation as Semi-Rural Residential (SR-1) (County of San Diego 2011b). and zoned A70 (Limited Agricultural).

- a) ***Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

The project site is located on land classified as “Other Land” per the San Diego County Important Farmland 2016 map, as part of the Farmland Mapping and Monitoring Program (DOC 2018). Therefore, **no impact** would occur.

- b) ***Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?***

Under the San Diego County General Plan (General Plan) (2011b), the project site is designated Semi-Rural Residential (SR-1). Under the San Diego County Zoning Ordinance (County of San Diego 2007a), the project site is zoned A70 (Limited Agricultural). The project site is not under a Williamson Act contract. While the project site is zoned as Limited Agricultural within the County, it has been used as a water reservoir since 1929. The project does not involve a new land use, but rather is reconstructing an existing water reservoir facility for the continued use of the surrounding communities. Per California Government Code Sections 53091(d) and 53091(e), the County cannot prohibit the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy. Thus, the proposed project is not in conflict with the existing land use designation or zoning code. Therefore, the project would have **no impact**.

- c) ***Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?***

The project would not occur on land zoned or designated as forestland; it would not necessitate rezoning and would not conflict with existing zoning. Therefore, there will be **no impact**.

- d) ***Would the project result in the loss of forest land or conversion of forest land to non-forest use?***

The project would not result in the loss or conversion of forest land as the site is not zoned or designated as forest land. The project would not result in permanent loss or conversion of forest land, and therefore, **no impact** would occur.

- e) ***Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

The project consists of the reconstruction and expansion of an existing water reservoir that would serve existing and planned communities. The reconstruction of the reservoir would not result in the unplanned conversion of farmland or forest land to a non-agricultural or non-forestland uses. Therefore, **no impact** would occur.

Mitigation Measures

No mitigation measures are required.

3.3 Air Quality

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

Dudek completed an Air Quality and Greenhouse Gas Emissions Memorandum for the proposed project, which is included as Appendix A to this MND. As detailed in Appendix A, the following provides a brief summary of the existing setting with respect to air quality.

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM₁₀), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (PM_{2.5}). VOCs and NO_x are important because they are precursors to ozone (O₃). Criteria air pollutant emissions associated with construction of the project were estimated for the following emission sources: operation of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Operational emissions include those from maintenance vehicles and architectural coating off-gassing.

San Diego Air Pollution Control District

Although the California Air Resources Board (CARB) is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project is located within the San Diego Air Basin (SDAB) and is subject to San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. In San Diego County,

O₃ and particulate matter are the pollutants of main concern because exceedances of the California Ambient Air Quality Standards (CAAQS) for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ (1-hour and 8-hour) standards. The SDAB is also designated as a federal O₃ maintenance attainment area for the 1997 8-hour National Ambient Air Quality Standards (NAAQS) and a marginal nonattainment area for the 2008 8-hour NAAQS for O₃.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The Regional Air Quality Strategy (RAQS) for the SDAB was initially adopted in 1991, and is updated every 3 years (most recently in 2016). RAQS outlines the SDAPCD's plans and control measures designed to attain the CAAQS for O₃. RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

The 8-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O₃ standard by 2018 (SDAPCD 2016). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O₃ standard. RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the U.S. Environmental Protection Agency (EPA). Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

In December 2005, the SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM₁₀ and PM_{2.5}). In the report, the SDAPCD evaluates the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion.

San Diego Air Basin Attainment Designation

An area is designated as "in attainment" when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the EPA and CARB, respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in this air quality assessment include O₃, nitrogen dioxide (NO₂), CO, sulfur dioxide (SO₂), PM₁₀, and PM_{2.5}. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O₃.

The SDAB is designated as an attainment area for the 1997 8-hour O₃ NAAQS and as a nonattainment area for the 2008 8-hour O₃ NAAQS. The SDAB is designated as a nonattainment area for O₃, PM₁₀, and PM_{2.5} CAAQS. The portion of the SDAB where the project site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005).

The project site is bounded by agriculture and residential land to the north, open land including the San Marcos mountain range and residential buildings to the east, commercial and residential development to the south, and commercial and residential uses to the west. The land uses near the project alignment that are considered sensitive receptor land uses with regard to air quality concerns include the residential land uses.

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the SDAB—specifically, the State Implementation Plan (SIP) and RAQS.³ The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2012. SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the basin based on the NAAQS. RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2016). RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for O₃. SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project involves development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. As the project is located at the existing reservoir site, the project would not conflict with the existing zoning and General Plan land use designations. Implementation of the project would not be growth inducing (refer also to Section 3.14, Population and Housing). Additionally, the project would neither include a residential component that would increase local population growth, nor provide additional water supplies that would result in growth-inducing effects.

In summary, the project would not provide for residential development growth or local employment growth; therefore, the project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the various project-proposed maintenance activities is considered to be anticipated in the SIP and RAQS. Because the proposed project activities and associated vehicle trips are anticipated in local air quality plans, the project would be consistent at a regional level with the underlying growth forecasts in the RAQS. Impacts as a result of project-level activities would be **less than significant**.

³ For the purpose of this discussion, the relevant federal air quality plan is the Ozone Maintenance Plan (SDAPCD 2012). RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

A quantitative analysis was conducted to determine whether construction of the project may result in emissions of criteria air pollutants that may cause exceedances of federal and/or state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short-term impacts that would result from implementation of the project and concludes that impacts would be less than significant. The project would not involve routine daily activities following construction; therefore, the project is not anticipated to generate long-term operational criteria air pollutant emissions.

Construction Emissions

Emissions from the construction phase of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (CAPCOA 2017).

As described in Section 1.1, Project Description, the proposed project would replace an existing reservoir with a new reservoir and pump station. For the purposes of modeling, it was assumed that construction of the proposed project would commence in September 2020⁴ and would last approximately 18 months, ending in February 2022. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate):

- Demolition – 3 months
- Site preparation and grading – 3 months
- Reservoir construction – 12 months
- Pump station construction – 4 months
- Paving – 1 week
- Piping – 4 months
- Retaining wall construction – 1 month
- Architectural coating – 1 week

The majority of the phases listed above would occur concurrently and would not occur sequentially in isolation. The estimated construction duration was provided by the project engineering team. Detailed construction equipment modeling assumptions are provided in Appendix A.

⁴ The analysis assumes a construction start date of September 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

For the analysis, it was assumed that heavy construction equipment would be operating 5 days per week (22 days per month) during proposed project construction. Construction worker and vendor trips were based on CalEEMod default assumptions and rounded up to the nearest whole number to account for whole round trips.

Proposed project construction would include 1,830 cubic yards of cut and 1,337 cubic yards of fill as represented in the site preparation and grading phase. It is anticipated that earth movement would be primarily, if not completely, accomplished using off-road equipment (e.g., scrapers and excavators); however, on-site truck trips were conservatively assumed in the event cut and fill would be transported via trucks within the site boundary. There would also be export of approximately 650 tons of waste during the demolition phase.

Construction of proposed project components would be subject to SDAPCD Rule 55, Fugitive Dust Control, which requires that proposed construction include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during proposed grading and construction activities.

Blasting

Based on the known presence of hard rock at the project site, there is a high likelihood that rock excavation would be required during the site preparation and grading phase. Rock excavation methods would generally consist of non-explosive techniques, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, and expansive chemical agents. There is some potential that these methods would be unable to excavate the underlying rock to the required depths and limited blasting would be required. As discussed previously, for the purposes of a conservative analysis, construction modelling assumes that limited blasting operations would be required for site preparation. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)-based blends due to their lower cost compared to dynamite. The chemistry of ANFO detonation is the reaction of ammonium nitrate with a long-chain alkane to form NO_x, carbon dioxide, and water. When detonation conditions are optimal, these gases are the only products. In practical use, such conditions are impossible to attain, and blasts produce moderate amounts of other gases. The EPA's Compilation of Air Pollutant Emission Factors (AP-42), Section 13.3 – Explosives Detonation (EPA 1980), provided the emissions factors for CO, NO_x, and SO_x used in this assessment. According to AP-42, "Unburned hydrocarbons also result from explosions, but in most instances, methane is the only species that has been reported" (EPA 1980); methane is not a VOC, and a methane emission factor has not been determined for ANFO.

AP-42 states that CO is the pollutant produced in greatest quantity from explosives detonation. All explosives produce measurable amounts of CO. Particulates are produced as well, but such large quantities of particulate are generated during shattering of the rock and earth by the explosive that the quantity of particulates from the explosive charge cannot be distinguished. Accordingly, AP-42, Section 11.9 – Western Surface Coal Mining (EPA 1998), provided the basis for the PM₁₀ and PM_{2.5} emissions factors. The emissions factors are based on the horizontal area disturbed during blasting.

It is anticipated that blasting operations would occur during the site preparation and grading phase. No more than one blast per day would occur during construction activities. An average of 8 pounds of ANFO would be applied per blast (Dudek 2019). All blasting activity would comply with local and state requirements for permits/licenses, including Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code.

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. The proposed project would be subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the proposed project take steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) generated during grading and construction activities.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The application of asphalt pavement and architectural coatings would also produce VOC emissions. Table 2 shows the estimated maximum daily construction emissions associated with construction of the proposed project without mitigation. Complete details of the emissions calculations are provided in Appendix A.

Table 2. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>Pounds per day</i>					
2020 ¹	2.99	33.95	30.78	0.07	2.29	1.51
2021	7.81	33.37	33.74	0.07	2.43	1.56
2022	0.39	4.03	4.89	0.01	0.25	0.20
Maximum	7.81	33.95	33.74	0.07	2.43	1.56
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes:

VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. Although not considered mitigation, these emissions reflect the CalEEMod “mitigated” output, which accounts for the required compliance with SDAPCD Rule 55 (Fugitive Dust) and Rule 67.0.1 (Architectural Coatings).

¹ Emissions include blasting calculated outside of CalEEMod.

As shown in Table 2, daily construction emissions would not exceed the significance thresholds for any criteria air pollutant. Therefore, impacts during construction would be **less than significant**.

Operational Emissions

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from area sources (consumer products, landscape maintenance equipment), energy sources, and mobile sources (vehicle trips).

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from architectural coatings. VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from the application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emissions factor is based on the VOC content of the surface coatings, and SDAPCD's Rule 67.0.1 (Architectural Coatings) governs the VOC content for interior and exterior coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015). The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2017).

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases (GHGs) in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. The project would not have natural gas use. It is estimated that the project would use up to 196,049 kilowatt-hours of electricity per year from three, 50-horsepower pumps, running an average of 20% of the time based on the anticipated model specifications (Dudek 2019).

Mobile Sources

Following the completion of construction activities, the proposed project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of monthly maintenance inspections. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use, as modeled within the CalEEMod. Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with vehicular sources.

Table 3 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2022) of the proposed project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Table 3. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>Pounds per day</i>					
Area	0.01	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.01	0.04	0.00	0.01	0.00
Total	0.01	0.01	0.04	0.00	0.01	0.00
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District. See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect the CalEEMod “mitigated” output, which accounts for compliance with SDAPCD Rule 67.0.1 (Architectural Coatings).

As shown in Table 3, the combined daily area, energy, and mobile source emissions would not exceed the SDAPCD’s operational thresholds for VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The SDAB is a nonattainment area for O₃ under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O₃) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project’s contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project’s contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

Additionally, for the SDAB, RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed previously, the proposed project would not exceed significance thresholds during construction or operation.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively.

The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects involving development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the proposed project would be consistent with the existing zoning and land use designation for the site and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the proposed project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts would be **less than significant** during construction and operation.

c) ***Would the project expose sensitive receptors to substantial pollutant concentrations?***

Carbon Monoxide Hotspots

Mobile-source impacts occur on two basic scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled (VMT) within the local airshed and the SDAB. Locally, proposed project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The potential for CO hotspots was evaluated based on the results of the traffic report. The County of San Diego's Guidelines (County of San Diego 2007b) CO hotspot screening guidance was followed to determine if the project would require a site-specific hotspot analysis. The County recommends that a quantitative analysis of CO hotspots be performed for intersections operating at or below a level of service (LOS) of "E" and have peak-hour trips exceeding 3,000 trips.

The project would not generate trips during construction or operation to exceed the screening thresholds set forth above. Therefore, the project would not cause a CO hotspot and would have a **less than significant impact**.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or hazardous air pollutants (HAPs). The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. The closest sensitive receptors would be existing residents located directly adjacent to the proposed facility.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends an incremental cancer risk threshold of 10 in a million. "Incremental cancer risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Construction of project components would not require the extensive use of heavy-duty construction equipment, which is

subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions, and would not involve extensive use of diesel trucks, which are also subject to an Airborne Toxics Control Measure. Construction of the project would occur over a period of 18 months and would be periodic and short term within each phase. Following completion of construction activities, project-related TAC emissions would cease. Additionally, there is no diesel-powered equipment that would operate during project operation.

Health Impacts of Criteria Air Pollutants

Construction and operation of the project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others would be associated with architectural coatings, the emissions of which would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as an attainment area for the 1-hour O₃ NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O₃ are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O₃ ambient air quality standards tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O₃ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with project construction could minimally contribute to regional O₃ concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered **less than significant**.

Similar to O₃, construction of the project would not exceed thresholds for PM₁₀ or PM_{2.5} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The project would also not result in substantial diesel particulate matter emissions during construction and operation and therefore, would not result in significant health effects related to diesel particulate matter exposure. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered **less than significant**.

Regarding NO₂, according to the construction emissions analysis, construction of the project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. NO₂ and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the project would be required to comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the project would not require any stationary emission sources that would create substantial, localized NO_x impacts. Therefore, health impacts would be considered **less than significant**.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O₃ concentrations and the associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. The existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the project's operational NO_x emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants would be considered **less than significant**.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Odor is a form of air pollution that is possibly most obvious to the general public. Odors can present significant problems for the source and its surrounding community. Although offensive odors seldom cause physical harm, they can be annoying and cause concern. Construction and operation of the project would not create objectionable odors affecting a substantial number of people.

Construction

Potential sources that may emit odors during construction activities include diesel equipment, gasoline fumes, and asphalt paving material. Odors from these sources would be localized and generally confined to the project site. The project would use typical construction techniques in compliance with SDAPCD rules. Additionally, any odors would be temporary. As such, project construction would not cause an odor nuisance, and odor impacts would be **less than significant**.

Operation

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (CARB 2005). The project would only expand the size of the existing reservoir and thus would not create a new source of odors. Therefore, project operations would result in a **less-than-significant** odor impact.

Mitigation Measures

No mitigation measures required.

3.4 Biological Resources

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

Dudek completed a Biological Resources Technical Letter Report for the project included as Appendix B. Nearly the entire proposed project site is characterized by developed and ornamental planting land cover. Developed land cover on the site is comprised of the existing E Reservoir facility, associated facilities, and access roads, which cover approximately 1.42 acres. Ornamental planting areas cover approximately 0.39 acres of the site and consist of eucalyptus trees (*Eucalyptus* sp.), ornamental pine trees (*Pinus* sp.), Peruvian peppertree (*Schinus molle*), onionweed (*Asphodelus fistulosus*), hottentot fig (*Carpobrotus edulis*), and bare ground. The proposed project site

is largely developed and provides limited habitat for wildlife. The ornamental tree species and limited native vegetation provide habitat for species common to urban areas, particularly bird species such as black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), and song sparrow (*Melospiza melodia*).

The narrow, steep slope on the east side of the reservoir is characterized by plant species associated with disturbed coastal sage scrub, including predominantly California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*). This small vegetation patch is open and sparse with evidence of ground disturbance and patches dominated by non-native exotic plant species, including black mustard (*Brassica nigra*) and tree tobacco (*Nicotiana glauca*). This area of the site was mapped as disturbed coastal sage scrub based on the characteristic dominant species; however, this isolated vegetation patch is very small (less than 0.07 acres) and well below the state-defined minimum mapping unit⁵ for vegetation community mapping (Appendix B). Coastal sage scrub vegetation is identified as a special-status vegetation type; however, the remnant patch on the project site would not be considered substantial or suitable to support special-status wildlife associated with coastal sage scrub due its size, disturbed nature, and isolation from other native vegetation.

Special-status species include plant and wildlife species that are federally- or state-listed as endangered, threatened, or candidates under the federal and state endangered species list, species listed as state rare or fully protected, wildlife designated as state species of special concern, and plant species with a California Rare Plant Rank (CRPR) 1A, 1B, 2A, or 2B (Appendix B). Special-status species occurrence information in the region is based on the federal, state, and local occurrence database records (Appendix B). No special-status plant species were identified on the proposed project site. Based on a review of the special-status plant species known from the region, each special-status plant species would either not be expected to occur or would have a low potential to occur on the proposed project site.

No jurisdictional wetlands or waters features potentially subject to the jurisdiction of the U.S. Army Corps of Engineers, RWQCB, or California Department of Fish and Wildlife occur on the proposed project site.

a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No special-status plant species were detected on the proposed project site, and no special-status plant species are likely to occur. The majority of the site (over 96%) is characterized by developed and ornamental planting land cover that does not provide suitable habitat to support special-status plant species, and the remainder of the site (0.07 acres) is not likely to or has a low potential to support these species. As a result, the proposed project would not have a substantial adverse effect on special-status plant species, and the impacts of the proposed project would be **less than significant**.

⁵ Minimum mapping unit can vary depending on the area of the mapping effort and the sensitivity of the vegetation community being mapped; however, minimum mapping unit size is not greater than 10 acres and is usually 1 or 2 acres in size. Special vegetation types are mapped at a 0.25-acre minimum mapping unit. Minimum width of a mapped polygon is generally no less than 30 feet.

No special-status wildlife species were detected on the proposed project site, and no special-status wildlife species are likely to occur. The majority of the site (over 96%) is characterized by developed and ornamental planting land cover that does not provide suitable habitat to support special-status wildlife species, and the remainder of the site (0.07 acres) is not likely to or has a low potential to support these species. As a result, the proposed project would not have a substantial adverse effect on special-status plant species, and the impacts of the proposed project would be **less than significant**.

Trees, shrubs, and structures on the proposed project site have the potential to support nesting birds protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code. Direct impacts to nesting birds would be a significant impact, absent mitigation. In order to avoid nesting birds during construction of the proposed project, pre-construction nesting bird surveys and avoidance measures shall be implemented pursuant to mitigation measure (MM) BIO-1 (Pre-Construction Nesting Bird Surveys and Reporting), included below. With implementation of the proposed mitigation measure to avoid impacts to nesting birds, this impact would be reduced to a level that is **less than significant**.

- b) ***Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

Implementation of the proposed project would result in ground disturbance and direct, permanent impact to the entire 1.88-acre proposed project site. Developed and ornamental planting land cover characterize the majority of the site (1.81 acres), which would not be considered sensitive under CEQA, and impacts to these areas would be less than significant. The California Department of Fish and Wildlife considers coastal sage scrub to be a sensitive natural community; however, impacts to 0.07 acres of this isolated, remnant patch of vegetation would not be considered a substantial impact on a sensitive natural community. The disturbed coastal sage scrub vegetation on the site is on a steep slope and surrounded by rural residential and agricultural land uses. The vegetation patch is open with evidence of past ground disturbance and non-native exotic plant species occur throughout. This vegetation patch was not considered suitable to support special-status plant or wildlife species and is considerably smaller than the state minimum mapping unit size for vegetation mapping. Therefore, the negligible loss of this vegetation would not be considered a substantial impact on a sensitive natural community and the impact would be **less than significant**.

- c) ***Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

As mentioned in the discussion of Setting above, the project site does not contain any jurisdictional wetlands or waters features potentially subject to the jurisdiction of the U.S. Army Corps of Engineers. Therefore, the proposed project would have **no impact** to wetlands or waters of the United States.

- d) ***Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

As discussed in the Biological Resources Technical Letter Report in Appendix B, the proposed project site provides little value or function for wildlife movement; therefore, the proposed project would not interfere substantially with the movement of wildlife and impacts would be **less than significant**.

- e) ***Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

No local policies or ordinances protecting biological resources or provisions of any approved habitat conservation plans would apply to the proposed project. The trees proposed for removal are not a protected species. Therefore, the **no impacts** would result.

- f) ***Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

The County of San Diego is in the process of developing the North County Multiple Species Conservation Program (MSCP), which would provide a regional strategy for conserving the County's biological resources and a process for permitting development activities. The North County MSCP has not been finalized or approved and would not apply to VID projects; however, the document provides relevant conservation planning information for the region. The preliminary draft of the North County MSCP (County of San Diego 2009) excludes the proposed project site and the surrounding rural residential/agricultural areas from the pre-approved mitigation area (future habitat reserve areas); therefore, the site and surroundings are not considered important for biological conservation in the draft North County MSCP. Therefore, the proposed project would have a **less than significant** impact.

Mitigation Measures

MM-BIO-1: Pre-Construction Nesting Birds Surveys and Reporting. To avoid impacts to breeding and nesting birds in accordance with the Migratory Bird Treaty Act and California Fish and Game Code, construction activities shall take place outside of the nesting season; nesting season is March 1 (January 1 for raptors) through September 15. If construction cannot take place outside the nesting season, a breeding/nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to ground-disturbing activities to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the impact area or within 300 feet of the impact area. If active nests are found, an avoidance buffer shall be established (typically 50 to 300 feet, depending on the species) until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. A survey and monitoring report documenting the pre-construction survey results and implemented avoidance measures shall be submitted.

3.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

Dudek completed a Cultural Resources Report (Appendix C1) and a Historical Resources Technical Report (Appendix C2). The E Reservoir was the last to be constructed during VID’s first formal period of development in the 1920s. The E Reservoir was built with two small buildings to its direct southwest. It is unknown whether these buildings were for a pump house or served another purpose. In 1952, the reservoir was reroofed, which expanded the structure’s height. The reservoir was no longer underground but semi-buried. The earthen roof was replaced with a corrugated galvanized iron roof on a steel skeleton, and exterior walls were constructed of concrete. As part of VID’s first phase of integrating a high-pressure flow system into VID lines in 1959, a 30-inch H-line was constructed between the Pechstein Reservoir and the E Reservoir and the E Reservoir was raised to a greater holding capacity. By the early 1980s, the two small buildings to the reservoir’s southwest were demolished. The reservoir itself underwent several improvements in 1984. These improvements included paving a small driveway and a cul-de-sac along the structure’s west elevation, the addition of a new access hatch, and construction of a new overflow structure. Between 2005 and 2009, a small PRS building was constructed to the southwest of the reservoir, near the same place as the two earlier buildings. From this point on there are no recorded changes made to the reservoir and PRS (VID 1984).

Dudek Archaeologist Scott Wolf conducted a records search at the South Coastal Information Center on February 13, 2019, for the project area of potential disturbance and a 1-mile buffer. No archaeological resources have been previously recorded within the area of potential disturbance. A total of seven previously recorded resources were identified within the surrounding 1-mile search buffer. These resources include two prehistoric temporary habitation sites and five historic sites, including three buildings, one shed remains, and one historic trail. South Coastal Information Center records also indicated that a total of 20 technical studies have been conducted within the 1-mile records search area.

a) ***Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?***

The existing reservoir was evaluated for National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) historic resource designation in consideration of all applicable criteria and integrity requirements. NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in prehistory or history.

The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to California Public Resources Code Section 5024.1(c)(1-4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

- 1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- 2. Is associated with the lives of persons important in our past.
- 3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- 4. Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, the local designation criterion for the County of San Diego mirror that of the NRHP and CRHR criterion A/1, B/2, C/3, and D/4.

As detailed in Appendix C2, the project site does not meet any of the designation criteria for significance. The structure was evaluated for NRHP, CRHR, and County of San Diego designation criteria, and assessed for integrity. As a result of the evaluation, the reservoir was found not eligible under all designation criteria due to a lack of historical associations, architectural merit, and compromised integrity. As such, the subject property is not considered a historical resource under CEQA, and no management recommendations are required. The proposed project would not cause a substantial adverse change in the significance of a historical resource. Therefore the proposed project would have a **less-than-significant impact**.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

As discussed in Appendix C1, the South Coastal Information Center records indicated that no archaeological resources have been previously recorded within the project disturbance area. Dudek’s archival research for the project indicates that there is a low sensitivity for encountering potential subsurface archaeological deposits. No resources were identified in the project disturbance area, and only seven resources are located within a 1-mile radius of the project area, indicating a low volume of cultural resources in the vicinity. Modern and historic disturbances have disturbed near-surface sediments throughout the project disturbance area. This disturbance suggests there is little to no potential to encounter unidentified significant cultural resources in the disturbance area. In addition, the Native American Heritage Commission (NAHC) Sacred Lands File search did not indicate that cultural resources are in the vicinity of the project site, and subsequent tribal information requests have not yielded any responses to-date that provide information or concerns about the project site. Finally, the cultural resources pedestrian survey of the project area of disturbance was negative for archaeological resources. However, there is a risk, while low, of the disturbance of previously unknown archeological or historic resources during ground-disturbing activities. Mitigation measure MM CUL-1 would ensure that construction would stop and appropriate measures are taken in the event that unanticipated discovery of a cultural resource is identified during construction. Therefore, the proposed project will have a **less-than-significant impact with mitigation**.

c) *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

While unlikely, there is some potential that earth disturbance associated with the proposed project could disturb or uncover human remains. With the implementation of mitigation measure MM CUL-2, which prescribes measures to appropriately address the inadvertent discovery of human remains, project impacts from potential disturbance of human remains would be **less than significant with mitigation**.

Mitigation Measures:

MM-CUL-1 Prior to the start of construction, a worker environmental awareness training program (WEAP) shall be implemented at the construction kickoff meeting to inform construction workers of the cultural sensitivity of the general area and of the types of artifacts that are commonly found during construction in the region. Examples of prehistoric resources may include stone tools and manufacturing debris; milling equipment such as bedrock mortars, portable mortars, and pestles; darkened or stained soils (midden) that may contain dietary remains such as shell and bone; and human remains. Historic resources may include burial plots; structural foundations; mining spoils piles and prospecting pits; cabin pads; and trash scatters consisting of cans with soldered seams or tops, bottles, cut (square) nails, and ceramics. The WEAP training shall also inform construction personnel on what to do in the event of a discovery.

In the event that unanticipated archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring in the immediate vicinity of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act

(CEQA) (14 CCR 15064.5[f]; California Public Resources Code Section 21082) the archaeologist may record the find to appropriate standards (thereby addressing any data potential) and allow work to continue. If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the National Historic Preservation Act, additional efforts may be warranted as recommended by the qualified archaeologist.

MM-CUL-2 In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, all work in the immediate vicinity shall be suspended and the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made. If the county coroner determines that the remains are, or are believed to be, Native American, they shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent (MLD) from the deceased Native American. Within 48 hours of their notification, the MLD will recommend to the lead agency their preferred treatment of the remains and associated grave goods.

3.6 Energy

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) ***Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

The analysis presented below is based on information obtained through CalEEMod, as detailed in Section 3.3, Air Quality, and Appendix A.

Energy Consumption

Electricity

Construction Use

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning) would be provided by SDG&E. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal; therefore, impacts would be **less than significant**.

Operational Use

The operational phase would require electricity for operating the electric pumps. CalEEMod Version 2016.3.2 and the default value for electricity consumption for the proposed uses were applied for the project (CAPCOA 2017). Table 4 presents the electricity demand for the project.

Table 4. Project Operations - Electricity Demand

Project Facility	kWh/Year
<i>Building and Lighting Electricity Demand</i>	
General Heavy Industry	196,049

Source: Appendix A.

Notes: kWh = kilowatt-hour.

The proposed project is estimated to have a total electrical demand of 196,049 kilowatt-hours per year. In comparison, the total countywide electricity demand in 2018 was 19,749 million kilowatt-hours (CEC 2018). The proposed project’s buildings would be built in accordance with the current Title 24 standards at the time of construction and California Green Building Standards (CALGreen) Code. Therefore, due to the limited amount of electricity use compared to the County, and the inherent increase in efficiency of building code regulations, the proposed project would not result in a wasteful use of energy. Impacts related to operational electricity use would be **less than significant**.

Natural Gas

Construction Use

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline. Any minor amounts of natural gas that may be consumed as a result of proposed project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be **less than significant**.

Operational Use

Natural gas would not be supplied to the project site for use during operation. **No impact** would occur during operation.

Petroleum

Construction Use

Petroleum would be consumed throughout construction of the proposed project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities, vendor trucks, and haul trucks would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during construction. CalEEMod was used to estimate construction equipment usage. Based on that analysis, diesel-fueled construction equipment would operate for an estimated 14,606 hours, as summarized in Table 5.

Table 5. Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
Demolition	1,950
Site Preparation and Grading	3,528
Reservoir Construction	8,352
Paving	32
Architectural Coating	40
Pump Station Construction	0
Piping	704
Retaining Wall Construction	0
Total	14,606

Source: Appendix A.

Fuel consumption from construction equipment was estimated by converting the total carbon dioxide (CO₂) emissions from each construction phase to gallons using conversion factors for CO₂ to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton (MT) CO₂ per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO₂ per gallon (The Climate Registry 2019). The estimated diesel fuel use from construction equipment is shown in Table 6. Fuel consumption from worker, vendor, and haul truck trips was estimated by converting the total CO₂ emissions from the construction phase to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, whereas vendor and haul trucks are assumed to be diesel fueled. The estimated fuel use for worker vehicles, vendor trucks, and haul trucks are presented in Table 7.

Table 6. Construction Equipment Fuel Demand

Phase	Pieces of Equipment	Equipment CO ₂ (MT)	kg CO ₂ / Gallon	Gallons
Demolition	4	42.04	10.21	4,117.82
Site Preparation and Grading	8	94.15	10.21	9,221.49
Reservoir Construction	4	177.76	10.21	17,410.06
Paving	2	0.64	10.21	63.03
Architectural Coating	1	0.85	10.21	83.36
Pump Station Construction	0	0.00	10.21	0.00
Piping	1	19.97	10.21	1,955.50
Retaining Wall Construction	0	0.00	10.21	0.00
Total				32,851.25

Sources: Appendix A.

Notes: CO₂ = carbon dioxide; kg = kilogram; MT = metric ton.

Table 7. Construction Vehicle Fuel Demand

Phase	Trips	Vehicle CO ₂ (MT)	kg CO ₂ / Gallon	Gallons
Construction Worker Vehicle Gasoline Demand				
Demolition	780	2.83	8.78	321.98
Site Preparation and Grading	880	3.15	8.78	358.61
Reservoir Construction	5,220	18.28	8.78	2,082.41
Paving	20	0.03	8.78	3.08
Architectural Coating	704	0.14	8.78	15.96
Pump Station Construction	176	3.08	8.78	351.06
Piping	880	2.47	8.78	280.84
Retaining Wall Construction	16	0.62	8.78	70.22
<i>Subtotal</i>				<i>3,484.16</i>
Construction Vendor Truck Diesel Demand				
Demolition	260	3.43	10.21	335.96
Site Preparation and Grading	0	0.00	10.21	0.00
Reservoir Construction	0	0.00	10.21	0.00
Paving	10	0.05	10.21	5.07
Architectural Coating	0	0.00	10.21	0.00
Pump Station Construction	0	0.00	10.21	0.00
Piping	0	0.00	10.21	0.00
Retaining Wall Construction	0	0.00	10.21	0.00
<i>Subtotal</i>				<i>341.04</i>
Construction Haul Truck Diesel Demand				
Demolition	64	2.47	10.21	241.72
Site Preparation and Grading	476	18.27	10.21	1,789.26
Reservoir Construction	800	30.46	10.21	2,983.83
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
Pump Station Construction	100	3.81	10.21	372.98
Piping	20	0.76	10.21	74.59

Table 7. Construction Vehicle Fuel Demand

Phase	Trips	Vehicle CO ₂ (MT)	kg CO ₂ / Gallon	Gallons
Retaining Wall Construction	10	0.38	10.21	37.30
<i>Subtotal</i>				5,499.68
Petroleum Total				9,324.87

Sources: Appendix A.

Notes: CO₂ = carbon dioxide; kg = kilogram; MT = metric ton.

As shown in Table 6 and Table 7, the proposed project is estimated to consume approximately 42,176 gallons of petroleum during the construction phase. By comparison, approximately 31.1 billion gallons of petroleum would be consumed in California over the course of the project’s construction phase based on the California daily petroleum consumption estimate of approximately 78.6 million gallons per day (EIA 2019). The proposed project would be required to comply with the CARB’s Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Overall, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant**.

Operational Use

The majority of fuel consumption resulting from the proposed project’s operational phase would be attributable to the use of motor vehicles traveling to and from the project area for periodic maintenance. Petroleum fuel consumption associated with motor vehicles traveling to and from the project area is a function of VMT as a result of proposed project operation. The annual VMT attributable to the proposed project is expected to be 4,171 VMT per year based on CalEEMod default trip lengths. Similar to construction trips, fuel consumption was estimated by converting the total CO₂ emissions from each land use type to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. Based on the Countywide proportion of gasoline and diesel on-road vehicle generated CO₂ in EMFAC2017, the vehicles associated with project operations were assumed to be approximately 84% gasoline powered and 16% diesel powered. The estimated fuel use from project operational mobile sources is shown in Table 8.

Table 8. Petroleum Consumption – Operation

Fuel	Vehicle MT CO ₂	kg CO ₂ /Gallon	Gallons
Gasoline	1.51	8.78	172.40
Diesel	0.12	10.21	12.05
Total			184.45

Sources: Appendix A.

Notes: CO₂ = carbon dioxide; kg = kilogram; MT = metric ton.

Mobile sources from the proposed project would result in approximately 172 gallons of gasoline per year and 12 gallons of diesel consumed per year beginning in 2022. By comparison, California as a whole consumes approximately 28.7 billion gallons of petroleum per year (EIA 2019).

Over the lifetime of the proposed project, the fuel efficiency of the vehicles being used is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project area during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles

by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California (CARB 2012). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions from 2005 levels by 8% by the year 2020 and 13% by the year 2035 for light-duty passenger vehicles in the planning area for the SANDAG. This reduction would occur by reducing VMT through the integration of land use and transportation planning (SANDAG 2015).

In summary, although the proposed project would increase petroleum use during operation, the use would be a small fraction of the statewide use and, due to efficiency increases, diminish over time. Given these considerations, petroleum consumption associated with the proposed project would not be considered inefficient or wasteful and would result in a **less-than-significant impact**.

b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Title 24 of the California Code of Regulations contains energy efficiency standards for residential and nonresidential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, wall/floor/ceiling assemblies, and roofs. Part 6 of Title 24 specifically establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California in order to reduce energy demand and consumption. Part 11 of Title 24 also includes the CALGreen standards, which established mandatory minimum environmental performance standards for new construction projects. The project would comply with Title 24, Part 6 and Part 11, per state regulations. Based on the foregoing, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, impacts during construction and operation of the proposed project would be less than significant. The proposed project would continue the existing use of the project site and would reconstruct the existing reservoir and add a pump station. The proposed project would continue to use the existing connections with SDG&E for its electrical source. All buildings materials proposed for the project's building modifications would be compliant with all ~~City and state~~applicable policies, codes, and regulations. Therefore, the proposed project would have a **less-than-significant impact**.

Mitigation Measures

No mitigation measures required.

3.7 Geology and Soils

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed project would construct an expanded, in-situ replacement of an existing water reservoir and construct a new pump station along with minor improvements, such as asphalt pavement, steel security fence, and lighting. Minor grading of the existing slopes around the proposed reservoir may be recommended. A geotechnical investigation was completed by SCST on May 23, 2019, and is included in Appendix D. The investigation found that the site soil consisted of fill, colluvium, and Gabbro igneous rock.

The project site does not contain any known Alquist-Priolo Earthquake Fault Zones, as listed by the California Geological Survey. The closest known active fault is the Newport-Inglewood-Rose Canyon Fault Zone located about 13.4 miles southwest of the site. According to the Fault Activity Map of California and Adjacent Areas, no active faults are located on the project site (DOC 2015). The proposed project is not located in an area with a high chance of liquefaction or landslides (Appendix D).

a) ***Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***

i) ***Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

ii) ***Strong seismic ground shaking?***

iii) ***Seismic-related ground failure, including liquefaction?***

iv) ***Landslides?***

The project site is located within seismically active Southern California, an area where several faults and fault zones are considered active by the California Division of Mines and Geology. The proposed project would construct an expanded, in-situ replacement of an existing water reservoir and construct a new pump station designed and constructed in accordance with Uniform Building Code Zone 3 standards and the recommendations of a California registered Engineering Geologist, and would thereby reduce the risk of structural failure as a result of seismic activity. The site is not located within or near any known Alquist-Priolo Earthquake Fault Zones, as listed by the California Geological Survey. According to the Fault Activity Map of California and Adjacent Areas, no active faults are located on the project site (DOC 2015). The closest fault is the Newport-Inglewood-Rose Canyon Fault Zone located about 13.4 miles southwest of the site. Risks associated with seismic-related activity such as rupture of a fault, strong ground shaking, and ground failure would be less than significant as a result of compliance with applicable codes. The project includes no elements that would increase the risk or susceptibility of the site to landslides and the potential for liquefaction is low to due to the lack of groundwater and the dense nature of the rock beneath the site. Risks associated with landslide or seismic activity would be **less than significant**.

b) ***Would the project result in substantial soil erosion or the loss of topsoil?***

The project would result in ground disturbance within the project site. All areas disturbed during construction would be stabilized in accordance with erosion control best management practices (BMPs) identified in project plans and as specified in the stormwater pollution prevention plan (SWPPP) required for the project. The SWPPP would be prepared as required to obtain coverage under the State Construction General Permit and will specify the use of appropriate BMPs for erosion control and spill prevention during and following construction. This requires implementation of water quality BMPs to ensure that water quality standards are met and that stormwater runoff from the construction work areas does not cause degradation of water quality in receiving water bodies. Some of these BMPs include use of silt screening or fiber filtration rolls, appropriate handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick up, and vehicle and equipment repair and maintenance in designated

areas. Upon completion of construction, the land disturbed by construction would be returned to conditions similar to existing conditions; revegetation and paved areas would stabilize soils to minimize erosion. Impacts from erosion would be **less than significant**.

- c) ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

The project site is not located within an area with any known geologic or soil instability and the proposed project would construct an expanded water reservoir and associated infrastructure that would be constructed in accordance with applicable codes that would not exert high loads on the ground surface and would not be expected to result in any increased risk of ground failure. Additionally, the project design and construction would be in accordance with recommendations of a California-registered engineering geologist to ensure it is constructed in consideration of site-specific conditions as determined by the geotechnical investigation included in Appendix D. Therefore, impacts associated with an unstable geologic unit or soil would be **less than significant**.

- d) ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

As determined by the geotechnical investigation, the soils on the project site were tested and exhibit a low expansion index (Appendix D). Project design and construction would be in accordance with Uniform Building Code Zone 3 standards, which take into account local conditions. The project design and construction would be in accordance with recommendations of a California-registered engineering geologist to ensure it is constructed in consideration of site-specific conditions as determined by the geotechnical investigation included in Appendix D. Therefore, the project would have a **less-than-significant impact** associated with expansive or otherwise unstable soils.

- e) ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

The proposed project would not include fulltime work facilities and thus would not require the use of septic tanks or alternative wastewater disposal systems. Thus, there would be **no impact**.

- f) ***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

The project site contains no known paleontological resources or unique geologic features and is not within an area considered sensitive for these resources. The project site is underlain by Gabbro igneous rock, which has no potential to contain paleontological resources. Potential impacts associated with effects to unique paleontological or geologic features would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth’s temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, and water vapor. If the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere will gradually increase. Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalent (CO₂E).⁶

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs (CAT 2010). This approach is consistent with the Final Statement of Reasons for Regulatory Action for amendments to the CEQA Guidelines, which confirms that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009).

⁶ The CO₂E for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO₂E = (metric tons of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH₄ is 25, which means that emissions of 1 metric ton of CH₄ are equivalent to emissions of 25 metric tons of CO₂, and the GWP for N₂O is 298, based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report.

GHG emissions associated with construction of the project were estimated for the following emission sources: operation of off-road construction equipment, on-road hauling and vendor trucks, and worker vehicles. GHG emission sources associated with operation of the project were evaluated for energy use (generation of electricity consumed by the project), area sources, and project-generated vehicle traffic.

CEQA Guidelines

The California Natural Resources Agency adopted amendments to the CEQA Guidelines on December 30, 2009, which became effective on March 18, 2010. With respect to GHG emissions, the amended CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards” (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether a project’s emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, CEQA Guidelines Section 15064.7(c) specifies that “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.” Accordingly, the CEQA Guidelines do not prescribe specific methodologies for performing an assessment, establish specific thresholds of significance, or mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance that are consistent with the manner in which other impact areas are handled in CEQA (14 CCR 15000 et seq.).

Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the SDAB, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project’s contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project’s individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the California Natural Resources Agency (CNRA), which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB 97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009).

As VID has no adopted guidance regarding GHG emissions, and the project is located within the geographic bounds of the County, the County's Climate Action Plan (CAP) Consistency Checklist is relied upon for determining significance. In regards to evaluating the project's significance with respect to CEQA Guidelines checklist a and checklist question b, the project will be evaluated against the County's CAP, Assembly Bill (AB) 32, and SANDAG's Regional Transportation Plan/Sustainable Communities Strategy. A project's consistency with the County's CAP is evaluated in a two-step process. Step 1 in the CAP Checklist assesses a project's consistency with the growth projections and land use assumptions made in the CAP. If a project is consistent with the projections in the CAP, its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase emissions beyond what is anticipated in the CAP or inhibit the County from reaching its reduction targets. If a project is consistent with the existing General Plan land use designation(s), it can be determined to be consistent with the CAP projections and can move forward to Step 2 of the Checklist. Step 2 of the Checklist identifies CAP GHG reduction measures that would apply to discretionary projects and establishes clear questions that can be used to assess a project's consistency with CAP measures. The specific applicable requirements outlined in the Checklist shall be required as a condition of project approval. The project must provide substantial evidence that demonstrates how the proposed project would implement each applicable Checklist requirement described in Appendix A to the satisfaction of the Director of Planning and Development Services.

- a) ***Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

- b) ***Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

Construction Emissions

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule—including information regarding phasing, equipment utilized during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix A.

Table 9 shows the estimated annual GHG construction emissions associated with the proposed project, as well as the amortized construction emissions over a 30-year project life.

Table 9. Estimated Annual Construction GHG Emissions

Year	CO2	CH4	N2O	CO2e
	<i>Metric Tons per Year</i>			
2020 ¹	122.27	0.03	0.00	123.12
2021	302.64	0.08	0.00	304.65
2022	0.72	0.00	0.00	0.73
Total				428.50
Amortized Emissions				14.28

Notes:

CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

See Appendix A for complete results.

¹ Emissions include blasting calculated outside of CalEEMod.

Total construction emissions for the proposed project were estimated to be 429 MT CO₂e. Estimated amortized project-generated construction emissions over 30 years would be approximately 14 MT CO₂e per year. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period for each phase, and would not represent a long-term source of GHG emissions.

Operational Emissions

Operation of the proposed project would generate GHG emissions through motor vehicle trips to and from the project site and energy use (generation of electricity consumed by the proposed project). CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions (Appendix A). The GHG emissions from the existing golf course were also estimated and are presented below.

Table 10 shows the estimated operational (year 2022) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation.

Table 10. Estimated Annual Operational GHG Emissions

Emission Source	CO2	CH4	N2O	CO2e
	<i>Metric Tons per Year</i>			
Area	0.00	0.00	0.00	0.00
Energy	64.08	0.00	0.00	64.29
Mobile	1.63	0.00	0.00	1.64
Total				65.93
<i>Amortized Construction Emissions</i>				<i>14.28</i>
Operation + Amortized Construction Total				80.21

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

See Appendix A for detailed results.

These emissions reflect CalEEMod “mitigated” output and operational year 2022.

As shown in Table 10, estimated annual project-generated GHG emissions in 2022 would be approximately 66 MT CO₂e per year as a result of proposed project operations. Estimated annual project-generated emissions in 2022 from area, energy, and mobile sources and amortized project-generated construction emissions would be approximately 80 MT CO₂e per year.

Consistency with Applicable Plans and Policies

Consistency with SANDAG’s San Diego Forward: The Regional Plan

Regarding consistency with SANDAG’s Regional Plan, the proposed project would include site design elements and project design features developed to support the policy objectives of the Regional Plan and SB 375. SANDAG’s Regional Plan is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the San Diego region. The Regional Plan will integrate land use and transportation strategies to meet GHG emissions reduction targets that are forecasted to achieve the state’s 2035 and 2050 GHG reduction goals. The Regional Plan incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the Regional Plan if it does not exceed the underlying growth assumptions within the Regional Plan. The proposed project is not growth inducing. Therefore, the proposed project would be consistent with the total VMT per capita, growth projections, and GHG reductions assumed within the Regional Plan.

Table 11 illustrates the proposed project’s consistency with all applicable goals and policies of SANDAG’s Regional Plan (SANDAG 2015).

Table 11. San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
<i>The Regional Plan – Policy Objectives</i>		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to take advantage of new technologies to make the transportation system more efficient and environmentally friendly.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir, thus not impacting open space.
Habitat and Open Space Preservation	Protect and restore our region’s urban canyons, coastlines, beaches, and water resources.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir, thus not impacting open space.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to invest in transportation projects available to all members of the community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	<i>Not Applicable.</i> The proposed project does not include regional freight movement, nor would it impair SANDAG’s ability to

Table 11. San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
		preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to create great places for everyone to live, work, and play.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.
Environmental Stewardship	Support energy programs that promote sustainability.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to support energy programs that promote sustainability.
Sustainable Communities Strategy – Strategies		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	<i>Consistent.</i> The proposed project would be located close to major urban and employment centers.
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir, thus not impacting open space.
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to invest in a transportation network that

Table 11. San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
		gives people transportation choices and reduces GHG emissions.
Strategy #4	Address the housing needs of all economic segments of the population.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to address the housing needs of all economic segments of the population.
Strategy #5	Implement the Regional Plan through incentives and collaboration.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to implement the Regional Plan through incentives and collaborations.

Source: SANDAG 2015.

Note: SANDAG = San Diego Association of Governments.

As shown in Table 11, the proposed project would be consistent with all applicable Regional Plan policy objectives or strategies. The second of the four objectives of the SANDAG Regional Housing Needs Assessment is to promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns. Also, one of the key achievements projected for the Regional Plan is for nearly three-quarters of multifamily housing to be built on redevelopment or infill sites. The proposed project would be consistent with that goal as it would be built on an existing developed site. As shown in Table 11, the proposed project would be consistent with policy objectives of SANDAG’s Regional Plan. Impacts would be **less than significant**.

Consistency with CARB’s Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California’s GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that “[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan” (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., low-carbon fuel standard), among others. The proposed project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California’s GHG emissions. Table 12 highlights measures that have been developed under the Scoping Plan and the proposed project’s consistency with those measures. The table also includes measures proposed in the 2017 Scoping Plan Update. To the extent that these regulations are applicable to the proposed project, its inhabitants, or uses, the proposed project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 12. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
<i>Transportation Sector</i>		
Advanced Clean Cars	T-1	The proposed project’s employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 (4.2 million Zero-Emissions Vehicles by 2030)	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by the proposed project’s employees would use compliant fuels.
Low Carbon Fuel Standard (18 percent reduction in carbon intensity by 2030)	NA	Motor vehicles driven by the proposed project’s employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Advanced Clean Transit	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Last Mile Delivery	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	NA	The proposed project is located on an infill site, which promotes compact walkable communities with an emphasis on proximity and accessibility.
Vehicle Efficiency Measures <ol style="list-style-type: none"> 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing 	T-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Ship Electrification at Ports (Shore Power)	T-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Goods Movement Efficiency Measures <ol style="list-style-type: none"> 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction 	T-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
California Sustainable Freight Action Plan	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.

Table 12. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project	T-8	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Medium and Heavy-Duty GHG Phase 2	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	The proposed project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The proposed project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The proposed project would not employ solar water heating as part of the design.
Combined Heat and Power	E-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Renewables Portfolio Standard (33 percent by 2020)	E-3	The proposed project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard.
Renewables Portfolio Standard (50 percent by 2050)	NA	The proposed project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Water Sector		
Water Use Efficiency	W-1	The project would not consume water.
Water Recycling	W-2	Recycled water will not be used on site.
Water System Energy Efficiency	W-3	This is applicable for the transmission and treatment of water, but it is not applicable for the proposed project.
Reuse Urban Runoff	W-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.

Table 12. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Renewable Energy Production	W-5	Applicable for wastewater treatment systems. Not applicable for the proposed project.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The proposed project would be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	The proposed project’s buildings would meet green building standards that are in effect at the time of construction.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	The proposed project would be required to be constructed in compliance with local green building standards in effect at the time of building construction.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20 percent in Oil Refinery Sector	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Refinery Flare Recovery Process Improvements	I-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.

Table 12. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Mandatory Commercial Recycling	RW-3	During both construction and operation of the proposed project, the proposed project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Anaerobic/Aerobic Digestion	RW-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
SF ₆ Limits in Non-Utility and Non-Semiconductor Applications	H-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	The proposed project’s employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.

Table 12. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
SF ₆ Leak Reduction Gas Insulated Switchgear	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
40 percent reduction in methane and hydrofluorocarbon emissions	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
50 percent reduction in black carbon emissions	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan measure.

Sources: CARB 2008, 2017.

Notes: GHG = greenhouse gas; CARB = California Air Resources Board; EV = electric vehicle; SF₆ = sulfur hexafluoride.

Based on the analysis in Table 12, the proposed project would be consistent with the applicable strategies and measures in the Scoping Plan.

In addition to the measures outlined in the Table 12, the Scoping Plan also highlights, in several areas, the goals and importance of infill projects. Specifically, the Scoping Plan calls out an ongoing and proposed measure to streamline CEQA compliance and other barriers to infill development. The plan encourages infill projects and sees them as crucial to achieving the state’s long-term climate goals. The plan encourages accelerating equitable and affordable infill development through enhanced financing and policy incentives and mechanisms.

The state completed an Integrated Natural and Working Lands Climate Change Action Plan (Action Plan) in 2018, which will consider aggregation of eco-regional plans and efforts to achieve net sequestration goals. The Action Plan will include goals and plans to promote and provide incentives for infill development through community revitalization and urban greening and promote the adoption of regional transportation and development plans, such as SB 375 Sustainable Communities Strategy and CAPs, which prioritize infill and compact development and also consider the climate change impacts of land use and management.

The following strategies were outlined to expand infill development within the Scoping Plan:

- Encouraging regional transfer of development rights programs to allow owners of natural and working lands to sell their development rights to developers who can use those rights to add additional density to development projects in preferred infill areas.
- Promoting regional transit-oriented development funds that leverage public resources with private-sector investment capital to provide flexible capital for transit-oriented development projects.
- Rebates for low-VMT/location-efficient housing, similar to programs that use rebates to encourage adoption of energy-efficient appliances, zero-energy vehicles, water-efficient yards, or renewable energy installation. For example, the rebate could reimburse residents for a portion of the down payment for purchasing or renting a qualified home in exchange for a minimum term of residence.

- Promotion of cross-subsidizing multi-station financing districts along transit corridors to leverage revenues from development in strong-market station areas in order to seed needed infrastructure and development in weaker-market station areas.
- Abatement of residential property tax increases in exchange for property-based improvements in distressed infill areas.
- Ways to promote reduced parking in areas where viable transportation alternatives are present.
- Additional creative financing mechanisms to enhance the viability of priority infill projects.
- Ways to promote and strengthen urban growth boundaries to promote infill development and conservation of natural and working lands by defining and limiting developable land within a metropolitan area according to projected growth needs.

County of San Diego Climate Action Plan

This consistency analysis is provided for information only as the County’s CAP is currently subject to ongoing litigation and thus is not relied upon for determining significance.

Step 1 – Land Use Consistency

The project would be consistent with the existing General Plan for the site. Therefore, the project would answer YES to question 1 of Step 1. Therefore, the project can advance to Step 2 of the Checklist.

Step 2 – CAP Consistency Checklist

As a reservoir replacement project, the project is a unique development that is not addressed in the County’s CAP Consistency Checklist. The project does not include a residential component, typical commuting workers (such as commuters traveling to an office land use), or agricultural operations, which are addressed in the CAP Consistency Checklist. Implementation of the project would not interfere with the County’s implementation of the Consistency Checklist action items on projects where they are applicable. Further, the CAP was developed to reduce GHG emissions throughout the County over time; therefore, any project that is contemplated in the CAP and/or would be consistent with the CAP would directly aid in the County’s reduction of GHG emissions throughout the County’s jurisdictional area.

Each CAP Checklist item and why each specific measure does not apply to the project is outlined in Table 13.

Table 13. Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
<p>1a. Reducing Vehicle Miles Traveled: Non-Residential: For non-residential projects with anticipated tenant occupants of 25 or more, will the project achieve a 15% reduction in emissions from commute vehicle miles traveled (VMT), and commit to monitoring and reporting results to demonstrate on-going compliance? VMT reduction may be achieved through a combination of Transportation Demand Management (TDM) and parking strategies, as long as the 15% reduction can be substantiated.</p>	<p>Not Applicable. The project would have no tenants or employees commuting to the site on a regular basis.</p>

Table 13. Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
<p>2a. Shared and Reduced Parking: Non-Residential: For non-residential projects with anticipated tenant-occupants of 24 or less, will the project implement shared and reduced parking strategies that achieves a 10% reduction in emissions from commute VMT? Check “N/A” if the project is a residential project or if the project would accommodate 25 or more tenant-occupants.</p>	<p>Not Applicable. Employee trips would only be related to periodic maintenance activities associated with operation of the reservoir and pump station. The project would not have employees commuting to the site on a regular basis.</p>
<p>3a. Electric or Alternately-Fueled Water Heating Systems Residential: For projects that include residential construction, will the project, as a condition of approval, install the following types of electric or alternately-fueled water heating system(s)?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solar thermal water heater <input type="checkbox"/> Tankless electric water heater <input type="checkbox"/> Storage electric water heaters <input type="checkbox"/> Electric heat pump water heater <input type="checkbox"/> Tankless gas water heater <input type="checkbox"/> Other 	<p>Not Applicable. The project does not include a residential component.</p>
<p>4a. Water Efficient Appliances and Plumbing Fixtures Residential: For new residential projects, will the project comply with all of the following water efficiency and conservation BMPs?</p> <ol style="list-style-type: none"> 1. Kitchen Faucets: The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 pounds per square inch (psi). Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. 2. Energy Efficient Appliances: Install at least one qualified ENERGY STAR dishwasher or clothes washer per unit. 	<p>Not Applicable. The project does not include a residential component.</p>
<p>5a. Rain Barrel Installations: Residential: For new residential projects, will the project make use of incentives to install one rain barrel per every 500 square feet of available roof area? Check “N/A” if the project is a non-residential project; if State, regional or local incentives/rebates to purchase rain barrels are not available; or if funding for programs/rebates has been exhausted.</p>	<p>Not Applicable. The project does not include a residential component.</p>

Table 13. Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
<p>6a. Reduce Outdoor Water: <u>Residential:</u> Will the project submit a Landscape Document Package that is compliant with the County’s Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current Maximum Applied Water Allowance (MAWA) for outdoor use? <u>Non-Residential:</u> Will the project submit a Landscape Document Package that is compliant with the County’s Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current MAWA for outdoor use?</p>	<p>Not Applicable. The project would not include additional landscaping.</p>
<p>7a. Agricultural and Farming Equipment: Will the project use the San Diego County Air Pollution Control District’s (SDAPCD’s) farm equipment incentive program to convert gas- and diesel-powered farm equipment to electric equipment? Check “N/A” if the project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.</p>	<p>Not Applicable. The project would not include gas or diesel-powered farm equipment and would not contain any agricultural or farming operations.</p>
<p>8a. Electric Irrigation Pumps: Will the project use SDAPCD’s farm equipment incentive program to convert diesel- or gas-powered irrigation pumps to electric irrigation pumps? Check “N/A” if the project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.</p>	<p>Not Applicable. This is not applicable to the project, as the project would not include irrigation pumps and would not contain any agricultural or farming operations.</p>
<p>9a. Tree Planting: <u>Residential:</u> For residential projects, will the project plant, at a minimum, two trees per every new residential dwelling unit proposed? Check “N/A” if the project is a non-residential project</p>	<p>Not Applicable. The project does not include a residential component.</p>

Source: County of San Diego 2018

Although the CAP Consistency Checklist individual GHG measures would not apply to the project, the project would be consistent with the underlying assumptions of the CAP and would support goals within the CAP. Therefore, the project would have a **less than significant** impact on GHG emissions.

In summary, the proposed project would be consistent with the applicable measures and policy goals as shown in Tables 11, 12, and 13. Therefore, the proposed project would be consistent with SANDAG’s Regional Plan, CARB’s Scoping Plan, and the County’s CAP. Finally, the SDAPCD has not adopted GHG reduction measures that would apply to the GHG emissions associated with the proposed project. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation measures required.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

Hazardous materials stored and used in the area surrounding the project site would likely be associated with common materials used in utility work, residential uses, and recreational activities, such as paints, cleaning solvents, bonding agents, and small quantity petroleum fuels and lubricants.

Dudek conducted a Preliminary Environmental Site Assessment (ESA) on May 8, 2019 (Appendix E1). The Preliminary ESA includes a search of regulatory records from the Environmental Data Resources (EDR) database. The EDR records search gives a listing of sites within the defined search radii that are identified on one or more environmental regulatory databases. EnviroStor had two listings, the nearest of which is 0.551 miles south-

southwest of the project site; both sites were historically orchards and neither has an identified environmental concern. Additionally, 12 sites were identified in the California Environmental Protection Agency database within 1 mile of the project site. Dudek reviewed these listings and determined most of the sites are listed for permitting, inventory, and regulatory compliance purposes, and do not indicate a release of hazardous substances or petroleum products to the environment. Based on the information from the database search, it is unlikely these sites have altered the environmental conditions of the project site.

Additionally, testing of the existing reservoir structure and other miscellaneous site appurtenances (interior and exterior concrete, metals, and wood) was conducted for asbestos, lead, and wood treatment compounds (arsenic, chromium, copper, creosote, pentachlorophenol, and polychlorinated biphenyl). The purpose of the testing was to document the presence and levels of these chemical compounds for proper disposal upon demolition. The report of findings prepared by Aurora Industrial Hygiene, dated March 22, 2019, is included in Appendix E2.

No school exists within 0.25 miles of the project site and the site is not near any private airstrip or within the boundaries of an airport land use plan.

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Construction activities would involve the use of common hazardous materials used in construction, including bonding agents, paints and sealant coatings, and petroleum-based fuels, hydraulic fluids, and lubricants used in vehicles and equipment. Direct impacts to human health and biological resources from accidental spills of small amounts of hazardous materials from construction equipment during construction would potentially occur. Large quantities of these materials would not be stored at or transported to the construction site. However, compliance with federal, state, and local regulations including the California Division of Occupational Safety and Health, California Accidental Release Prevention Program, the Hazardous Material Management Act, and Hazardous Waste Control Act that provide safety and control measures for those materials handled on site would ensure that potentially significant impacts would not occur. Additionally, storage and handling of these materials and construction staging areas would be limited to the project site. During the construction period, standard BMPs would be applied, such as those required by the SWPPP, to ensure that all hazardous materials (e.g., construction equipment fuels) are stored properly and that no hazards occur during this phase of the project, in compliance with applicable regulations. Construction would comply with the requirements for storage, spill prevention and response and reporting procedures, and by implementing spill prevention measures included in the SWPPP.

All construction waste materials would be disposed of in compliance with state and federal hazardous waste requirements and at appropriate facilities. Testing of the existing reservoir structure and other miscellaneous site appurtenances (interior and exterior concrete, metals, and wood) was conducted for asbestos, lead, and wood treatment compounds (arsenic, chromium, copper, creosote, pentachlorophenol, and polychlorinated biphenyl). The purpose of the testing was to document the presence and levels of these chemical compounds for proper disposal upon demolition. Asbestos was not detected in any of the samples collected, and lead did not exceed hazardous levels according to the Department of Housing and Urban Development Guidelines for Lead Based Paint Inspection (Appendix E2). However, the wood treatment compounds were found to have varying levels of semi-volatile organic compounds, creosote, chromium, and copper (Appendix E2). As such, project construction would require disposal of treated wood at a solid waste landfill that has been approved for treated wood waste by the RWQCB (in accordance with California Department of Toxic Substances Control alternative management standards for treated wood waste, per California Code of Regulations Title 22, Division 4.5, Chapter 34).

Hazardous materials such as oils, lubricants, and other materials related to equipment operation may be periodically required during project operation to ensure proper system functionality. As with construction, hazardous materials handling during the operation of the proposed project would comply with the applicable federal, state, and local regulations that ensure safe use, handling, transport, storage, and disposal of hazardous materials. Impacts associated with transport, use, or disposal of hazardous materials would be **less than significant**.

- b) ***Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

Construction of the project would involve temporary use of hazardous materials, including fuel for construction equipment, paints, solvents, and sealants. Storage, handling, and use of these materials would occur in accordance with standard construction BMPs to minimize the potential for spill or release and ensure that any such spill or release would be controlled on site. Construction plans and specifications would include standard construction BMPs for handling, storage, use, and disposal of hazardous materials, such as requirements to contain materials inside buildings or under other cover, vehicle specifications for hazardous material transport and disposal, procedures for safe storage, and training requirements for those handling hazardous materials. All hazardous materials would be in accordance to the requirements for storage, spill prevention and response and reporting procedures, and the SWPPP. Hazardous materials used during construction and operation of the proposed project would be subject to applicable local, state, and federal regulations, which are intended to minimize risk of hazards and hazardous materials release. In addition, the proposed project site is not listed within any Cortese list databases; therefore, it is not expected that construction activities would result in the release of hazardous materials associated with contaminated soils, or underground tanks. Compliance with standard construction specifications and applicable laws would ensure that impacts would be **less than significant**.

- c) ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

The project site is not within 0.25 miles of an existing or proposed school; thus, the project would have **no impact**.

- d) ***Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

As determined in Appendix E1, the project site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, therefore, would have **no impact**.

- e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

There are no public airports within the vicinity of the project site. Therefore, **no impact** would occur.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project does not include the development of any land uses or structures that may impede emergency access or movement during an emergency or evacuation. The majority of construction would be contained within the project site, with encroachment into Edgehill Road and surrounding developed areas. Construction would maintain access to all surrounding properties and within the public right-of-way. Once operational, the project would not affect accessibility along the surrounding roadways. Therefore, the project would not impair or interfere with an adopted emergency response or evacuation plan, and impacts would be **less than significant**.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed project is adjacent to the City of Vista within the County of San Diego. The proposed project is located adjacent to an urbanized area on a site that has been previously developed as a water reservoir. While the project site is located within a Very High Fire Hazard Severity Zone as mapped by CAL FIRE (CAL FIRE 2019), the proposed project would also continue the existing use of the site and would not introduce uses that may result in an accidental ignition. The majority of construction would employ standard equipment and practices that would not introduce potential sources of ignition. While blasting to excavate hard rock is not anticipated, if all other non-explosive rock breaking methods are exhausted, blasting may be required to excavate limited areas of hard rock from the project site. Such blasts would be completed in accordance with the requirements of Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code to minimize risk to public safety. Consistent with state and local requirements, the fire district/local fire department, San Diego Sheriff’s Department, and utilities require notification prior to the start of any blasting activity. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures required.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The project involves in-situ reconstruction and expansion of an existing water reservoir and construction of a pump station. The project site is currently developed as a water reservoir that would be deconstructed in order to accommodate the in-situ replacement and pump station as proposed. Runoff from the existing site flows into existing City storm drains located on the street adjacent to the project site. The proposed project also includes an on-site detention basin and would be subject to a SWPPP as the project is larger than 1 acre.

The project site does not contain any natural drainages or waterways. The Federal Emergency Management Agency’s Flood Insurance Rate Maps indicate that the project site is located within flood Zone X. Zone X is considered an area of minimal flood hazard (FEMA 2012).

a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

The proposed project is located within the San Diego RWQCB jurisdiction that oversees water quality in the San Diego region. The RWQCB has adopted the Water Quality Control Plan for the San Diego Basin (Basin Plan) that designates beneficial uses of the region's surface water and groundwater, identifies water quality objectives for the reasonable protection of those uses, and establishes an implementation plan to achieve the objectives. The RWQCB also regulates discharges from municipal separate storm sewer systems (MS4) in the San Diego region under a National Pollutant Discharge Elimination System Municipal Storm Water Permit (Regional MS4 Permit). The permit requires the development and implementation of BMPs in planning and construction of private and public development projects. Development projects are also required to include BMPs to reduce pollutant discharges from the project site in the permanent design.

Construction of the proposed project would involve ground-disturbing activities for grading and excavation that could result in sediment discharge in stormwater runoff. Additionally, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. As discussed in Section 3.7 Geology and Soils, a SWPPP would be prepared that would ensure that appropriate measures are implemented to control erosion and protect water quality during and following construction. Once constructed, the project site would not act as a source of substantial surface water pollution. During operation, stormwater runoff would be treated by the proposed water quality basin prior to leaving the site. Additionally, the project would require an amendment to the existing Domestic Water Supply Permit prior to bringing the reservoir online to reflect the increased size of potable water storage. The project would not otherwise result in the alteration of the quality of VID's water supply. Implementation of SWPPP requirements and implementation of the on-site water quality basin would reduce potential hydrology and water quality impacts to **less than significant**.

b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

The proposed project would not use of groundwater and would not result in depletion of groundwater supply or recharge. The existing site does not currently allow for substantial infiltration. While the project would increase impervious surfaces of the project site, any reduction in potential groundwater recharge would be minimal. Stormwater within the project site is intended to be captured by the proposed basin prior to leaving the site. Impacts would be **less than significant**.

c) ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

- i) ***result in substantial erosion or siltation on or off site;***
- ii) ***substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;***
- iii) ***create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or***
- iv) ***impede or redirect flood flows?***

The proposed project would result in minor temporary changes in site hydrology resulting from construction disturbance such as excavation, equipment use, and vegetation removal. As discussed in Section 3.7, Geology and Soils, construction may result in erosion of top soil and increased sedimentation. Implementation of the SWPPP would ensure that erosion is minimized during construction through implementation of BMPs.

The project site slopes generally from northeast to southwest. Overall, the proposed project would maintain the existing drainage pattern through the project site. The project includes a detention basin and on-site stormwater conveyance infrastructure that would be large enough to contain 7.2 cubic feet per second in the event of an unmitigated 100-year storm; this basin would also control for water quality prior to discharge of stormwater runoff from the site. The proposed project also includes two drainage ditches: one along the westerly property boundary to accommodate offsite drainage onto adjoining property and one along easterly and northeasterly property boundary to capture potential offsite runoff and discharge to Edgell Road. These drainage ditches would comply with San Diego County Flood Control design standards and would control the flow of stormwater runoff from the project site. It is relevant to note that VID is not required to comply with San Diego County stormwater standards; however, on-site detention basins that meet San Diego County Flood Control design standards were included to match existing condition stormwater discharge rates onto Edgell Road. The project site is located in Flood Hazard Zone X, which is an area of minimal flooding. The proposed drainage infrastructure would be designed to accommodate the surface flows of a 100-year storm event.

With implementation of the SWPPP during construction and the proposed drainage infrastructure during operation, the proposed project would not result in a substantial alteration of the existing drainage pattern that would result in substantial erosion or runoff, exceedance of capacity in an existing stormwater system, substantial additional sources of polluted runoff, or impede or redirect flows. Impacts would be **less than significant**.

d) ***In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?***

As discussed above, the proposed project is located in Flood Hazard Zone X, which is an area of minimal flooding. The proposed project is not located within a tsunami inundation zone and is not located downslope of any large bodies of water that could adversely affect the site in an event of earthquake-induced failures or seiches or wave oscillations in an enclosed or semi-enclosed body of water. Therefore, impacts would be **less than significant**.

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

As discussed in a, b, and c above, the proposed project would be in compliance with applicable stormwater quality regulations, such as the Construction General Permit, the Basin Plan, and the MS4 Permit. The project consists of a reservoir and pump station, which would minimally affect water quality and groundwater supply. The project would not conflict with or obstruct the implementation of a water quality control plan or groundwater management plan. The proposed project would have no impact on groundwater and would therefore have no impact on a groundwater management plan. The proposed project would be consistent with applicable water quality control plans. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The project site is located within unincorporated San Diego County, just east of the City limits of Vista, California. It is designated in the General Plan as Semi-Rural Residential and zoned Limited Agricultural. The proposed project would not require a zoning or land use change and would continue to allow existing uses on site.

a) *Would the project physically divide an established community?*

The proposed project includes the in situ reconstruction and expansion of the existing water reservoir on the site. No new structures, access roads, or developments are included in the proposed project that would physically divide an established community. All of the construction activities associated with the project would be within or immediately adjacent to the existing developed project site. The project would continue the existing uses of the site and would comply with the General Plan land uses and zoning codes. Therefore, the proposed project would have **no impact**.

- b) **Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

The proposed project would be consistent with the current zoning of the project site. The project would continue the existing allowed uses of the site. Per California Government Code Section 53091(d) and 53091(e), the project is exempt from the provisions of the County’s Zoning Ordinance, and the County cannot prohibit the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy. The project is not subject to the General Plan land use designation and the County’s Zoning Ordinance; however, it would not otherwise conflict with these plans and ordinances. Therefore, the proposed project would have **no impact**.

Mitigation Measures

No mitigation measures are required.

3.12 Mineral Resources

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Extractive resources in the County of San Diego consist of cement, sand, gravel, crushed rock, clay, and limestone. The EIR for the County of San Diego’s General Plan found that there are 18 active mines within the County’s unincorporated areas as well as three active mines that are operated by the County of San Diego Department of Public Works: Buckman Springs Borrow Pit in the Mountain Empire Subregion, Warner Borrow Pit in the North Mountain Subregion, and Olive Street Borrow Pit in Ramona Community Plan Area (County of San Diego 2011a). None of these mines is located within the vicinity of the project site. No mineral resources are known from the site and no mineral extraction operations exist in the vicinity of the project.

- a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

The project site is not designated for mineral or extractive uses and has been used as a water reservoir since 1929. There are no known mineral resources within the project site (County of San Diego 2011a), and it is unlikely that undiscovered mineral resources are present. Therefore, there would be **no impact**.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The project site is not designated for mineral or extractive uses and has been used as a water reservoir. No mineral recovery activities have been known to occur on site. Thus, the proposed project would have **no impact**.

Mitigation Measures

No mitigation measures are required.

3.13 Noise

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

A Noise and Vibration Technical Memorandum was prepared by Dudek in January 2020 and is included as Appendix F to this MND. Noise level measurements were conducted on and near the project site on November 5, 2019, to characterize and quantify a representative sample of the existing outdoor ambient sound environment. Table 14 provides the location, date, and time for the sound pressure level (SPL) measurements collected with a Rion NL-52 sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone and connected pre-amplifier. The sound level meter meets the current American National Standards Institute (ANSI) standard for a Type 1 (Precision) sound level meter. The accuracy of the sound level meter was verified in the field using a reference signal-generating calibrator before and after the SPL measurements; and, the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 14. Measured Existing Outdoor Ambient Noise Levels

Receptors	Location	Date & Time	L _{eq} (dBA)	L _{max} (dBA)
ST1	Eastern property line	2019-11-05, 09:00 AM to 09:15 AM	37.0	49.5
ST2	West of existing pump house at southern property line	2019-11-05, 09:35 AM to 09:50 AM	40.8	55.2
ST3	Western property line	2019-11-05, 09:20 AM to 09:35 AM	36.6	53.4
ST4	Adjacent from existing reservoir, south of Edgehill Road	2019-11-05, 10:00 AM to 10:15 AM	42.1	58.7

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels.

Four (4) short-term SPL measurement locations (ST) that represent the existing noise-sensitive receivers were selected on and near the project site. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 14. The primary noise sources at the sites identified in Table 2 consisted of birds, distant roadway traffic, distant aviation traffic, and rustling leaves. As shown in Table 14, the measured sound levels ranged from approximately 37 A-weighted decibels (dBA) L_{eq} at ST1 to 42.1 dBA L_{eq} at ST4.

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound and/or vibration could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receptors near the project site include existing single-family residential uses to the south, west, and north, the closest of which are located approximately 35 feet from the project site boundary. These sensitive receptors represent the nearest residential land uses with the potential to be impacted by construction and operation of the proposed project. Additional sensitive receptors are located farther from the project site in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptors.

As described previously, because VID is an independent local agency, it is not required to comply with County of San Diego requirements with respect to noise criteria and ordinances. However, because VID does not have adopted noise standards, the County noise thresholds in combination with state and federal standards serve as criteria against which potential noise and vibration impacts can be assessed.

- a) ***Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

Construction

Conventional Construction Activities

Construction noise and vibration are temporary phenomena, and their levels can vary from hour to hour and day to day depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Equipment that would be in use during construction would include, in part, backhoes, loaders, cranes, forklifts, pavers, rollers, a rock drill rig, an impact hammer, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 6. Note that the equipment noise levels presented in Table 15 are maximum noise levels (L_{max}). Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 15. Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Backhoe	78
Compressor (air)	78
Crane	81
Excavator	81
Flatbed truck	74
Front-end loader	79
Impact hammer	90
Man lift	75
Paver	77
Rock drill	81
Roller	80
Welder/torch	73

Source: FHWA 2006.

Notes: dBA = A-weighted decibels.

Construction noise in a well-defined area typically attenuates at approximately 6 decibels (dB) per doubling of distance. Project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction near the western project boundary would take place within approximately 35 feet of existing residences, but during construction of other project components, construction would be further away from these noise-sensitive receptors. Most construction activities associated with the proposed project would occur at distances of approximately 100 feet or more from existing noise-sensitive uses, which represents activities both near and far from any one receiver, as is typical for construction projects.

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted at two distances to the nearest existing noise-sensitive receptor: (1) from the nearest position of the construction site boundary and (2) from the geographic center of the construction site, which serves as the time-averaged location or geographic acoustical centroid of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, demolition, or paving. The latter distance is used in a manner similar to the general assessment technique as described in the Federal Transit Administration (FTA) guidance for construction noise assessment, when the location of individual equipment for a given construction phase is uncertain over some extent of (or the entirety of) the construction site area. Because of this uncertainty, all the equipment for a construction phase is assumed to operate—on average—from the acoustical centroid.

Table 16 summarizes these two distances to the apparent closest noise-sensitive receptor for each of the seven sequential construction phases. At the site boundary, this analysis assumes that up to only one piece of equipment of each listed type per phase will be involved in the construction activity for a limited portion of the 8-hour period. In other words, at such proximity, the operating equipment cannot “stack” or crowd the vicinity and still operate. For the acoustical centroid case, which intends to be a geographic average position for all equipment during the indicated phase, this analysis assumes that the equipment may be operating up to all 8 hours per day.

Table 16. Estimated Distances between Phase Activities and the Nearest Noise-Sensitive Receptors

Construction Phase (and Equipment Types Involved)	Approximate Distance from Nearest Noise-Sensitive Receptor to Construction Site Boundary (Feet)	Approximate Distance from Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (Feet)
Demolition (backhoe, excavator, front-end loader)	60	100
Site preparation (excavator, backhoe, front-end loader, rock drill, impact hammer)	50	100
Pump Station Construction (crane, flatbed truck, man lift, welder/torch)	50	100
Paving (paver, roller)	50	100
Reservoir Construction (backhoe, excavator, front-end loader)	35	100
Piping (excavator)	50	100
Architectural finishes (air compressor)	50	100

Construction noise modeling used reference data from the Federal Highway Administration Roadway Construction Noise Model (FHWA 2008)⁷. Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 15), and the distance from the noise-sensitive receiver to the construction zone. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns.

As presented in Table 17, the construction noise levels are predicted to have an 8-hour L_{eq} value as high as 85 dBA at the nearest existing residences when site preparation and grading activities take place.

⁷ Although the RCNM was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.

Table 17. Construction Noise Model Results Summary

Construction Phase	Estimated Construction Noise Level at Representative Locations (8-hour Leq dBA)	
	Construction Site Boundary	Acoustical Centroid of Site
Demolition	78.4	75.7
Site Preparation and Grading	85.1	79.1
Pump Station Construction	76.5	70.5
Paving	76.5	72.1
Reservoir Construction	79.1	76.0
Piping	77.0	71.0
Architectural Coating	74.0	68.0

Notes: Leq = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

On an average construction workday, heavy equipment will be operating sporadically throughout the project site and more frequently away from the southernmost edge of the site. At more typical distances closer to the center of the project site (approximately 100 feet from the nearest existing residence), construction noise levels are estimated to range from approximately 68 dBA Leq to 79 dBA Leq at the nearest existing residence.

Although nearby off-site residences would be exposed to elevated construction noise levels, the increased noise levels would typically be relatively short term. It is anticipated that construction activities associated with the proposed project would take place primarily within the allowable hours of the County of San Diego (7:00 a.m. and 7:00 p.m. Monday through Saturday), and would not occur at any time on Sunday or on national holidays.

VID is a local agency that is not required to comply with the County’s thresholds, such as the 75 dBA 8-hour Leq. For this reason, the FTA guidance-based standard daytime construction noise level threshold of 80 dBA Leq over an 8-hour period was adopted herein for purposes of this environmental impact assessment. However, as best practice, VID would aim for compliance with County noise standards. Therefore, because the prediction results presented in Table 17 indicate that noise from conventional construction activities attributed to the project would exceed the County’s 8-hour Leq threshold for most of the activity phases and exceed the FTA threshold at the nearest existing residential receivers when site grading and preparation occurs, implementation of common noise-reducing construction activity best practices listed below in mitigation measure MM-NOI-1 would be recommended. Conventional construction noise impacts would be **less than significant with mitigation incorporated.**

Blasting

Based on the known presence of hard rock at the project site, there is a high likelihood that rock excavation would be required during the site preparation and grading phase. Rock excavation methods would generally consist of non-explosive techniques, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, or expansive chemical agents. Although potential noise from these rock excavation activities has been included in the preceding predictive analysis of conventional construction equipment, there is some potential that these methods would be unable to excavate the underlying rock and limited blasting would be required. Because of this potential, the analysis presented in this report conservatively assumes blasting would be required.

Blasting typically involves drilling a series of boreholes, placing explosives (the “charge”) in each hole, then topping the charge with fill material to help confine the blast. These multiple holes are typically arranged so as to yield optimal fracturing of the rock strata and thus allow gravity to subsequently collapse or “implode” the volume of rock in as safe and controlled manner as possible after detonation. Post-detonation material can then be further broken down to manageable size and hauled away with conventional construction equipment and vehicles.

By limiting the amount of charge in each hole, and detonating each charge successively with a time delay, the blasting contractor can limit the total energy released at any single time, which in turn reduces the airborne noise L_{max} and groundborne vibration energy associated with each individual detonated charge.

If required, no more than one blast per day would occur during construction activities. To keep groundborne vibration magnitude from each charge-delayed detonation at a peak particle velocity (PPV) that does not exceed the single-event threshold of 1 inches per second (ips) for residential structures, per Caltrans guidance, Table 9 presents the preliminarily determined maximum charge weights with respect to the nearest eastern and western residential receptors. Table 18 also displays the predicted A-weighted L_{max} for each detonated charge, under a fully confined condition, using mathematical expressions and typical parameters provided by the Blasting and Explosives Quick Reference Guide (Dyno Nobel 2010).

Table 18. Preliminary Blasting Charge Weights and Predicted L_{max} Values

Nearest Receiving Residential Structure	Per-Detonation Charge Weight (lbs)	Single Charge Detonation Airborne SPL (dBA L_{max})	Single Charge Detonation (inches per second)
West (75 feet distance to expected closest detonation)	1.56	105	0.992
East (130 feet distance to expected closest detonation)	4.62	104	0.994

Notes: lbs = pounds; SPL = sound pressure level; dBA = A-weighted decibels; L_{max} = maximum sound level during the measurement interval; PPV = peak particle velocity.

The total quantity of successive detonations would vary with the charge weight but result in an estimated 8-hour L_{eq} of 85 to 91 dBA using the values in Table 17 as a guide. Hence, and for informational purposes, noise from the blast at these indicated distances could exceed the County’s standard. Implementation of mitigation measure MM-NOI-2, which would require preparation of a blasting plan, would reduce potentially significant impacts to **less than significant**.

Operation

Operation of the project would require routine maintenance and site visits by VID staff similar to existing conditions. Operating pump station equipment would have the potential to create noise impacts. The proposed new pump station would provide redundant water supply and would have a capacity of 3,000 gallons per minute to meet peak hour expectations during maximum-day demand conditions. The pumps would be housed in an aboveground structure that would match the architectural features of the existing PRS facility. It would be constructed of a 12-inch, cast-in-place concrete floor with an 8- to 12-inch concrete masonry wall. Additionally, the roof would be composed of sloped composite shingles supported by wood trusses and plywood sheathing, with a 20-pounds-per-square-foot load limit. The pump station would also include outside air intake louvers on one of the walls and a roof-mounted ventilation fan to remove heat generated by the pump equipment.

Prediction of pump noise propagation from the new pump station structure under typical expected operating conditions utilized techniques based on International Organization of Standardization 9613-2 (ISO 1996). Estimated noise levels during typical operation would range from approximately 35.3 to 44.2 dBA and thus comply with the County's noise standards of 45 dBA hourly L_{eq} during nighttime hours (10:00 p.m. to 7:00 a.m.). These predicted levels are also below the suggested hourly L_{eq} limit of 48.6 dBA, based on EPA guidance. Operational noise would be **less than significant**.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. The California Department of Transportation (Caltrans) has collected groundborne vibration information related to construction activities (Caltrans 2013). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered annoying. For context, heavier pieces of construction equipment, such as a vibratory roller that may be expected on the project site as part of the paving phase, have PPVs of 0.21 ips PPV at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for the aforementioned roller operating on site and as close as the western project boundary (i.e., 35 feet from the nearest receiving sensitive land use) the estimated vibration velocity level would be less than 0.13 ips.

Construction vibration, at sufficiently high levels, can also present a building damage risk. However, the predicted 0.13 ips PPV at the nearest residential receiver 35 feet away from on-site operation of the roller during paving would not surpass the guidance limit of 0.2 to 0.3 ips PPV for preventing damage to residential structures (Caltrans 2013). Because the predicted vibration level at 35 feet is less than both the annoyance and building damage risk thresholds, vibration from project conventional construction activities is considered **less than significant**.

Once operational, the proposed project would not be expected to feature major on-site producers of groundborne vibration. Anticipated mechanical systems such as pumps are designed and manufactured to feature rotating components (e.g., impellers) that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, potential vibration impacts due to proposed project operation would be **less than significant**.

Blasting Vibration

Although conventional construction equipment using mechanical means for earth-moving are not expected to yield vibration velocity levels that exceed applicable standards, potential blasting activities represent a separate category of vibration assessment. The project may require limited blasting to facilitate excavation in areas where mechanical rock breaking equipment (both with and without pre-drilling), hydro-fracturing, or expansive chemical agents are unable to excavate the bedrock to required depths. The right-most column in Table 9 presents the estimated per-detonation PPV that would be received at each of the indicated residential receptors. Under such parameters, the blast vibration magnitudes would be compatible with Caltrans guidance limits for single-event or "transient" events. However, to help ensure that vibration from the blasting associated with project excavation would not cause undue temporary

annoyance and minimize damage risk to the receiving structures, proper implementation of the Blasting Plan introduced as MM-NOI-2 is incorporated to help render vibration-related environmental impacts temporary and **less than significant with mitigation**.

- c) ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

There are no private airstrips within the vicinity of the project site. The closest airport to the project site is the McClellan Palomar Airport, approximately 7 miles southwest of the site. The project site is not located within any noise contours and would therefore not expose people residing or working in the project area to excessive noise levels. Impacts from aviation overflight noise exposure would be **less than significant**.

Mitigation Measures

MM-NOI-1 Construction Noise Reduction. The Vista Irrigation District (VID) and/or its construction contractor shall comply with the following measures during construction:

1. Construction activities shall not occur between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturdays, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required.
2. Equipment (e.g., portable generators) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured to minimize noise at nearby noise-sensitive receptors.
3. All noise-producing equipment and vehicles using internal combustion engines should be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) should be equipped with shrouds and noise control features that are readily available for that type of equipment.
4. All mobile or fixed noise-producing equipment used on the project facilities that are regulated for noise output by a local, state, or federal agency should comply with such regulation while in the course of project activity.
5. Idling equipment should be kept to a minimum and moved as far as practicable from noise-sensitive land uses.
6. Electrically powered equipment should be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
7. Material stockpiles and mobile equipment staging, parking, and maintenance areas should be located as far as practicable from noise-sensitive receptors.
8. The use of noise-producing signals, including horns, whistles, alarms, and bells, should be for safety warning purposes only.
9. Residences within 500 feet of the construction site should be notified of the construction schedule in writing at least 3 calendar days prior to construction. VID or its contractor(s) shall

designate a noise disturbance point of contact who would be responsible for responding to complaints regarding construction noise. The point of contact should make reasonable effort to investigate the cause of the complaint and, if indeed related to construction noise attributed to the project, see that reasonable measures are implemented to help address the problem. A contact number for the noise disturbance point of contact should be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.

MM-NOI-2 **Blasting Requirements.** Blasting for rock excavation shall be only be used by the contractor upon receipt of approval by Vista Irrigation District and after other non-explosive techniques have been exhausted, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, and expansive chemical agents. If blasting is required for rock excavation, Vista Irrigation District or its contractor shall prepare a blasting plan that will reduce impacts associated with construction-related noise, drilling operations, and vibrations related to blasting. The blasting plan shall be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan shall include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan shall account for blasting activities and all supplemental construction equipment. The final blasting plan and pre-blast survey shall meet the requirements provided below.

- Prior to blasting, a qualified geotechnical professional shall inspect and document the existing conditions of facades and other visible structural features or elements of the nearest residential buildings. Should this inspector determine that some structural features or elements appear fragile or otherwise potentially sensitive to vibration damage caused by the anticipated blasting activity, the maximum per-delay charge weights and other related blast parameters shall be re-evaluated to establish appropriate quantified limits.
- All blasting shall be performed by a blast contractor and blasting personnel licensed to operate per appropriate regulatory agencies.
- Each blast shall be monitored and recorded with an air-blast overpressure monitor and groundborne vibration accelerometer that is located outside the closest residence to the blast. This data shall be recorded, and a post-blast summary report shall be prepared and be available for public review or distribution as necessary.
- Blasting shall not exceed 1 inch per second peak particle velocity (PPV) (transient or single-event), or a lower PPV determined by the aforesaid inspector upon completion of the pre-blast inspection, at the façade of the nearest occupied residence.
- To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 500 feet of the project at least 1 week prior to a scheduled blasting event.
- Drilling operations associated with blasting preparations shall be performed in a manner consistent with adherence to guidance that emulates Sections 36.408, 36.409, and 36.410 of the San Diego County Code Noise Ordinance.

3.14 Population and Housing

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The project site is located in San Diego County, to the east of the city limits of Vista, and is generally surrounded by residential development. The existing water reservoir is operated by VID and serves customers within VID’s service area in and around the City of Vista in San Diego County. Land use and development in VID’s service area are guided by the Vista General Plan, and the land use and development around the project site are guided by the County of San Diego General Plan.

a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

VID’s 2017 Potable Water Master Plan recommends replacement of the existing E Reservoir with a new reservoir to address age and capacity issues and the addition of a pump station at the site to provide a redundant water supply to higher-pressure zones. The 2017 Potable Water Master Plan identified seven projects along with their cost estimates in their Capital Improvement Program, including all components of the proposed project. These projects would allow VID to provide service to the expected 158,627 people that the service area is expected to contain by 2040. The project would not extend utility infrastructure beyond areas that are currently served. The proposed project does not include the construction of housing or substantial new employment opportunities and would not result in substantial unplanned population growth either directly or indirectly. The expansion of the water reservoir would be sufficient to meet current and planned growth but would not induced unplanned growth. Therefore, impacts would be **less than significant**.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project does not involve demolition of any residential structure and would not displace populations or housing through the proposed project’s operation. Therefore, the proposed project would have **no impact**.

Mitigation Measures

No mitigation measures are required.

3.15 Public Services

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Fire Protection: Fire protection services are provided to the project site by the Vista Fire Department. The closest fire station to the project site is Station 6, located at 651 E. Vista Way, Vista, California 92084, about 2.02 miles from the project.

Police Protection: Police protection services are provided to the project site by the San Diego Sheriff’s Department substation at 30 Main St G130, Vista, California 92083, about 2.29 miles from the project. The San Diego County Sheriff’s Department provides contract law enforcement services for the cities of Del Mar, Encinitas, Imperial Beach, Lemon Grove, Poway, San Marcos, Santee, Solana Beach, and Vista, as well as for unincorporated areas in the County. The San Diego County Sheriff’s Department handles over 300,000 emergency calls a year along with another 400,000 non-emergency calls and employs 1,300 personnel, including 900 sworn deputies (San Diego Sheriff Department 2019).

Parks: The City of Vista maintains a system of 20 parks, the closest of which is Brengle Terrace Park, which is 1.15 miles from the project site.

Libraries: The Vista Library, operated by the City of Vista, is located 1.94 miles west of the project site at 700 Eucalyptus Avenue, Vista, California 92084.

- a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

Construction would encroach upon Edgehill Road and surrounding developed areas. Construction would maintain access to all surrounding properties and within the public right-of-way, and would not affect fire or police response to the site or surroundings. Once operational, the project would not affect accessibility along the surrounding roadways. The project would not result in additional population in the area and thus would require no new or expanded facilities to support adequate fire or police protection, schools, parks or other public facilities. Continued operation of the proposed project would be similar to the existing conditions and would not affect the demand of public services or facilities. Therefore, the project would result in **no impact** from physical impacts associated with providing new or modified facilities.

Mitigation Measures

No mitigation measures are required.

3.16 Recreation

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Brengle Terrace Park located approximately 1.15 miles west of the project site. The project site does not contain a park, is not adjacent to a park, and does not provide access to a park or recreational facilities or areas.

a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

The project would rebuild and expand an existing water reservoir facility. No neighborhood or regional parks exist on or adjacent to the project site. No other recreational facilities are located within or on the project site; nor does the project site provide or the project plan to remove access to recreational facilities. The proposed project would not result in an increased population and therefore, would not have an increased demand on recreational facilities. **No impact** would occur.

b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

As stated above, the project would rebuild and expand an existing water reservoir facility. It would not result in an increased population that would require the construction of new, or expansion of existing, recreational facilities and therefore, would not have an increased demand on recreational facilities. **No impact** would occur.

Mitigation Measures

No mitigation measures are required.

3.17 Transportation

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVII.TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

Access to the project site is achieved via Edgewood Road. The local roadways that would be utilized during implementation of project activities are Foothill Drive and Vale Terrace Drive, which are publicly accessible City of Vista roadways. The City of Vista is accessed via SR-78 to the west and I-15 to the east.

a) *Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

The proposed project would not alter roadways nor would it add any population that would impact roadway service levels or transit, bicycle, and pedestrian facilities. Construction of the project would temporarily add trips to the local roadway network associated with construction workers and haul trucks. These trips would not be substantial and would cease upon completion of construction. Operation of the proposed project would not increase the number of trips per day to and from the project site, as it would not result in an increase in staffing at VID. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system and would not create any significant traffic impacts in terms of levels of service. Impacts would be **less than significant**.

b) *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The proposed project does not include land use types that would result in an increase in VMT, nor does it involve the construction of a transportation project. The proposed project would have a **less-than-significant impact**.

c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

The proposed project does not include any changes to the public roadway design or access to and from the site or surrounding properties. The project would not result in an increase in traffic hazard. Therefore, **no impact** would occur.

d) *Would the project result in inadequate emergency access?*

As stated above, the proposed project includes improvements to ensure compliance with local plans and ~~City~~ codes to comply with compatible land uses and project design features that would not create circulation hazards or inadequate emergency vehicle access. Construction would maintain access to all surrounding properties and within the public right-of-way, and would not affect fire or police response to the site or surroundings. Once operational, the project would not affect accessibility along the surrounding roadways. The project does not include any changes to public circulation or the existing driveway leading to and from the existing facility. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

Dudek completed a Cultural Resources Report for the project site, which is included as Appendix C1. As discussed in the report, a letter requesting a search of the Sacred Lands File was sent to the NAHC on February 01, 2019. The NAHC responded February 06, 2019, indicating that Native American traditional cultural places have not previously recorded within 1 mile of the project Area of Potential Effect. The NAHC attached a list of Native American representatives to contact for more specific information that tribal representatives may have that is not on file with the NAHC. Letters were sent to each of the representatives on February 07, 2019, for any additional information of resources that may be located in the project Area of Potential Effect. To date, five responses have been received for the proposed project.

- On February 14, 2019, the Tribal Historic Preservation Office for the Agua Caliente Band of Cahuilla Indians responded the project is out of their Tribe’s Traditional Use Area and therefore they defer to other tribes in the area once formal government-to-government consultation is initiated by the lead agency for this project.
- On February 20, 2019, representatives of the Cultural Department for the Rincon Band of Luiseño Indians contacted Dudek and shared that the identified Area of Potential Effect is within the Ancestral Territory of the Luiseño people, and is also within Rincon’s specific area of Historic interest. While they did not have knowledge of cultural resources within or near the proposed project area, this does not mean that none exist. They suggested archival research be conducted for the project area and that they were interested in participation in any survey.

- On February 20, 2019, representatives of the Campo Band of Mission Indians responded, indicating that the project area has a rich history for the Kumeyaay people and requesting that a qualified Kumeyaay monitor be present for any cultural work and additional ground-disturbing activities to ensure that Kumeyaay resources are not overlooked.
- Dudek received a response on March 12, 2019, from Clinton Linton, Cultural Resources Director, representing the Lipay Nation of Santa Ysabel. Mr. Linton stated that, for the project, Santa Ysabel defers to and supports the comments and requests of the San Luis Rey Band.
- Dudek received a response on March 18, 2019, from Ray Teran, resources management, representing the Viejas Band of Kumeyaay Indians. Mr. Teran stated that, for the project, Viejas recommends that the San Pasqual Band of Mission Indians be notified of the project. In addition, Mr. Teran requested that all National Environmental Policy Act/CEQA/Native American Graves Protection and Repatriation Act laws be followed, and that San Pasqual be notified of any project changes and updates.

Additionally, in accordance with AB 52, VID provided a notification letter to tribal groups that have formally requested such notification under AB 52. This notification letter was sent to the Rincon Band of Luiseño Indians and the Torres Martinez Desert Cahuilla Indians on November 7, 2018. Neither tribe responded with a request for consultation within the 30-day response period provided by AB 52. On December 21, 2018, the Rincon Band of Luiseño Indians requested consultation under AB 52 and that an archaeological records search be conducted. However, because this request was outside of the response period, consultation is no longer required under AB 52. Regardless, communication regarding the project outside of AB 52 with the Rincon Band of Luiseño Indians is ongoing.

- a) ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***
- i) ***Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?***
 - ii) ***A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?***

No tribal cultural resources were identified as a result of consultation conducted in accordance with AB 52. A search of NAHC's Sacred Lands File and a California Historical Resources Information System records search identified no previously recorded cultural resources of Native American origin within the project area or a surrounding 0.25-mile area. However, unanticipated discoveries of tribal cultural resources may occur during construction activities. Mitigation measures MM-CUL-1 and MM-CUL-2 would protect tribal cultural resources in the event of discovery. Therefore, the project would have a **less-than-significant impact with mitigation.**

Mitigation Measures

Refer to MM-CUL-1 and MM-CUL-2.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The project site consists the redevelopment and expansion of an existing water reservoir. No water or sewer service is required within the project site. Stormwater drainage in the project area is by natural drainages and would connect to the drainage system along Edgehill Drive. Solid waste collection, transportation, and disposal is provided by and is overseen by the Solid Waste Planning and Recycling Division of the San Diego County Department of Public Works, which is responsible for ensuring that solid waste disposal services meet state and federal mandates for integrated waste management. Collected solid waste is sent to the Palomar Transfer Station, which is then sent to either the Miramar Landfill at 5161 Convoy Street operated by the City of San Diego, or Borrego Landfill at 2449 Palm Canyon Drive, operated by Republic Services.

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The proposed project would not result in a development that would substantially increase the demand for utility infrastructure, such as new commercial or residential land uses. The project consists primarily of the construction of new and expanded water facilities in the form of a water reservoir and pump station. As part of the project, new storm water drainage and electrical power infrastructure would be developed. The project does not require the relocation or construction of wastewater treatment, natural gas, or telecommunications facilities. The environmental effects of the construction and operation of the project and its components are analyzed throughout this MND. As discussed throughout this MND, mitigation measures would be required to ensure that impacts remain **below a level of significance**.

- b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

Based on land use and population projections, the 2017 Potable Water Master Plan identified a storage deficit within VID's service area. The project is implementing VID's 2017 Potable Water Master Plan, which identified seven projects along with their cost estimates in their Capital Improvement Program, including all components of the proposed project. These projects would allow VID to provide service to the expected 158,627 people that the service area is expected to contain by 2040. The project would result in an increase in available water supply to VID's service population. Therefore, **no impact** would occur.

- c) *Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

As discussed previously, the project would not result in an increase in wastewater generation or require the expansion of such facilities. **No impact** would occur.

- d) *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

- e) *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

All existing materials removed as part of the project would be properly disposed of at a facility with adequate permitted capacity to accept construction debris and solid waste. Project construction would require disposal of treated wood at a solid waste landfill that has been approved for treated wood waste by the RWQCB (in accordance with California Department of Toxic Substances Control alternative management standards for treated wood waste, per California Code of Regulations Title 22, Division 4.5, Chapter 34). As discussed previously, the project would not add to the population of the area and would not increase demand for solid waste disposal such that new facilities would be required. Therefore, impacts would be **less than significant**.

Mitigation Measures

Refer to MM-BIO-1, MM-CUL-1, MM-CUL-2, MM-NOI-1, and MM-NOI-2.

3.20 Wildfire

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The project site is characterized developed and ornamental planting land cover and is surround by semi-rural residential development. The project site is located within a Very High Fire Hazard Severity Zone as mapped by CAL FIRE (CAL FIRE 2019).

a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The majority of construction would be contained within the project site, with encroachment into Edgehill Road and surrounding developed areas. Construction would maintain access to all surrounding properties and within the public right-of-way. The project would update and expand of an existing water reservoir and would not alter existing land uses that might increase the risk of wildfire ignition. The project would rely on an existing driveway for access. The project does not include additional structures or features that would impair adopted emergency response or evacuation plans. The proposed project does not include a substantial addition of employees or increase in population that could impair adopted emergency or evacuation plans. Therefore, impacts would be **less than significant**.

- b) *Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

No people would reside on the project site. Occupants would be limited to VID staff performing routine operational maintenance. The proposed project would update and expand an existing water reservoir facility and would not alter existing land uses that might increase the risk of wildfire ignition. Therefore, impacts would be **less than significant**.

- c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The proposed project would rely on an existing driveway for access and would not require the installation or maintenance of a road, fuel break, emergency water source, or other utilities. Implementation of the proposed project would not increase fire risk. The majority of construction would employ standard equipment and practices that would not introduce potential sources of ignition. While blasting may be required to excavate hard rock from the project site, such blasts would be completed in accordance with the requirements of Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code to minimize risk to public safety. Therefore, impacts would be **less than significant**.

- d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The majority of the project site would be developed as a reservoir, pump station, and PRS. The proposed project site does not contain a risk of flooding, landslides, or slope instability post-fire or drainage changes. As noted in Section 3.7, Geology and Soils, and Section 3.10, Hydrology and Water Quality, the proposed project would have a less-than-significant impact with regards to landslides, flood, and runoff. The majority of construction would employ standard equipment and practices that would not introduce potential sources of ignition. While blasting may be required to excavate hard rock from the project site, such blasts would be completed in accordance with the requirements of Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code to minimize risk to public safety. Therefore, the proposed project would have a **less-than-significant impact**.

Mitigation Measures

No mitigation measures are required.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-Than-Significant Impact With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) ***Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

As discussed in Section 3.4, Biological Resources, construction of the proposed project would potentially result in significant impacts to biological resources. However, with incorporation of mitigation measure MM-BIO-1, all potentially significant impacts would be reduced to a level below significance. The proposed project would not substantially degrade the quality of the environment, impact fish or wildlife species, or plant communities. As discussed in Section 3.5, Cultural Resources, and Section 3.18, Tribal Cultural Resources, potential impacts regarding inadvertent discovery of cultural resources and tribal cultural resources could occur during excavation. However, implementation of mitigation measures MM-CUL-1 and MM-CUL-2 would ensure that impacts would be less than significant. Overall, impacts would be **less than significant with the incorporation of mitigation**.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As provided in the analysis presented in Chapter 3, the proposed project would not result in significant impacts to aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. Mitigation measures recommended for biological resources, cultural resources, noise, and tribal cultural resources would reduce impacts to below a level of significance.

The proposed project would incrementally contribute to cumulative impacts for projects occurring within the vicinity of the project site. With mitigation, however, implementation of the proposed project would not result in any residually significant impacts that could contribute to a cumulative impact. In the absence of residually significant impacts, the incremental accumulation of effects would not be cumulatively considerable and would be **less than significant**.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

The potential for adverse direct or indirect impacts to human beings was considered throughout Chapter 3 of this MND. Based on this evaluation, there is no substantial evidence that construction or operation of the proposed project with the proposed mitigation measures incorporated would result in a substantial adverse effect on human beings. Impacts would be **less than significant with incorporation of mitigation measures**.

4 References and Preparers

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4.2 List of Preparers

Vista Irrigation District

Greg Keppler, PE, QSD, Engineering Project Manager

Dudek

Andrew Talbert, AICP, Environmental Planner

Kimberly Ashbury, Environmental Analyst

Neil Harper, PE, Senior Engineer

Amanda Combs, PE, Senior Engineer

Adam Poll, Air Quality Specialist

Mike Howard, Senior Biologist

Scott Wolf, Archaeologist

Nicole Frank, MSHP, Architectural Historian

Kara Dotter, MSHP, Architectural Historian

Glenna McMahon, Hazardous Materials Engineer

Mark Storm, Senior Acoustician

Connor Burke, Noise Analyst

Mark McGinnis, GIS Specialist

Amy Seals, Senior Technical Editor

SCST

Andrew Neuhaus, Senior Engineering Geologist

Aurora Industrial Hygiene

Karen Shockley

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SOURCE: SANGIS 2017

FIGURE 2
Project Site and Surroundings
E Reservoir Replacement and Pump Station Project

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SOURCE: SANGIS 2017



FIGURE 3

Existing Project Site

E Reservoir Replacement and Pump Station Project

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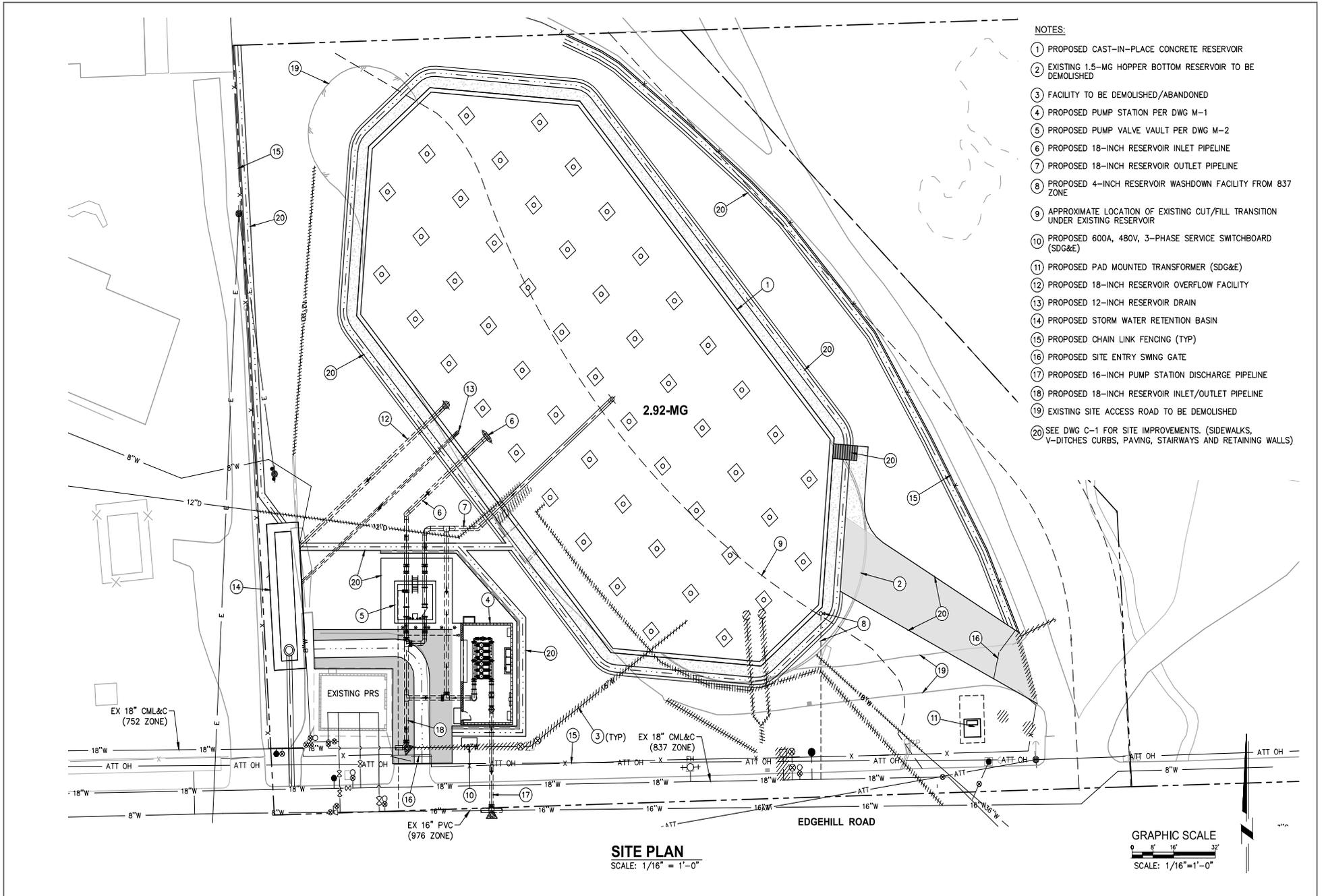
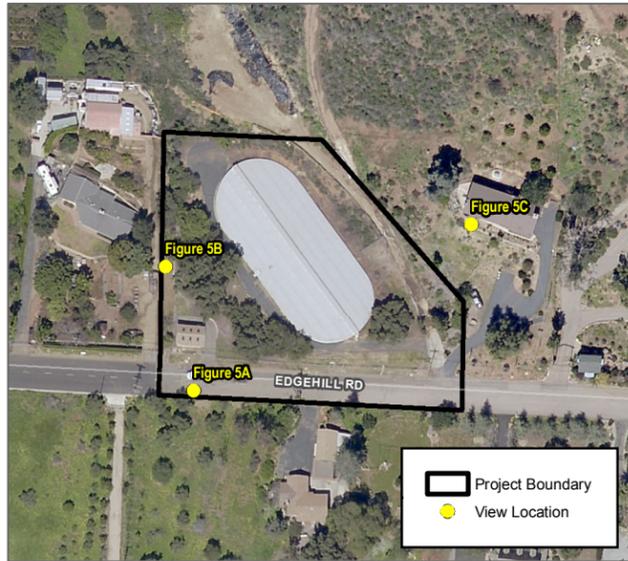


FIGURE 4

Proposed Project Site Plan

E Reservoir Replacement and Pump Station Project

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Existing



Proposed - Landscaping at Planting



Proposed - Landscaping at Maturity

SOURCE: SANGIS 2017

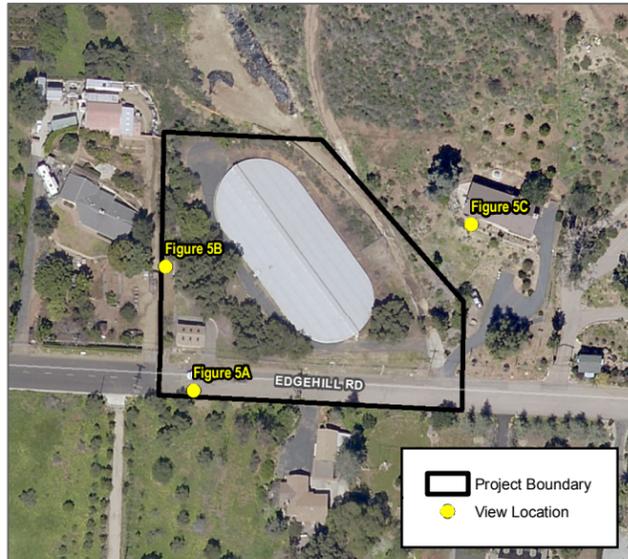


FIGURE 5A

Visual Simulation - Edgell Road

E Reservoir Replacement and Pump Station Project

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Existing



Proposed - Landscaping at Planting



Proposed - Landscaping at Maturity

SOURCE: SANGIS 2017

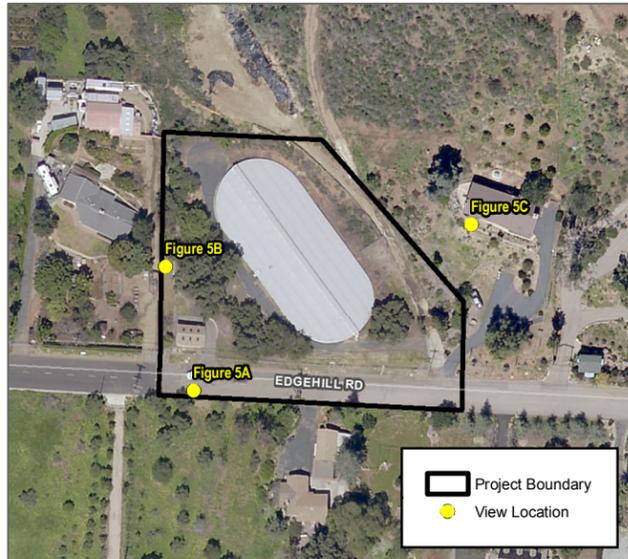


FIGURE 5B

Visual Simulation - Residence View #1

E Reservoir Replacement and Pump Station Project

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Existing



Proposed - Landscaping at Planting



Proposed - Landscaping at Maturity

SOURCE: SANGIS 2017



FIGURE 5C

Visual Simulation - Residence View #2

E Reservoir Replacement and Pump Station Project

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Appendix A

Air Quality and Greenhouse Gas Emissions Memorandum

MEMORANDUM

To: Greg Keppler, PE, Vista Irrigation District
From: Adam Poll, Dudek
Subject: Vista Irrigation District – E Reservoir Project, Air Quality and Greenhouse Gas Emissions Memorandum
Date: January 17, 2020
cc: Samantha Wang, Dudek
Attachment(s): Attachment A – CalEEMod Output Files

The purpose of this memorandum is to estimate criteria air pollutant and greenhouse gas (GHG) emissions from construction and operation of the Vista Irrigation District – E Reservoir Project (project), in the City of Vista (Vista), and evaluates potential environmental impacts resulting from project implementation. The contents and organization of this memorandum are as follows: (1) project description; (2) general methodology and analysis assumptions, including construction and operation assumptions; (3) air quality assessment including an overview of criteria air pollutants, thresholds of significance, and impact analysis; (4) GHG emissions assessment including an overview of GHGs, thresholds of significance, and impact analysis; (5) conclusions; and (6) references cited.

1 Project Description

In accordance with its 2017 Potable Water Master Plan, the Vista Irrigation District (VID or District) is proposing the replacement of the existing oval shaped, partially buried, 1.5 million gallon (MG) E Reservoir with a new reservoir and construction of a new pump station (proposed project). The project is located on a 1.88-acre property comprised of one parcel (APN: 174-240-33) located at 2330 Edgehill Road in unincorporated County of San Diego (County), California just east of the City of Vista. The new reservoir would increase storage capacity and provide the VID with a facility that meets applicable current codes and standards. The new pump station would provide a redundant water supply to higher-pressure zones within the VID’s service area when disruptions occur to primary water supplies.

The project would require the demolition of the existing E Reservoir and accessory facilities. Within a similar footprint, the proposed project would construct a cast-in-place hexagonal shaped structure that would increase the onsite capacity to approximately 2.92 MG, which is a 1.42 MG net increase. The hexagonal shape would allow for more easily maintained water quality. The proposed project would also construct a new water pump station. The pumps, control panel, and other electric and SCADA equipment would be housed in an above ground structure with approximate dimensions of 20-feet by 38-feet that would match the architectural features of the existing adjacent pressure reducing station (PRS) facility.

2 General Methodology and Analysis Assumptions

The project site is located within the San Diego Air Basin (SDAB) and is subject to the San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. Project-generated air pollutant and GHG emissions are estimated using the most recent version of the California Emissions Estimator Model (CalEEMod) Version 2016.3.2.

Construction phasing specifications and construction equipment mix were provided by the project's engineering team (Dudek 2019) and based on typical construction practices. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site up to 8 hours per day (with a few exceptions), 5 days per week (22 days per month) during project construction. Construction-worker estimates, vendor truck trips, and haul truck trips and trip lengths were based on information provided by the project engineering team and CalEEMod default values.

2.1 Project Construction Assumptions

Emissions from the construction phase of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017).

As described in Section 1, Project Description, the proposed project would replace an existing reservoir with a new reservoir and pump station. For the purposes of modeling, it was assumed that construction of the proposed project would commence in September 2020¹ and would last approximately 18 months, ending in February 2022. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate):

- Demolition – three months
- Site Preparation and Grading – three months
- Reservoir Construction – 12 months
- Pump Station Construction – 4 months
- Paving – 1 week
- Piping – 4 months
- Retaining Wall Construction – 1 month
- Architectural Coating – 1 week

The majority of the phases listed above would occur concurrently and would not occur sequentially in isolation. The estimated construction duration was provided by the project engineering team. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

¹ The analysis assumes a construction start date of September 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

The construction equipment mix used for estimating the construction emissions of the proposed project is based on information provided by the project applicant and is shown in Table 1.

Table 1. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	12	4	64	Excavators	2	8
				Skid Steer Loaders	1	8
				Tractors/Loaders/Backhoes	1	8
Site Preparation and Grading	16	0	476	Crawler Tractors	1	8
				Excavators	2	8
				Skid Steer Loaders	1	8
				Tractors/Loaders/Backhoes	3	8
				Bore/Drill Rigs	1	8
Reservoir Construction	20	0	800	Excavators	2	8
				Skid Steer Loaders	1	8
				Tractors/Loaders/Backhoes	1	8
Pump Station Construction	8	0	100	NA	NA	NA
Paving	4	2	0	Pavers	1	8
				Rollers	1	8
Piping	8	0	20	Excavators	1	8
Retaining Wall Construction	8	0	10	NA	NA	NA
Architectural Coating	8	0	0	Air Compressors	1	8

Note: See Appendix A for details.

For the analysis, it was assumed that heavy construction equipment would be operating five days per week (22 days per month) during proposed project construction. Construction worker and vendor trips were based on CalEEMod default assumptions and rounded up to the nearest whole number to account for whole round trips.

Proposed project construction would include 1,830 cubic yards of cut and 1,337 cubic yards of fill as represented in the site preparation and grading phase. It is anticipated that earth movement would be primarily, if not completely, accomplished using off-road equipment (e.g., scrapers and excavators); however, on-site truck trips were conservatively assumed in the event cut and fill would be transported via trucks within the site boundary. There would also be export of approximately 650 tons of waste during the demolition phase.

Construction of proposed project components would be subject to SDAPCD Rule 55, Fugitive Dust Control, which requires that proposed construction include steps to restrict visible emissions of fugitive dust beyond the property

line (SDAPCD 2009b). Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during proposed grading and construction activities.

A detailed depiction of the construction schedule—including information regarding subphases and equipment used during each subphase—is included in Appendix A of this report. The information contained in Appendix A was used as CalEEMod model inputs.

Blasting

Based on the known geotechnical conditions of the project site, there is some potential for blasting to be required to excavate the underlying rock. It should be noted that conventional means of excavation would be exhausted prior to the use of blasting. However, because there is some potential, the analysis presented in this report conservatively assumes blasting would be required. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)–based blends due to their lower cost compared to dynamite. The chemistry of ANFO detonation is the reaction of ammonium nitrate with a long-chain alkane to form NO_x, carbon dioxide, and water. When detonation conditions are optimal, these gases are the only products. In practical use, such conditions are impossible to attain, and blasts produce moderate amounts of other gases. The EPA’s Compilation of Air Pollutant Emission Factors (AP-42), Section 13.3 – Explosives Detonation (EPA 1980), provided the emissions factors for CO, NO_x, and SO_x used in this assessment. According to AP-42, “Unburned hydrocarbons also result from explosions, but in most instances, methane is the only species that has been reported” (EPA 1980); methane is not a VOC, and a methane emission factor has not been determined for ANFO.

AP-42 states that CO is the pollutant produced in greatest quantity from explosives detonation. All explosives produce measurable amounts of CO. Particulates are produced as well, but such large quantities of particulate are generated during shattering of the rock and earth by the explosive that the quantity of particulates from the explosive charge cannot be distinguished. Accordingly, AP-42, Section 11.9 – Western Surface Coal Mining (EPA 1998), provided the basis for the PM₁₀ and PM_{2.5} emissions factors. The emissions factors are based on the horizontal area disturbed during blasting.

It is anticipated that blasting operations would occur during the site preparation and grading phase. No more than one blast per day would occur during construction activities. An average of 8 pounds of ANFO would be applied per blast (Dudek 2019). All blasting activity would require appropriate permits and approvals consistent with local and state requirements, such Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code. The blasting information and additional calculation assumptions are provided in Table 2.

Table 2. Blasting Characteristics

Activity	
Total Rock Requiring Blasting (cubic yards)	2,000
Rock Blasted per Blast (cubic yards per blast)	50
Maximum Blasts per Day (blasts per day)	1
Maximum Explosive per Blast (pounds ANFO per blast)	8
Total Explosives Used (pounds ANFO)	320
Maximum Area Blasted per Day (square feet per day)	13
Total Area Blasted (square feet)	178

Sources: Dudek 2019.
ANFO = ammonium nitrate/fuel oil

2.2 Project Operational Assumptions

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from architectural coatings. VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from the application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emissions factor is based on the VOC content of the surface coatings, and SDAPCD's Rule 67.0.1 (Architectural Coatings) governs the VOC content for interior and exterior coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015). The model default reapplication rate of 10 percent of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75 percent assumed for interior coating and 25 percent assumed for exterior surface coating (CAPCOA 2017).

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. The project would not have natural gas use. It is estimated that the project would use up to 196,049 kilowatt-hours of electricity per year from three, 50-horsepower pumps (Dudek 2019).

Mobile Sources

Following the completion of construction activities, the proposed project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of monthly maintenance inspections. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use, as modeled within the CalEEMod. Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with vehicular sources.

3 Air Quality Assessment

3.1 Air Quality Setting

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM₁₀), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (PM_{2.5}). VOCs and NO_x are important because they are precursors to ozone (O₃). Criteria air pollutant emissions

associated with construction of the project were estimated for the following emission sources: operation of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Operational emissions include those from maintenance vehicles and architectural coating off-gassing.

San Diego Air Pollution Control District

Although CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project is located within the SDAB and is subject to SDAPCD guidelines and regulations. In San Diego County, O₃ and particulate matter are the pollutants of main concern, because exceedances of the CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ (1-hour and 8-hour) standards. The SDAB is also designated as a federal O₃ maintenance attainment area for the 1997 8-hour NAAQS and a marginal nonattainment area for the 2008 8-hour NAAQS for O₃.

SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The Regional Air Quality Strategy (RAQS) for the SDAB was initially adopted in 1991, and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

The 8-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O₃ standard by 2018 (SDAPCD 2016b). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O₃ standard. The RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

In December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM₁₀ and PM_{2.5}). In the report, SDAPCD evaluates the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion.

San Diego Air Basin Attainment Designation

An area is designated as "in attainment" when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the EPA and CARB, respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of

primary concern that are considered in this air quality assessment include O₃, nitrogen dioxide (NO₂), CO, sulfur dioxide (SO₂), PM₁₀, and PM_{2.5}. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O₃.

The SDAB is designated as an attainment area for the 1997 8-hour O₃ NAAQS and as a nonattainment area for the 2008 8-hour O₃ NAAQS. The SDAB is designated as a nonattainment area for O₃, PM₁₀, and PM_{2.5} CAAQS. The portion of the SDAB where the project site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005).

The project site is bounded by agriculture and residential land to the north; open land including the San Marcos mountain range and residential buildings to the east; commercial and residential development to the south; and commercial and residential uses to the west. The land uses near the project alignment that are considered sensitive receptor land uses with regard to air quality concerns include the residential land uses.

3.2 Thresholds of Significance

3.2.1 CEQA Guidelines

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

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

3.2.2 SDAPCD Thresholds

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. As part of its air quality permitting process, SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. SDAPCD sets forth quantitative emission thresholds below

which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 3 are exceeded.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project’s total emissions would not result in a significant impact to air quality.

The thresholds listed in Table 3 represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 3, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality. A project that involves a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

Table 3. San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (Pounds per Day)		
Respirable particulate matter (PM ¹⁰)	100		
Fine particulate matter (PM _{2.5})	55		
Oxides of nitrogen (NO _x)	250		
Sulfur oxides (SO _x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOC)	137 ^a		
Operational Emissions			
Pollutant	Total Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Respirable particulate matter (PM ₁₀)	–	100	15
Fine particulate matter (PM _{2.5})	–	55	10
Oxides of nitrogen (NO _x)	25	250	40
Sulfur oxides (SO _x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	–	3.2	0.6
Volatile organic compounds (VOC)	–	137 ^a	13.7

Source: SDAPCD Rules 1501 and 20.2(d)(2).

^a VOC threshold based on South Coast Air Quality Management District (SCAQMD) levels per the SCAQMD and the Monterey Bay Air Pollution Control District, which have similar federal and state attainment status to San Diego.

3.3 Impact Analysis

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the State Implementation Plan (SIP) and RAQS.² The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2012. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the basin based on the NAAQS. The RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD’s plans and control measures designed to attain the state air quality standards for O₃. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project involves development that is greater than that anticipated in the local plan and SANDAG’s growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. As the project is located at the existing reservoir site, the project would not conflict with the existing zoning and General Plan land use designations. Implementation of the project would not be growth inducing. Additionally, the project would neither include a residential component that would increase local population growth, nor provide additional water supplies that would result in growth-inducing effects.

In summary, the project would not provide for residential development growth or local employment growth; therefore, the project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the various project-proposed maintenance activities is considered to be anticipated in the SIP and RAQS. Because the proposed project activities and associated vehicle trips are anticipated in local air quality plans, the project would be consistent at a regional level with the underlying growth forecasts in the RAQS. Impacts as a result of project-level activities would be **less than significant**.

b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for

² For the purpose of this discussion, the relevant federal air quality plan is the Ozone Maintenance Plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of State air quality planning. Both plans reflect growth projections in the basin.

criteria pollutants are relevant in the determination of whether a project’s individual emissions would have a cumulatively significant impact on air quality.

A quantitative analysis was conducted to determine whether construction of the project may result in emissions of criteria air pollutants that may cause exceedances of federal and/or state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short-term impacts that would result from implementation of the project and concludes that impacts would be less than significant. The project would not involve routine daily activities following construction; therefore, the project is not anticipated to generate long-term operational criteria air pollutant emissions.

Construction Emissions

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activity were quantified using CalEEMod. Default values provided by the program were used where detailed proposed project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.4.2.1, Construction. The information contained in Appendix A was used as CalEEMod inputs.

Implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. The proposed project would be subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the proposed project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) generated during grading and construction activities.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The application of asphalt pavement and architectural coatings would also produce VOC emissions. Table 4 shows the estimated maximum daily construction emissions associated with construction of the proposed project without mitigation. Complete details of the emissions calculations are provided in Appendix A.

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per day					
2020 ¹	2.99	33.95	30.78	0.07	2.29	1.51
2021	7.81	33.37	33.74	0.07	2.43	1.56
2022	0.39	4.03	4.89	0.01	0.25	0.20

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per day					
<i>Maximum</i>	7.81	33.95	33.74	0.07	2.43	1.56
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes:

¹ Emissions include blasting calculated outside of CalEEMod.

VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District; CalEEMod = California Emissions Estimator Model.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. Although not considered mitigation, these emissions reflect the CalEEMod “mitigated” output, which accounts for the required compliance with SDAPCD Rule 55 (Fugitive Dust) and Rule 67.0.1 (Architectural Coatings).

As shown in Table 4, daily construction emissions would not exceed the significance thresholds for any criteria air pollutant. Therefore, impacts during construction would be less than significant.

Operational Emissions

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources (vehicle trips), area sources (consumer products, landscape maintenance equipment), and energy sources. As discussed in Section 2.4.2.2, Operation, pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on project-specific trip rates. CalEEMod default values were used to estimate emissions from the proposed project area and energy sources.

Table 5 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2022) of the proposed project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Table 5. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per day					
Area	0.01	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.01	0.04	0.00	0.01	0.00
Total	0.01	0.01	0.04	0.00	0.01	0.00
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District; CalEEMod = California Emissions Estimator Model.

See Appendix A for complete results.

Negative values are presented in parentheses.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect the CalEEMod “mitigated” output, which accounts for compliance with SDAPCD Rule 67.0.1 (Architectural Coatings).

As shown in Table 5, the combined daily area, energy, and mobile source emissions would not exceed the SDAPCD’s operational thresholds for VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The SDAB is a nonattainment area for O₃ under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O₃) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project’s contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project’s contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed previously, the proposed project would not exceed significance thresholds during construction or operation.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the proposed project would be consistent with the existing zoning and land use designation for the site and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the proposed project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts would be **less than significant** during construction and operation.

c) **Would the project expose sensitive receptors to substantial pollutant concentrations?**

Carbon Monoxide Hotspots

Mobile-source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, proposed project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The potential for CO hotspots was evaluated based on the results of the traffic report. County of San Diego's Guidelines (County of San Diego 2007) CO hotspot screening guidance was followed to determine if the Project would require a site-specific hotspot analysis. The County recommends that a quantitative analysis of CO hotspots be performed for intersections operating at or below a LOS of "E" and have peak-hour trips exceeding 3,000 trips.

The project would not generate trips during construction or operation to exceed the screening thresholds set forth above. Therefore, the project would not cause a CO hotspot and would have a less than significant impact.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, Project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants (HAPs). The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. The closest sensitive receptors would be existing residents located directly adjacent to the proposed facility.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends an incremental cancer risk threshold of 10 in a million. "Incremental cancer risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Construction of Project components would not require the extensive use of heavy-duty construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions, and would not involve extensive use of diesel trucks, which are also subject to an ATCM. Construction of the Project would occur over a period of 18 months and would be periodic and short term within each phase. Following completion of construction activities, Project-related TAC emissions would cease. Additionally, there are no diesel powered equipment that would operate during Project operation.

Health Impacts of Criteria Air Pollutants

Construction and operation of the Project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as an attainment area for the 1-hour O₃ NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O₃, as discussed in Section 3.1, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O₃ AAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O₃ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Project construction could minimally contribute to regional O₃ concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O₃, construction of the Project would not exceed thresholds for PM₁₀ or PM_{2.5} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The Project would also not result in substantial DPM emissions during construction and operation and therefore, would not result in significant health effects related to DPM exposure. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding NO₂, according to the construction emissions analysis, construction of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. NO₂ and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the Project would be required to comply with SDAPCD Rule 55 which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the Project would not require any stationary emission sources that would create substantial, localized NO_x impacts. Therefore, health impacts would be considered less than significant.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O₃ concentrations and the associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. The existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO_x

emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO “hotspots” were discussed previously as a less-than-significant impact. Thus, the Project’s CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants would be considered **less than significant**.

d) ***Would the project create objectionable odors affecting a substantial number of people?***

Odor is a form of air pollution that is possibly most obvious to the general public. Odors can present significant problems for the source and its surrounding community. Although offensive odors seldom cause physical harm, they can be annoying and cause concern. Construction and operation of the project would not create objectionable odors affecting a substantial number of people.

Construction

Potential sources that may emit odors during construction activities include diesel equipment, gasoline fumes, and asphalt paving material. Odors from these sources would be localized and generally confined to the project site. The project would use typical construction techniques in compliance with SDAPCD rules. Additionally, any odors would be temporary. As such, project construction would not cause an odor nuisance, and odor impacts would be **less than significant**.

Operation

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (CARB 2005). The project would only expand the size of the existing reservoir and thus would not create a new source of odors. Therefore, project operations would result in a **less-than-significant** odor impact.

4 Greenhouse Gas Emissions Assessment

4.1 Greenhouse Gas Emissions Setting

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth’s temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, and water vapor. If the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere will gradually increase. Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed,

with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (Climate Action Team (CAT) 2010).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds, tons, or metric tons (MT) of CO₂ equivalent (CO₂e).³ The analysis contained herein estimated emissions in terms of MT of CO₂ CO₂e.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective (California Air Pollution Control Officers Association (CAPCOA) 2008). Per the *Final Statement of Reasons for Regulatory Action* for amendments to the CEQA Guidelines, an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (California Natural Resources Agency (CNRA) 2009).

GHG emissions associated with construction of the project were estimated for the following emission sources: operation of off-road construction equipment, on-road hauling and vendor trucks, and worker vehicles. No operational GHG emissions were estimated as the project is not anticipated to result in routine operational vehicle trips or associated emissions. As discussed in Section 2.2, Project Operational Assumptions, although the pump station is anticipated to consume electricity resulting in indirect (off-site) GHG emissions, electricity demand for recycled water is currently unknown so the annual electricity usage cannot be determined based on the available information at the time of analysis preparation. In addition, the pump station would not operate 365 days per year, and daily operational hours would fluctuate throughout the year depending on the demand. As such, operational impacts are conservatively estimated.

³ The CO₂e for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO₂e (metric tons of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH₄ is 25, which means that emissions of 1 metric ton of CH₄ are equivalent to emissions of 25 metric tons of CO₂, and the GWP for N₂O is 298, based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report. Although the IPCC has released subsequent Assessment Reports with updated GWPs, CARB reporting and other statewide documents utilize the GWP in the IPCC Fourth Assessment Report. As such, it is appropriate to use the hardwired GWP values in CalEEMod from the IPCC Fourth Assessment Report.

4.2 Thresholds of Significance

4.2.1 CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards” (14 CCR 15000 et seq.). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). Similarly, the revisions to Appendix G, Environmental Checklist Form, which is often used as a basis for lead agencies’ selection of significance thresholds, do not prescribe specific thresholds. Rather, the CEQA Guidelines establish two new CEQA thresholds related to GHGs, and these will therefore be used to discuss significance of project impacts:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Accordingly, the CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (14 CCR 15000 et seq.).

OPR Guidance

The OPR’s Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact” (OPR 2008). Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant

impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the San Diego Air Basin, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009). Accordingly, further discussion of the project's GHG emissions and their impact on global climate are addressed in Section 4.3.

As the project is located within the geographic bounds of the County, the County's CAP Consistency Checklist is relied upon for determining significance. In regards to evaluating the project's significance with respect to CEQA Guidelines checklist #1 and checklist question #2, the project will be evaluated against the County's CAP, AB 32, and SANDAG's RTP/SCS. A project's consistency with the County's CAP is evaluated in a two-step process. Step 1 in the CAP Checklist assesses a project's consistency with the growth projections and land use assumptions made in the CAP. If a project is consistent with the projections in the CAP, its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase emissions beyond what is anticipated in the CAP or inhibit the County from reaching its reduction targets. If a project is consistent with the existing General Plan land use designation(s), it can be determined to be consistent with the CAP projections and can move forward to Step 2 of the Checklist. Step 2 of the Checklist identifies CAP GHG reduction measures that would apply to discretionary projects and establishes clear questions that can be used to assess a project's consistency with CAP measures. The specific applicable requirements outlined in the Checklist shall be required as a condition of project approval. The project must provide substantial evidence that demonstrates how the proposed project would implement each applicable Checklist requirement described in Appendix A to the satisfaction of the Director of Planning and Development Services.

4.3 Impact Analysis

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

Construction Emissions

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule—including information regarding phasing, equipment utilized during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.1 of this report.

Table 6 shows the estimated annual GHG construction emissions associated with the proposed project, as well as the amortized construction emissions over a 30-year project life.

Table 6. Estimated Annual Construction GHG Emissions

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
2020 ¹	122.27	0.03	0.00	123.12
2021	302.64	0.08	0.00	304.65
2022	0.72	0.00	0.00	0.73
Total				428.50
Amortized Emissions				14.28

Notes: ¹ Emissions include blasting calculated outside of CalEEMod.
 CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.
 See Appendix A for complete results.

Total construction emissions for the proposed project were estimated to be 429 MT CO₂e. Estimated amortized project-generated construction emissions over 30 years would be approximately 14 MT CO₂e per year. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period for each phase, and would not represent a long-term source of GHG emissions.

Operational Emissions

Operation of the proposed project would generate GHG emissions through motor vehicle trips to and from the project site and energy use (generation of electricity consumed by the proposed project). CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 2.2, Operation. The GHG emissions from the existing golf course were also estimated and are presented below.

Table 7 shows the estimated operational (year 2022) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation.

Table 7. Estimated Annual Operational GHG Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
Area	0.00	0.00	0.00	0.00
Energy	64.08	0.00	0.00	64.29
Mobile	1.63	0.00	0.00	1.64
Total				65.93
<i>Amortized Construction Emissions</i>				<i>14.28</i>
Operation + Amortized Construction Total				80.21

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent. See Appendix A for detailed results. These emissions reflect California Emissions Estimator Model “mitigated” output and operational year 2022.

As shown in Table 7, estimated annual project-generated GHG emissions in 2022 would be approximately 66 MT CO₂e per year as a result of proposed project operations. Estimated annual project-generated emissions in 2022 from area, energy, and mobile sources and amortized project-generated construction emissions would be approximately 80 MT CO₂e per year.

Consistency with Applicable Plans and Policies

Consistency with SANDAG’s San Diego Forward: The Regional Plan

Regarding consistency with SANDAG’s Regional Plan, the proposed project would include site design elements and project design features developed to support the policy objectives of the RTP and SB 375. SANDAG’s Regional Plan is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the San Diego region. The Regional Plan will integrate land use and transportation strategies to meet GHG emissions reduction targets that are forecasted to achieve the state’s 2035 and 2050 GHG reduction goals. The Regional Plan incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the Regional Plan if it does not exceed the underlying growth assumptions within the Regional Plan. The proposed project is not growth inducing. Therefore, the proposed project would be consistent with the total VMT per capita, growth projections, and GHG reductions assumed within the Regional Plan.

Table 8 illustrates the proposed project’s consistency with all applicable goals and policies of SANDAG’s Regional Plan (SANDAG 2015).

Table 8. San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
The Regional Plan – Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to take advantage of new technologies to make the transportation system more efficient and environmentally friendly.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir thus not impacting open space.
Habitat and Open Space Preservation	Protect and restore our region’s urban canyons, coastlines, beaches, and water resources.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir thus not impacting open space.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	<i>Not Applicable.</i> The proposed project does not propose regional freight movement, nor would it impair SANDAG’s ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to create great places for everyone to live, work, and play.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to

Table 8. San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
	healthy lifestyles, including walking and biking.	connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.
Environmental Stewardship	Support energy programs that promote sustainability.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to support energy programs that promote sustainability.
Sustainable Communities Strategy – Strategies		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	<i>Consistent.</i> The proposed project would be located close to major urban and employment centers.
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	<i>Consistent.</i> The proposed project would be developed on the existing developed site of the current E Reservoir thus not impacting open space.
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.
Strategy #4	Address the housing needs of all economic segments of the population.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to address the housing needs of all economic segments of the population.
Strategy #5	Implement the Regional Plan through incentives and collaboration.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations.

Source: SANDAG 2015.

Notes: proposed project = Vista E Reservoir Replacement; SANDAG = San Diego Association of Governments.

As shown in Table 8, the proposed project would be consistent with all applicable Regional Plan policy objectives or strategies. The second of the four objectives of the SANDAG Regional Housing Needs Assessment is to promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns. Also, one of the key achievements projected for the Regional Plan is for nearly three-quarters of multi-family housing to be built on redevelopment or infill sites. The proposed project would be consistent with that goal as it would

be developed on an existing developed site. As shown in Table 8, the proposed project would be consistent with policy objectives of SANDAG’s Regional Plan. Impacts would be **less than significant**.

Consistency with CARB’s Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California’s GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that “[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan” (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., low-carbon fuel standard), among others. The proposed project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California’s GHG emissions. Table 9 highlights measures that have been developed under the Scoping Plan and the proposed project’s consistency with those measures. The table also includes measures proposed in the 2017 Scoping Plan Update. To the extent that these regulations are applicable to the proposed project, its inhabitants, or uses, the proposed project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	The proposed project’s employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 (4.2 million Zero-Emissions Vehicles by 2030)	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by the proposed project’s employees would use compliant fuels.
Low Carbon Fuel Standard (18 percent reduction in carbon intensity by 2030)	NA	Motor vehicles driven by the proposed project’s employees would use compliant fuels.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Regional Transportation-Related GHG Targets	T-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Advanced Clean Transit	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Last Mile Delivery	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduction in Vehicle Miles Traveled	NA	The proposed project is located on an infill site, which promotes compact walkable communities with an emphasis on proximity and accessibility.
Vehicle Efficiency Measures <ol style="list-style-type: none"> 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing 	T-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Ship Electrification at Ports (Shore Power)	T-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Goods Movement Efficiency Measures <ol style="list-style-type: none"> 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction 	T-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
California Sustainable Freight Action Plan	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Heavy-Duty Vehicle GHG Emission Reduction <ol style="list-style-type: none"> 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I) 	T-7	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project	T-8	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Medium and Heavy-Duty GHG Phase 2	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
High-Speed Rail	T-9	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	The proposed project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The proposed project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The proposed project would not employ solar water heating as part of the design.
Combined Heat and Power	E-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Renewable Portfolios Standard (33 percent by 2020)	E-3	The proposed project would use energy supplied by San Diego Gas and Electric, which is in compliance with the Renewable Portfolio Standard.
Renewable Portfolios Standard (50 percent by 2050)	NA	The proposed project would use energy supplied by San Diego Gas and Electric, which is in compliance with the Renewable Portfolio Standard.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Water Sector		
Water Use Efficiency	W-1	The project would not consume water.
Water Recycling	W-2	Recycled water will not be used on site.
Water System Energy Efficiency	W-3	This is applicable for the transmission and treatment of water, but it is not applicable for the proposed project.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Reuse Urban Runoff	W-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Renewable Energy Production	W-5	Applicable for wastewater treatment systems. Not applicable for the proposed project.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The proposed project would be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	The proposed project’s buildings would meet green building standards that are in effect at the time of construction.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	The proposed project would be required to be constructed in compliance with local green building standards in effect at the time of building construction.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduce GHG Emissions by 20 percent in Oil Refinery Sector	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Refinery Flare Recovery Process Improvements	I-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Mandatory Commercial Recycling	RW-3	During both construction and operation of the proposed project, the proposed project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Anaerobic/Aerobic Digestion	RW-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Extended Producer Responsibility	RW-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Environmentally Preferable Purchasing	RW-7	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Forests Sector		
Sustainable Forest Target	F-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
SF ₆ Limits in Non-Utility and Non-Semiconductor Applications	H-2	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.

Table 9. Project Consistency with Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Limit High Global Warming Potential Use in Consumer Products	H-4	The proposed project’s employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
SF ₆ Leak Reduction Gas Insulated Switchgear	H-6	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
40 percent reduction in methane and hydrofluorocarbon emissions	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
50 percent reduction in black carbon emissions	NA	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	This measure does not apply to the proposed project. The proposed project would not inhibit CARB from implementing this Scoping Plan Measure.

Source: CARB 2008, 2017.

Notes: GHG = greenhouse gas; proposed project = Vista E Reservoir Replacement; CARB = California Air Resources Board; EV = electric vehicle; SF₆ = sulfur hexafluoride.

Based on the analysis in Table 9, the proposed project would be consistent with the applicable strategies and measures in the Scoping Plan.

In addition to the measures outlined in the Table 9, the Scoping Plan also highlights, in several areas, the goals and importance of infill projects. Specifically, the Scoping Plan calls out an ongoing and proposed measure to streamline CEQA compliance and other barriers to infill development. The plan encourages infill projects and sees them as crucial to achieving the State’s long-term climate goals. The plan encourages accelerating equitable and affordable infill development through enhanced financing and policy incentives and mechanisms.

The state will completed an Integrated Natural and Working Lands Climate Change Action Plan (Action Plan) in 2018, which will consider aggregation of eco-regional plans and efforts to achieve net sequestration goals. The Action Plan will include goals and plans to promote and provide incentives for infill development

through community revitalization and urban greening and promote the adoption of regional transportation and development plans, such as SB 375 SCS and Climate Action Plans, which prioritize infill and compact development and also consider the climate change impacts of land use and management.

The following strategies were outlined to expand infill development within the Scoping Plan:

- Encouraging regional transfer of development rights programs to allow owners of natural and working lands to sell their development rights to developers who can use those rights to add additional density to development projects in preferred infill areas.
- Promoting regional transit-oriented development funds that leverage public resources with private-sector investment capital to provide flexible capital for transit-oriented development projects.
- Rebates for low-VMT/location-efficient housing, similar to programs that use rebates to encourage adoption of energy-efficient appliances, ZEVs, water-efficient yards, or renewable energy installation. For example, the rebate could reimburse residents for a portion of the down payment for purchasing or renting a qualified home in exchange for a minimum term of residence.
- Promotion of cross-subsidizing multi-station financing districts along transit corridors to leverage revenues from development in strong-market station areas in order to seed needed infrastructure and development in weaker-market station areas.
- Abatement of residential property tax increases in exchange for property-based improvements in distressed infill areas.
- Ways to promote reduced parking in areas where viable transportation alternatives are present.
- Additional creative financing mechanisms to enhance the viability of priority infill projects.
- Ways to promote and strengthen urban growth boundaries to promote infill development and conservation of natural and working lands by defining and limiting developable land within a metropolitan area according to projected growth needs.

County of San Diego Climate Action Plan

This consistency analysis is provided for information only as the County's CAP is currently subject to ongoing litigation and thus is not relied upon for determining significance.

Step 1 – Land Use Consistency

The project would be consistent with the existing General Plan for the site. Therefore, the project would answer YES to question 1 of Step 1. Therefore, the project can process to Step 2 of the Checklist.

Step 2 – CAP Consistency Checklist

As a reservoir replacement project, the project is a unique development that is not addressed in the County's CAP Consistency Checklist. The Project does not include a residential component, typical commuting workers (such as commuters travelling to an office land use), or agricultural operations, which are addressed in the CAP Consistency Checklist. Implementation of the Project would not interfere with the County's implementation of the Consistency Checklist action items on projects where they are applicable. Further, the CAP was developed to reduce GHG emissions throughout the County over time;

therefore, any project that is contemplated in the CAP and/or would be consistent with the CAP would directly aid in the County’s reduction of GHG emissions throughout the County’s jurisdictional area.

Each CAP Checklist item and why each specific measure does not apply to the Project is outlined in Table 10.

Table 10. Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
<p>1a. Reducing Vehicle Miles Traveled: Non-Residential: For non-residential projects with anticipated tenant occupants of 25 or more, will the project achieve a 15% reduction in emissions from commute vehicle miles traveled (VMT), and commit to monitoring and reporting results to demonstrate on-going compliance? VMT reduction may be achieved through a combination of Transportation Demand Management (TDM) and parking strategies, as long as the 15% reduction can be substantiated.</p>	<p>Not Applicable. The Project would have no tenants or employees commuting to the site on a regular basis.</p>
<p>2a. Shared and Reduced Parking: Non-Residential: For non-residential projects with anticipated tenant-occupants of 24 or less, will the project implement shared and reduced parking strategies that achieves a 10% reduction in emissions from commute VMT? Check “N/A” if the project is a residential project or if the project would accommodate 25 or more tenant-occupants.</p>	<p>Not Applicable. Employee trips would only be related to periodic maintenance activities associated with operation of the reservoir and pump station. The project would not have employees commuting to the site on a regular basis.</p>
<p>3a. Electric or Alternately-Fueled Water Heating Systems Residential: For projects that include residential construction, will the project, as a condition of approval, install the following types of electric or alternately-fueled water heating system(s)?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solar thermal water heater <input type="checkbox"/> Tankless electric water heater <input type="checkbox"/> Storage electric water heaters <input type="checkbox"/> Electric heat pump water heater <input type="checkbox"/> Tankless gas water heater <input type="checkbox"/> Other 	<p>Not Applicable. The Project does not include a residential component.</p>
<p>4a. Water Efficient Appliances and Plumbing Fixtures Residential: For new residential projects, will the project comply with all of the following water efficiency and conservation BMPs?</p> <ol style="list-style-type: none"> 1. Kitchen Faucets: The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 pounds per square inch (psi). Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. 2. Energy Efficient Appliances: Install at least one qualified ENERGY STAR dishwasher or clothes washer per unit. 	<p>Not Applicable. The Project does not include a residential component.</p>

Table 10. Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
<p>5a. Rain Barrel Installations: Residential: For new residential projects, will the project make use of incentives to install one rain barrel per every 500 square feet of available roof area? Check “N/A” if the project is a non-residential project; if State, regional or local incentives/rebates to purchase rain barrels are not available; or if funding for programs/rebates has been exhausted.</p>	<p>Not Applicable. The Project does not include a residential component.</p>
<p>6a. Reduce Outdoor Water: <u>Residential:</u> Will the project submit a Landscape Document Package that is compliant with the County’s Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current Maximum Applied Water Allowance (MAWA) for outdoor use? <u>Non-Residential:</u> Will the project submit a Landscape Document Package that is compliant with the County’s Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current MAWA for outdoor use?</p>	<p>Not Applicable. The Project would not include additional landscaping.</p>
<p>7a. Agricultural and Farming Equipment: Will the project use the San Diego County Air Pollution Control District’s (SDAPCD’s) farm equipment incentive program to convert gas- and diesel-powered farm equipment to electric equipment? Check “N/A” if the project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.</p>	<p>Not Applicable. The Project would not include gas or diesel-powered farm equipment and would not contain any agricultural or farming operations.</p>
<p>8a. Electric Irrigation Pumps: Will the project use SDAPCD’s farm equipment incentive program to convert diesel- or gas-powered irrigation pumps to electric irrigation pumps? Check “N/A” if the project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.</p>	<p>Not Applicable. This is not applicable to the Project, as the Project would not include irrigation pumps and would not contain any agricultural or farming operations.</p>
<p>9a. Tree Planting: Residential: For residential projects, will the project plant, at a minimum, two trees per every new residential dwelling unit proposed? Check “N/A” if the project is a non-residential project</p>	<p>Not Applicable. The Project does not include a residential component.</p>

Source: County of San Diego 2018

Although the CAP Consistency Checklist individual GHG measures would not apply to the Project, the Project would be consistent with the underlying assumptions of the CAP and would support goals within the CAP. Therefore, the Project would have a **less than significant** impact on GHG emissions.

In summary, the proposed project would be consistent with the applicable measures and policy goals as shown in Tables 8, 9, and 10. Therefore, the proposed project would be consistent with SANDAG’s Regional Plan, CARB’s Scoping Plan, and the County’s CAP. Finally, the SDAPCD has not adopted GHG reduction measures that would apply to the GHG emissions associated with the proposed project. Therefore, this impact would be **less than significant**.

5 References

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Memorandum

Subject: Vista Irrigation District – E Reservoir Project, Air Quality and Greenhouse Gas Emissions Memorandum

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SDAPCD. 2015. SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. June 24. Accessed May 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R67-0-1.pdf.

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Attachment A

CalEEMod Output Files

Vista E Reservoir Project - San Diego County, Annual

Vista E Reservoir Project
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Based on engineering team data.

Land Use - Land use surrogate. Construction and operational inputs are from engineering team estimates.

Construction Phase - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Trips and VMT - Based on engineering team data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on engineering team data.

Grading - Based on engineering team data.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on one maintenance trip per month.

Consumer Products - no consumer products

Area Coating - CalEEMod defaults.

Landscape Equipment - no landscaping

Energy Use - Based on engineering team data.

Water And Wastewater - No water use.

Solid Waste - No solid waste.

Construction Off-road Equipment Mitigation - water twice daily

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	65.00

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tblConstructionPhase	NumDays	1.00	55.00
tblConstructionPhase	NumDays	100.00	261.00
tblConstructionPhase	NumDays	100.00	88.00
tblConstructionPhase	NumDays	100.00	22.00
tblConstructionPhase	NumDays	100.00	110.00
tblConstructionPhase	NumDays	5.00	2.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-21
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-21
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-21
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	196.05
tblEnergyUse	T24NG	4.31	0.00
tblGrading	MaterialExported	0.00	1,830.00
tblGrading	MaterialImported	0.00	1,337.00
tblLandscapeEquipment	NumberSummerDays	180	1E-20
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	2.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

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2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0629	0.7042	0.6754	1.3700e-003	0.0323	0.0307	0.0629	5.4600e-003	0.0282	0.0337	0.0000	122.2733	122.2733	0.0341	0.0000	123.1250
2021	0.1535	1.4149	1.8099	3.3800e-003	0.0557	0.0626	0.1183	0.0125	0.0576	0.0701	0.0000	302.6407	302.6407	0.0802	0.0000	304.6456
2022	3.9000e-004	4.0300e-003	4.8900e-003	1.0000e-005	5.0000e-005	2.0000e-004	2.5000e-004	1.0000e-005	1.8000e-004	2.0000e-004	0.0000	0.7223	0.7223	2.1000e-004	0.0000	0.7276
Maximum	0.1535	1.4149	1.8099	3.3800e-003	0.0557	0.0626	0.1183	0.0125	0.0576	0.0701	0.0000	302.6407	302.6407	0.0802	0.0000	304.6456

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0629	0.7042	0.6754	1.3700e-003	0.0202	0.0307	0.0509	3.9900e-003	0.0282	0.0322	0.0000	122.2732	122.2732	0.0341	0.0000	123.1248
2021	0.1535	1.4149	1.8099	3.3800e-003	0.0476	0.0626	0.1102	0.0116	0.0576	0.0693	0.0000	302.6404	302.6404	0.0802	0.0000	304.6453
2022	3.9000e-004	4.0300e-003	4.8900e-003	1.0000e-005	5.0000e-005	2.0000e-004	2.5000e-004	1.0000e-005	1.8000e-004	2.0000e-004	0.0000	0.7223	0.7223	2.1000e-004	0.0000	0.7276
Maximum	0.1535	1.4149	1.8099	3.3800e-003	0.0476	0.0626	0.1102	0.0116	0.0576	0.0693	0.0000	302.6404	302.6404	0.0802	0.0000	304.6453

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	22.90	0.00	11.11	13.06	0.00	2.26	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2020	11-30-2020	0.4524	0.4524
2	12-1-2020	2-28-2021	0.7748	0.7748
3	3-1-2021	5-31-2021	0.3729	0.3729
4	6-1-2021	8-31-2021	0.3224	0.3224
5	9-1-2021	11-30-2021	0.2976	0.2976
6	12-1-2021	2-28-2022	0.1046	0.1046
		Highest	0.7748	0.7748

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	64.0709	64.0709	2.5800e-003	5.3000e-004	64.2943
Mobile	4.1000e-004	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.6346	1.6346	8.0000e-005	0.0000	1.6367
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5700e-003	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	65.7055	65.7055	2.6600e-003	5.3000e-004	65.9311

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	64.0709	64.0709	2.5800e-003	5.3000e-004	64.2943
Mobile	4.1000e-004	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.6346	1.6346	8.0000e-005	0.0000	1.6367
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5700e-003	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	65.7055	65.7055	2.6600e-003	5.3000e-004	65.9311

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2020	11/30/2020	5	65	
2	Site Preparation and Grading	Site Preparation	11/15/2020	1/29/2021	5	55	
3	Reservoir Construction	Building Construction	1/1/2021	12/31/2021	5	261	
4	Architectural Coating	Architectural Coating	1/1/2021	1/7/2021	5	5	
5	Piping	Building Construction	3/1/2021	6/30/2021	5	88	
6	Retaining Wall Construction	Building Construction	7/1/2021	7/30/2021	5	22	
7	Pump Station Construction	Building Construction	8/1/2021	12/31/2021	5	110	
8	Paving	Paving	2/1/2022	2/2/2022	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,500; Non-Residential Outdoor: 500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation and Grading	Crawler Tractors	1	8.00	212	0.43
Site Preparation and Grading	Excavators	2	8.00	158	0.38
Site Preparation and Grading	Graders	0	8.00	187	0.41

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Site Preparation and Grading	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation and Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Reservoir Construction	Cranes	0	4.00	231	0.29
Reservoir Construction	Excavators	2	8.00	158	0.38
Reservoir Construction	Forklifts	0	6.00	89	0.20
Reservoir Construction	Skid Steer Loaders	1	8.00	65	0.37
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	78	0.48
Pump Station Construction	Cranes	0	4.00	231	0.29
Pump Station Construction	Forklifts	0	6.00	89	0.20
Pump Station Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Piping	Cranes	0	4.00	231	0.29
Piping	Excavators	1	8.00	158	0.38
Piping	Forklifts	0	6.00	89	0.20
Piping	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Retaining Wall Construction	Cranes	0	4.00	231	0.29
Retaining Wall Construction	Forklifts	0	6.00	89	0.20
Retaining Wall Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation and Grading	Bore/Drill Rigs	1	8.00	221	0.50

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	12.00	4.00	64.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	0	16.00	0.00	476.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	0	20.00	0.00	800.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pump Station Construction	0	8.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Piping	0	8.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Retaining Wall Construction	0	8.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0400e-003	0.0000	7.0400e-003	1.0700e-003	0.0000	1.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2427	0.3132	4.8000e-004		0.0123	0.0123		0.0114	0.0114	0.0000	42.0429	42.0429	0.0136	0.0000	42.3829
Total	0.0236	0.2427	0.3132	4.8000e-004	7.0400e-003	0.0123	0.0194	1.0700e-003	0.0114	0.0124	0.0000	42.0429	42.0429	0.0136	0.0000	42.3829

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3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	9.1000e-003	2.0800e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4680	2.4680	2.2000e-004	0.0000	2.4736
Vendor	5.0000e-004	0.0148	3.9400e-003	4.0000e-005	8.6000e-004	7.0000e-005	9.4000e-004	2.5000e-004	7.0000e-005	3.2000e-004	0.0000	3.4302	3.4302	2.6000e-004	0.0000	3.4368
Worker	1.4400e-003	1.0600e-003	0.0104	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.8270	2.8270	8.0000e-005	0.0000	2.8291
Total	2.2000e-003	0.0250	0.0165	9.0000e-005	4.5400e-003	1.2000e-004	4.6700e-003	1.2300e-003	1.2000e-004	1.3500e-003	0.0000	8.7252	8.7252	5.6000e-004	0.0000	8.7395

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1700e-003	0.0000	3.1700e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2427	0.3132	4.8000e-004		0.0123	0.0123		0.0114	0.0114	0.0000	42.0429	42.0429	0.0136	0.0000	42.3828
Total	0.0236	0.2427	0.3132	4.8000e-004	3.1700e-003	0.0123	0.0155	4.8000e-004	0.0114	0.0118	0.0000	42.0429	42.0429	0.0136	0.0000	42.3828

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3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	9.1000e-003	2.0800e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4680	2.4680	2.2000e-004	0.0000	2.4736
Vendor	5.0000e-004	0.0148	3.9400e-003	4.0000e-005	8.6000e-004	7.0000e-005	9.4000e-004	2.5000e-004	7.0000e-005	3.2000e-004	0.0000	3.4302	3.4302	2.6000e-004	0.0000	3.4368
Worker	1.4400e-003	1.0600e-003	0.0104	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.8270	2.8270	8.0000e-005	0.0000	2.8291
Total	2.2000e-003	0.0250	0.0165	9.0000e-005	4.5400e-003	1.2000e-004	4.6700e-003	1.2300e-003	1.2000e-004	1.3500e-003	0.0000	8.7252	8.7252	5.6000e-004	0.0000	8.7395

3.3 Site Preparation and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0148	0.0000	0.0148	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3939	0.3289	6.6000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	58.1863	58.1863	0.0188	0.0000	58.6568
Total	0.0349	0.3939	0.3289	6.6000e-004	0.0148	0.0180	0.0328	1.6100e-003	0.0166	0.0182	0.0000	58.1863	58.1863	0.0188	0.0000	58.6568

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3.3 Site Preparation and Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1800e-003	0.0419	9.5900e-003	1.1000e-004	3.6900e-003	1.3000e-004	3.8200e-003	9.8000e-004	1.3000e-004	1.1000e-003	0.0000	11.3472	11.3472	1.0200e-003	0.0000	11.3727
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.4000e-004	7.2800e-003	2.0000e-005	2.1800e-003	2.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.9717	1.9717	6.0000e-005	0.0000	1.9731
Total	2.1800e-003	0.0426	0.0169	1.3000e-004	5.8700e-003	1.5000e-004	6.0200e-003	1.5600e-003	1.4000e-004	1.6900e-003	0.0000	13.3188	13.3188	1.0800e-003	0.0000	13.3459

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6600e-003	0.0000	6.6600e-003	7.2000e-004	0.0000	7.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3939	0.3289	6.6000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	58.1862	58.1862	0.0188	0.0000	58.6567
Total	0.0349	0.3939	0.3289	6.6000e-004	6.6600e-003	0.0180	0.0247	7.2000e-004	0.0166	0.0173	0.0000	58.1862	58.1862	0.0188	0.0000	58.6567

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3.3 Site Preparation and Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1800e-003	0.0419	9.5900e-003	1.1000e-004	3.6900e-003	1.3000e-004	3.8200e-003	9.8000e-004	1.3000e-004	1.1000e-003	0.0000	11.3472	11.3472	1.0200e-003	0.0000	11.3727
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.4000e-004	7.2800e-003	2.0000e-005	2.1800e-003	2.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.9717	1.9717	6.0000e-005	0.0000	1.9731
Total	2.1800e-003	0.0426	0.0169	1.3000e-004	5.8700e-003	1.5000e-004	6.0200e-003	1.5600e-003	1.4000e-004	1.6900e-003	0.0000	13.3188	13.3188	1.0800e-003	0.0000	13.3459

3.3 Site Preparation and Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0148	0.0000	0.0148	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0200	0.2204	0.2018	4.1000e-004		9.8600e-003	9.8600e-003		9.0700e-003	9.0700e-003	0.0000	35.9653	35.9653	0.0116	0.0000	36.2561
Total	0.0200	0.2204	0.2018	4.1000e-004	0.0148	9.8600e-003	0.0247	1.6100e-003	9.0700e-003	0.0107	0.0000	35.9653	35.9653	0.0116	0.0000	36.2561

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3.3 Site Preparation and Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8000e-004	0.0237	5.8500e-003	7.0000e-005	3.4500e-003	7.0000e-005	3.5200e-003	8.9000e-004	7.0000e-005	9.6000e-004	0.0000	6.9211	6.9211	6.2000e-004	0.0000	6.9367
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.2000e-004	4.2000e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1769	1.1769	3.0000e-005	0.0000	1.1777
Total	1.2600e-003	0.0242	0.0101	8.0000e-005	4.8000e-003	8.0000e-005	4.8800e-003	1.2500e-003	8.0000e-005	1.3300e-003	0.0000	8.0979	8.0979	6.5000e-004	0.0000	8.1144

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6600e-003	0.0000	6.6600e-003	7.2000e-004	0.0000	7.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0200	0.2204	0.2018	4.1000e-004		9.8600e-003	9.8600e-003		9.0700e-003	9.0700e-003	0.0000	35.9652	35.9652	0.0116	0.0000	36.2560
Total	0.0200	0.2204	0.2018	4.1000e-004	6.6600e-003	9.8600e-003	0.0165	7.2000e-004	9.0700e-003	9.7900e-003	0.0000	35.9652	35.9652	0.0116	0.0000	36.2560

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3.3 Site Preparation and Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8000e-004	0.0237	5.8500e-003	7.0000e-005	3.4500e-003	7.0000e-005	3.5200e-003	8.9000e-004	7.0000e-005	9.6000e-004	0.0000	6.9211	6.9211	6.2000e-004	0.0000	6.9367
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.2000e-004	4.2000e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1769	1.1769	3.0000e-005	0.0000	1.1777
Total	1.2600e-003	0.0242	0.0101	8.0000e-005	4.8000e-003	8.0000e-005	4.8800e-003	1.2500e-003	8.0000e-005	1.3300e-003	0.0000	8.0979	8.0979	6.5000e-004	0.0000	8.1144

3.4 Reservoir Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0941	0.9404	1.3303	2.0200e-003		0.0472	0.0472		0.0434	0.0434	0.0000	177.7569	177.7569	0.0575	0.0000	179.1942
Total	0.0941	0.9404	1.3303	2.0200e-003		0.0472	0.0472		0.0434	0.0434	0.0000	177.7569	177.7569	0.0575	0.0000	179.1942

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3.4 Reservoir Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-003	0.1045	0.0258	3.1000e-004	6.8400e-003	3.2000e-004	7.1600e-003	1.8800e-003	3.0000e-004	2.1800e-003	0.0000	30.4649	30.4649	2.7500e-003	0.0000	30.5336
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0700e-003	6.4700e-003	0.0652	2.0000e-004	0.0209	1.5000e-004	0.0211	5.5600e-003	1.4000e-004	5.7000e-003	0.0000	18.2836	18.2836	5.2000e-004	0.0000	18.2967
Total	0.0121	0.1109	0.0910	5.1000e-004	0.0278	4.7000e-004	0.0282	7.4400e-003	4.4000e-004	7.8800e-003	0.0000	48.7485	48.7485	3.2700e-003	0.0000	48.8303

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0941	0.9404	1.3303	2.0200e-003		0.0472	0.0472		0.0434	0.0434	0.0000	177.7567	177.7567	0.0575	0.0000	179.1940
Total	0.0941	0.9404	1.3303	2.0200e-003		0.0472	0.0472		0.0434	0.0434	0.0000	177.7567	177.7567	0.0575	0.0000	179.1940

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3.4 Reservoir Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-003	0.1045	0.0258	3.1000e-004	6.8400e-003	3.2000e-004	7.1600e-003	1.8800e-003	3.0000e-004	2.1800e-003	0.0000	30.4649	30.4649	2.7500e-003	0.0000	30.5336
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0700e-003	6.4700e-003	0.0652	2.0000e-004	0.0209	1.5000e-004	0.0211	5.5600e-003	1.4000e-004	5.7000e-003	0.0000	18.2836	18.2836	5.2000e-004	0.0000	18.2967
Total	0.0121	0.1109	0.0910	5.1000e-004	0.0278	4.7000e-004	0.0282	7.4400e-003	4.4000e-004	7.8800e-003	0.0000	48.7485	48.7485	3.2700e-003	0.0000	48.8303

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3000e-004	5.0900e-003	6.0600e-003	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	0.8511	0.8511	6.0000e-005	0.0000	0.8525
Total	0.0123	5.0900e-003	6.0600e-003	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	0.8511	0.8511	6.0000e-005	0.0000	0.8525

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3.5 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1401	0.1401	0.0000	0.0000	0.1402
Total	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1401	0.1401	0.0000	0.0000	0.1402

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3000e-004	5.0900e-003	6.0600e-003	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	0.8511	0.8511	6.0000e-005	0.0000	0.8525
Total	0.0123	5.0900e-003	6.0600e-003	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	0.8511	0.8511	6.0000e-005	0.0000	0.8525

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3.5 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1401	0.1401	0.0000	0.0000	0.1402
Total	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1401	0.1401	0.0000	0.0000	0.1402

3.6 Piping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.0948	0.1440	2.3000e-004		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	19.9657	19.9657	6.4600e-003	0.0000	20.1272
Total	0.0101	0.0948	0.1440	2.3000e-004		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	19.9657	19.9657	6.4600e-003	0.0000	20.1272

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3.6 Piping - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.6100e-003	6.4000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.7616	0.7616	7.0000e-005	0.0000	0.7633
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	8.7000e-004	8.7900e-003	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.4658	2.4658	7.0000e-005	0.0000	2.4676
Total	1.3000e-003	3.4800e-003	9.4300e-003	4.0000e-005	2.9900e-003	3.0000e-005	3.0200e-003	8.0000e-004	3.0000e-005	8.2000e-004	0.0000	3.2275	3.2275	1.4000e-004	0.0000	3.2310

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.0948	0.1440	2.3000e-004		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	19.9657	19.9657	6.4600e-003	0.0000	20.1271
Total	0.0101	0.0948	0.1440	2.3000e-004		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	19.9657	19.9657	6.4600e-003	0.0000	20.1271

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3.8 Pump Station Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0131	3.2200e-003	4.0000e-005	8.6000e-004	4.0000e-005	9.0000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.8081	3.8081	3.4000e-004	0.0000	3.8167
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	1.0900e-003	0.0110	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.0823	3.0823	9.0000e-005	0.0000	3.0845
Total	1.9100e-003	0.0142	0.0142	7.0000e-005	4.3900e-003	6.0000e-005	4.4500e-003	1.1700e-003	6.0000e-005	1.2300e-003	0.0000	6.8904	6.8904	4.3000e-004	0.0000	6.9012

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7000e-004	3.8200e-003	4.7400e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.6435	0.6435	2.1000e-004	0.0000	0.6487
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.7000e-004	3.8200e-003	4.7400e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.6435	0.6435	2.1000e-004	0.0000	0.6487

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3.9 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0518	0.0518	0.0000	0.0000	0.0519
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0270	0.0270	0.0000	0.0000	0.0270
Total	2.0000e-005	2.0000e-004	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	0.0000	0.0789

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7000e-004	3.8200e-003	4.7400e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.6435	0.6435	2.1000e-004	0.0000	0.6487
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.7000e-004	3.8200e-003	4.7400e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.6435	0.6435	2.1000e-004	0.0000	0.6487

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3.9 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0518	0.0518	0.0000	0.0000	0.0519
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0270	0.0270	0.0000	0.0000	0.0270
Total	2.0000e-005	2.0000e-004	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	0.0000	0.0789

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.1000e-004	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.6346	1.6346	8.0000e-005	0.0000	1.6367
Unmitigated	4.1000e-004	1.8500e-003	5.0100e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.6346	1.6346	8.0000e-005	0.0000	1.6367

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	2.00	0.00	0.00	4,171	4,171
Total	2.00	0.00	0.00	4,171	4,171

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

Historical Energy Use: N

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	196050	64.0709	2.5800e-003	5.3000e-004	64.2943
Total		64.0709	2.5800e-003	5.3000e-004	64.2943

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

Vista E Reservoir Project - San Diego County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Vista E Reservoir Project - San Diego County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Vista E Reservoir Project - San Diego County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

Vista E Reservoir Project - San Diego County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Vista E Reservoir Project - San Diego County, Summer

Vista E Reservoir Project
San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Vista E Reservoir Project - San Diego County, Summer

Project Characteristics - Based on engineering team data.

Land Use - Land use surrogate. Construction and operational inputs are from engineering team estimates.

Construction Phase - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Trips and VMT - Based on engineering team data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on engineering team data.

Grading - Based on engineering team data.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on one maintenance trip per month.

Consumer Products - no consumer products

Area Coating - CalEEMod defaults.

Landscape Equipment - no landscaping

Energy Use - Based on engineering team data.

Water And Wastewater - No water use.

Solid Waste - No solid waste.

Construction Off-road Equipment Mitigation - water twice daily

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	65.00

Vista E Reservoir Project - San Diego County, Summer

tblConstructionPhase	NumDays	1.00	55.00
tblConstructionPhase	NumDays	100.00	261.00
tblConstructionPhase	NumDays	100.00	88.00
tblConstructionPhase	NumDays	100.00	22.00
tblConstructionPhase	NumDays	100.00	110.00
tblConstructionPhase	NumDays	5.00	2.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-21
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-21
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-21
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	196.05
tblEnergyUse	T24NG	4.31	0.00
tblGrading	MaterialExported	0.00	1,830.00
tblGrading	MaterialImported	0.00	1,337.00
tblLandscapeEquipment	NumberSummerDays	180	1E-20
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

Vista E Reservoir Project - San Diego County, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	2.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

Vista E Reservoir Project - San Diego County, Summer

2.0 Emissions Summary

Vista E Reservoir Project - San Diego County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.9756	33.8488	30.5000	0.0647	1.2512	1.4532	2.7044	0.2236	1.3373	1.5609	0.0000	6,377.9006	6,377.9006	1.7699	0.0000	6,422.1470
2021	7.7920	33.3335	33.7425	0.0711	1.2898	1.4374	2.7273	0.2560	1.3328	1.5888	0.0000	7,001.9176	7,001.9176	1.8303	0.0000	7,047.6746
2022	0.3919	4.0255	4.8921	8.1800e-003	0.0464	0.1998	0.2462	0.0126	0.1838	0.1964	0.0000	798.4669	798.4669	0.2343	0.0000	804.3247
Maximum	7.7920	33.8488	33.7425	0.0711	1.2898	1.4532	2.7273	0.2560	1.3373	1.5888	0.0000	7,001.9176	7,001.9176	1.8303	0.0000	7,047.6746

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.9756	33.8488	30.5000	0.0647	0.8360	1.4532	2.2891	0.1734	1.3373	1.5107	0.0000	6,377.9006	6,377.9006	1.7699	0.0000	6,422.1470
2021	7.7920	33.3335	33.7425	0.0711	0.9938	1.4374	2.4312	0.2238	1.3328	1.5566	0.0000	7,001.9176	7,001.9176	1.8303	0.0000	7,047.6746
2022	0.3919	4.0255	4.8921	8.1800e-003	0.0464	0.1998	0.2462	0.0126	0.1838	0.1964	0.0000	798.4669	798.4669	0.2343	0.0000	804.3247
Maximum	7.7920	33.8488	33.7425	0.0711	0.9938	1.4532	2.4312	0.2238	1.3373	1.5566	0.0000	7,001.9176	7,001.9176	1.8303	0.0000	7,047.6746

Vista E Reservoir Project - San Diego County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	27.49	0.00	12.53	16.74	0.00	2.46	0.00	0.00	0.00	0.00	0.00	0.00

Vista E Reservoir Project - San Diego County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3400e-003	0.0138	0.0398	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4748	14.4748	7.2000e-004		14.4929
Total	9.7000e-003	0.0138	0.0399	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4750	14.4750	7.2000e-004	0.0000	14.4931

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3400e-003	0.0138	0.0398	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4748	14.4748	7.2000e-004		14.4929
Total	9.7000e-003	0.0138	0.0399	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4750	14.4750	7.2000e-004	0.0000	14.4931

Vista E Reservoir Project - San Diego County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2020	11/30/2020	5	65	
2	Site Preparation and Grading	Site Preparation	11/15/2020	1/29/2021	5	55	
3	Reservoir Construction	Building Construction	1/1/2021	12/31/2021	5	261	
4	Architectural Coating	Architectural Coating	1/1/2021	1/7/2021	5	5	
5	Piping	Building Construction	3/1/2021	6/30/2021	5	88	
6	Retaining Wall Construction	Building Construction	7/1/2021	7/30/2021	5	22	
7	Pump Station Construction	Building Construction	8/1/2021	12/31/2021	5	110	
8	Paving	Paving	2/1/2022	2/2/2022	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,500; Non-Residential Outdoor: 500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38

Vista E Reservoir Project - San Diego County, Summer

Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation and Grading	Crawler Tractors	1	8.00	212	0.43
Site Preparation and Grading	Excavators	2	8.00	158	0.38
Site Preparation and Grading	Graders	0	8.00	187	0.41
Site Preparation and Grading	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation and Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Reservoir Construction	Cranes	0	4.00	231	0.29
Reservoir Construction	Excavators	2	8.00	158	0.38
Reservoir Construction	Forklifts	0	6.00	89	0.20
Reservoir Construction	Skid Steer Loaders	1	8.00	65	0.37
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	78	0.48
Pump Station Construction	Cranes	0	4.00	231	0.29
Pump Station Construction	Forklifts	0	6.00	89	0.20
Pump Station Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Piping	Cranes	0	4.00	231	0.29
Piping	Excavators	1	8.00	158	0.38
Piping	Forklifts	0	6.00	89	0.20
Piping	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Retaining Wall Construction	Cranes	0	4.00	231	0.29
Retaining Wall Construction	Forklifts	0	6.00	89	0.20

Vista E Reservoir Project - San Diego County, Summer

Retaining Wall Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation and Grading	Bore/Drill Rigs	1	8.00	221	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	12.00	4.00	64.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	0	16.00	0.00	476.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	0	20.00	0.00	800.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pump Station Construction	0	8.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Piping	0	8.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Retaining Wall Construction	0	8.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Vista E Reservoir Project - San Diego County, Summer

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2167	0.0000	0.2167	0.0328	0.0000	0.0328			0.0000			0.0000
Off-Road	0.7270	7.4665	9.6354	0.0147		0.3796	0.3796		0.3492	0.3492		1,425.9820	1,425.9820	0.4612		1,437.5117
Total	0.7270	7.4665	9.6354	0.0147	0.2167	0.3796	0.5962	0.0328	0.3492	0.3820		1,425.9820	1,425.9820	0.4612		1,437.5117

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.7800e-003	0.2747	0.0624	7.7000e-004	0.0172	8.8000e-004	0.0181	4.7200e-003	8.4000e-004	5.5500e-003		84.3152	84.3152	7.4300e-003		84.5009
Vendor	0.0150	0.4510	0.1149	1.1000e-003	0.0271	2.2100e-003	0.0293	7.8000e-003	2.1100e-003	9.9100e-003		117.6160	117.6160	8.6800e-003		117.8330
Worker	0.0440	0.0297	0.3402	1.0100e-003	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		101.1297	101.1297	3.0200e-003		101.2051
Total	0.0668	0.7554	0.5174	2.8800e-003	0.1429	3.7800e-003	0.1466	0.0387	3.5900e-003	0.0422		303.0609	303.0609	0.0191		303.5390

Vista E Reservoir Project - San Diego County, Summer

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0975	0.0000	0.0975	0.0148	0.0000	0.0148			0.0000			0.0000
Off-Road	0.7270	7.4665	9.6354	0.0147		0.3796	0.3796		0.3492	0.3492	0.0000	1,425.9820	1,425.9820	0.4612		1,437.5117
Total	0.7270	7.4665	9.6354	0.0147	0.0975	0.3796	0.4771	0.0148	0.3492	0.3640	0.0000	1,425.9820	1,425.9820	0.4612		1,437.5117

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.7800e-003	0.2747	0.0624	7.7000e-004	0.0172	8.8000e-004	0.0181	4.7200e-003	8.4000e-004	5.5500e-003		84.3152	84.3152	7.4300e-003		84.5009
Vendor	0.0150	0.4510	0.1149	1.1000e-003	0.0271	2.2100e-003	0.0293	7.8000e-003	2.1100e-003	9.9100e-003		117.6160	117.6160	8.6800e-003		117.8330
Worker	0.0440	0.0297	0.3402	1.0100e-003	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		101.1297	101.1297	3.0200e-003		101.2051
Total	0.0668	0.7554	0.5174	2.8800e-003	0.1429	3.7800e-003	0.1466	0.0387	3.5900e-003	0.0422		303.0609	303.0609	0.0191		303.5390

Vista E Reservoir Project - San Diego County, Summer

3.3 Site Preparation and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5383	0.0000	0.5383	0.0585	0.0000	0.0585			0.0000			0.0000
Off-Road	2.0548	23.1730	19.3455	0.0390		1.0612	1.0612		0.9763	0.9763		3,772.9064	3,772.9064	1.2202		3,803.4122
Total	2.0548	23.1730	19.3455	0.0390	0.5383	1.0612	1.5996	0.0585	0.9763	1.0348		3,772.9064	3,772.9064	1.2202		3,803.4122

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0684	2.4143	0.5482	6.7800e-003	0.2219	7.7000e-003	0.2296	0.0588	7.3700e-003	0.0662		741.1118	741.1118	0.0653		742.7438
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0396	0.4535	1.3500e-003	0.1314	9.2000e-004	0.1324	0.0349	8.5000e-004	0.0357		134.8395	134.8395	4.0300e-003		134.9402
Total	0.1271	2.4539	1.0017	8.1300e-003	0.3533	8.6200e-003	0.3620	0.0937	8.2200e-003	0.1019		875.9513	875.9513	0.0693		877.6840

Vista E Reservoir Project - San Diego County, Summer

3.3 Site Preparation and Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2423	0.0000	0.2423	0.0263	0.0000	0.0263			0.0000			0.0000
Off-Road	2.0548	23.1730	19.3455	0.0390		1.0612	1.0612		0.9763	0.9763	0.0000	3,772.9064	3,772.9064	1.2202		3,803.4122
Total	2.0548	23.1730	19.3455	0.0390	0.2423	1.0612	1.3035	0.0263	0.9763	1.0026	0.0000	3,772.9064	3,772.9064	1.2202		3,803.4122

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0684	2.4143	0.5482	6.7800e-003	0.2219	7.7000e-003	0.2296	0.0588	7.3700e-003	0.0662		741.1118	741.1118	0.0653		742.7438
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0396	0.4535	1.3500e-003	0.1314	9.2000e-004	0.1324	0.0349	8.5000e-004	0.0357		134.8395	134.8395	4.0300e-003		134.9402
Total	0.1271	2.4539	1.0017	8.1300e-003	0.3533	8.6200e-003	0.3620	0.0937	8.2200e-003	0.1019		875.9513	875.9513	0.0693		877.6840

Vista E Reservoir Project - San Diego County, Summer

3.3 Site Preparation and Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5383	0.0000	0.5383	0.0585	0.0000	0.0585			0.0000			0.0000
Off-Road	1.9048	20.9886	19.2233	0.0390		0.9388	0.9388		0.8637	0.8637		3,775.7070	3,775.7070	1.2211		3,806.2355
Total	1.9048	20.9886	19.2233	0.0390	0.5383	0.9388	1.4772	0.0585	0.8637	0.9222		3,775.7070	3,775.7070	1.2211		3,806.2355

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0642	2.2184	0.5427	6.6700e-003	0.3365	6.7700e-003	0.3433	0.0869	6.4800e-003	0.0934		731.8979	731.8979	0.0647		733.5142
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0553	0.0360	0.4244	1.3100e-003	0.1314	9.1000e-004	0.1323	0.0349	8.4000e-004	0.0357		130.3105	130.3105	3.7200e-003		130.4035
Total	0.1196	2.2544	0.9671	7.9800e-003	0.4679	7.6800e-003	0.4756	0.1218	7.3200e-003	0.1291		862.2084	862.2084	0.0684		863.9177

Vista E Reservoir Project - San Diego County, Summer

3.3 Site Preparation and Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2423	0.0000	0.2423	0.0263	0.0000	0.0263			0.0000			0.0000
Off-Road	1.9048	20.9886	19.2233	0.0390		0.9388	0.9388		0.8637	0.8637	0.0000	3,775.7070	3,775.7070	1.2211		3,806.2355
Total	1.9048	20.9886	19.2233	0.0390	0.2423	0.9388	1.1811	0.0263	0.8637	0.8900	0.0000	3,775.7070	3,775.7070	1.2211		3,806.2355

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0642	2.2184	0.5427	6.6700e-003	0.3365	6.7700e-003	0.3433	0.0869	6.4800e-003	0.0934		731.8979	731.8979	0.0647		733.5142
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0553	0.0360	0.4244	1.3100e-003	0.1314	9.1000e-004	0.1323	0.0349	8.4000e-004	0.0357		130.3105	130.3105	3.7200e-003		130.4035
Total	0.1196	2.2544	0.9671	7.9800e-003	0.4679	7.6800e-003	0.4756	0.1218	7.3200e-003	0.1291		862.2084	862.2084	0.0684		863.9177

Vista E Reservoir Project - San Diego County, Summer

3.4 Reservoir Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326		1,501.4824	1,501.4824	0.4856		1,513.6226
Total	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326		1,501.4824	1,501.4824	0.4856		1,513.6226

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0228	0.7857	0.1922	2.3600e-003	0.0536	2.4000e-003	0.0560	0.0147	2.2900e-003	0.0170		259.2124	259.2124	0.0229		259.7848
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0449	0.5305	1.6300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446		162.8882	162.8882	4.6500e-003		163.0044
Total	0.0919	0.8306	0.7227	3.9900e-003	0.2179	3.5300e-003	0.2214	0.0583	3.3400e-003	0.0616		422.1005	422.1005	0.0276		422.7892

Vista E Reservoir Project - San Diego County, Summer

3.4 Reservoir Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326	0.0000	1,501.4824	1,501.4824	0.4856		1,513.6226
Total	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326	0.0000	1,501.4824	1,501.4824	0.4856		1,513.6226

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0228	0.7857	0.1922	2.3600e-003	0.0536	2.4000e-003	0.0560	0.0147	2.2900e-003	0.0170		259.2124	259.2124	0.0229		259.7848
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0449	0.5305	1.6300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446		162.8882	162.8882	4.6500e-003		163.0044
Total	0.0919	0.8306	0.7227	3.9900e-003	0.2179	3.5300e-003	0.2214	0.0583	3.3400e-003	0.0616		422.1005	422.1005	0.0276		422.7892

Vista E Reservoir Project - San Diego County, Summer

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.6350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2919	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255		375.2641	375.2641	0.0258		375.9079
Total	4.9269	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255		375.2641	375.2641	0.0258		375.9079

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018

Vista E Reservoir Project - San Diego County, Summer

3.5 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.6350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2919	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255	0.0000	375.2641	375.2641	0.0258		375.9079
Total	4.9269	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255	0.0000	375.2641	375.2641	0.0258		375.9079

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018

Vista E Reservoir Project - San Diego County, Summer

3.6 Piping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6900e-003	0.0583	0.0143	1.8000e-004	3.9700e-003	1.8000e-004	4.1500e-003	1.0900e-003	1.7000e-004	1.2600e-003		19.2200	19.2200	1.7000e-003		19.2625
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0294	0.0762	0.2264	8.3000e-004	0.0697	6.3000e-004	0.0703	0.0185	5.9000e-004	0.0191		84.3753	84.3753	3.5600e-003		84.4642

Vista E Reservoir Project - San Diego County, Summer

3.6 Piping - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6900e-003	0.0583	0.0143	1.8000e-004	3.9700e-003	1.8000e-004	4.1500e-003	1.0900e-003	1.7000e-004	1.2600e-003		19.2200	19.2200	1.7000e-003		19.2625
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0294	0.0762	0.2264	8.3000e-004	0.0697	6.3000e-004	0.0703	0.0185	5.9000e-004	0.0191		84.3753	84.3753	3.5600e-003		84.4642

Vista E Reservoir Project - San Diego County, Summer

3.7 Retaining Wall Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3700e-003	0.1165	0.0285	3.5000e-004	7.9400e-003	3.6000e-004	8.3000e-003	2.1800e-003	3.4000e-004	2.5200e-003		38.4400	38.4400	3.4000e-003		38.5249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0310	0.1345	0.2407	1.0000e-003	0.0737	8.1000e-004	0.0745	0.0196	7.6000e-004	0.0204		103.5953	103.5953	5.2600e-003		103.7267

Vista E Reservoir Project - San Diego County, Summer

3.7 Retaining Wall Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3700e-003	0.1165	0.0285	3.5000e-004	7.9400e-003	3.6000e-004	8.3000e-003	2.1800e-003	3.4000e-004	2.5200e-003		38.4400	38.4400	3.4000e-003		38.5249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0310	0.1345	0.2407	1.0000e-003	0.0737	8.1000e-004	0.0745	0.0196	7.6000e-004	0.0204		103.5953	103.5953	5.2600e-003		103.7267

Vista E Reservoir Project - San Diego County, Summer

3.8 Pump Station Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7500e-003	0.2330	0.0570	7.0000e-004	0.0159	7.1000e-004	0.0166	4.3500e-003	6.8000e-004	5.0300e-003		76.8800	76.8800	6.7900e-003		77.0498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0344	0.2510	0.2692	1.3500e-003	0.0816	1.1600e-003	0.0828	0.0218	1.1000e-003	0.0229		142.0353	142.0353	8.6500e-003		142.2516

Vista E Reservoir Project - San Diego County, Summer

3.8 Pump Station Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7500e-003	0.2330	0.0570	7.0000e-004	0.0159	7.1000e-004	0.0166	4.3500e-003	6.8000e-004	5.0300e-003		76.8800	76.8800	6.7900e-003		77.0498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0344	0.2510	0.2692	1.3500e-003	0.0816	1.1600e-003	0.0828	0.0218	1.1000e-003	0.0229		142.0353	142.0353	8.6500e-003		142.2516

Vista E Reservoir Project - San Diego County, Summer

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833		709.3618	709.3618	0.2294		715.0973
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833		709.3618	709.3618	0.2294		715.0973

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.6200e-003	0.1925	0.0492	5.4000e-004	0.0135	3.7000e-004	0.0139	3.9000e-003	3.5000e-004	4.2500e-003		57.7228	57.7228	4.0400e-003		57.8237
Worker	0.0131	8.2000e-003	0.0987	3.1000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		31.3824	31.3824	8.5000e-004		31.4037
Total	0.0187	0.2007	0.1478	8.5000e-004	0.0464	5.9000e-004	0.0470	0.0126	5.5000e-004	0.0132		89.1052	89.1052	4.8900e-003		89.2274

Vista E Reservoir Project - San Diego County, Summer

3.9 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833	0.0000	709.3618	709.3618	0.2294		715.0973
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833	0.0000	709.3618	709.3618	0.2294		715.0973

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.6200e-003	0.1925	0.0492	5.4000e-004	0.0135	3.7000e-004	0.0139	3.9000e-003	3.5000e-004	4.2500e-003		57.7228	57.7228	4.0400e-003		57.8237
Worker	0.0131	8.2000e-003	0.0987	3.1000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		31.3824	31.3824	8.5000e-004		31.4037
Total	0.0187	0.2007	0.1478	8.5000e-004	0.0464	5.9000e-004	0.0470	0.0126	5.5000e-004	0.0132		89.1052	89.1052	4.8900e-003		89.2274

4.0 Operational Detail - Mobile

Vista E Reservoir Project - San Diego County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3400e-003	0.0138	0.0398	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4748	14.4748	7.2000e-004		14.4929
Unmitigated	3.3400e-003	0.0138	0.0398	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4100e-003		14.4748	14.4748	7.2000e-004		14.4929

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	2.00	0.00	0.00	4,171	4,171
Total	2.00	0.00	0.00	4,171	4,171

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

Vista E Reservoir Project - San Diego County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Vista E Reservoir Project - San Diego County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Vista E Reservoir Project - San Diego County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Vista E Reservoir Project - San Diego County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Vista E Reservoir Project - San Diego County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Vista E Reservoir Project - San Diego County, Winter

Vista E Reservoir Project
San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Vista E Reservoir Project - San Diego County, Winter

Project Characteristics - Based on engineering team data.

Land Use - Land use surrogate. Construction and operational inputs are from engineering team estimates.

Construction Phase - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Off-road Equipment - Based on engineering team data.

Trips and VMT - Based on engineering team data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on engineering team data.

Grading - Based on engineering team data.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on one maintenance trip per month.

Consumer Products - no consumer products

Area Coating - CalEEMod defaults.

Landscape Equipment - no landscaping

Energy Use - Based on engineering team data.

Water And Wastewater - No water use.

Solid Waste - No solid waste.

Construction Off-road Equipment Mitigation - water twice daily

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	65.00

Vista E Reservoir Project - San Diego County, Winter

tblConstructionPhase	NumDays	1.00	55.00
tblConstructionPhase	NumDays	100.00	261.00
tblConstructionPhase	NumDays	100.00	88.00
tblConstructionPhase	NumDays	100.00	22.00
tblConstructionPhase	NumDays	100.00	110.00
tblConstructionPhase	NumDays	5.00	2.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-21
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-21
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-21
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	196.05
tblEnergyUse	T24NG	4.31	0.00
tblGrading	MaterialExported	0.00	1,830.00
tblGrading	MaterialImported	0.00	1,337.00
tblLandscapeEquipment	NumberSummerDays	180	1E-20
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

Vista E Reservoir Project - San Diego County, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	PhaseName		Site Preparation and Grading
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	2.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

Vista E Reservoir Project - San Diego County, Winter

2.0 Emissions Summary

Vista E Reservoir Project - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.9921	33.8828	30.5076	0.0644	1.2512	1.4534	2.7046	0.2236	1.3375	1.5611	0.0000	6,346.256 1	6,346.256 1	1.7725	0.0000	6,390.568 9
2021	7.8148	33.3716	33.7188	0.0707	1.2898	1.4376	2.7275	0.2560	1.3330	1.5890	0.0000	6,962.840 9	6,962.840 9	1.8326	0.0000	7,008.655 7
2022	0.3940	4.0258	4.8915	8.1500e-003	0.0464	0.1998	0.2462	0.0126	0.1838	0.1964	0.0000	795.0433	795.0433	0.2345	0.0000	800.9060
Maximum	7.8148	33.8828	33.7188	0.0707	1.2898	1.4534	2.7275	0.2560	1.3375	1.5890	0.0000	6,962.840 9	6,962.840 9	1.8326	0.0000	7,008.655 7

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.9921	33.8828	30.5076	0.0644	0.8360	1.4534	2.2893	0.1734	1.3375	1.5109	0.0000	6,346.256 1	6,346.256 1	1.7725	0.0000	6,390.568 9
2021	7.8148	33.3716	33.7188	0.0707	0.9938	1.4376	2.4314	0.2238	1.3330	1.5568	0.0000	6,962.840 9	6,962.840 9	1.8326	0.0000	7,008.655 7
2022	0.3940	4.0258	4.8915	8.1500e-003	0.0464	0.1998	0.2462	0.0126	0.1838	0.1964	0.0000	795.0433	795.0433	0.2345	0.0000	800.9060
Maximum	7.8148	33.8828	33.7188	0.0707	0.9938	1.4534	2.4314	0.2238	1.3375	1.5568	0.0000	6,962.840 9	6,962.840 9	1.8326	0.0000	7,008.655 7

Vista E Reservoir Project - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	27.49	0.00	12.53	16.74	0.00	2.46	0.00	0.00	0.00	0.00	0.00	0.00

Vista E Reservoir Project - San Diego County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.2400e-003	0.0142	0.0389	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7325	13.7325	7.2000e-004		13.7507
Total	9.6000e-003	0.0142	0.0390	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7328	13.7328	7.2000e-004	0.0000	13.7509

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.2400e-003	0.0142	0.0389	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7325	13.7325	7.2000e-004		13.7507
Total	9.6000e-003	0.0142	0.0390	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7328	13.7328	7.2000e-004	0.0000	13.7509

Vista E Reservoir Project - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2020	11/30/2020	5	65	
2	Site Preparation and Grading	Site Preparation	11/15/2020	1/29/2021	5	55	
3	Reservoir Construction	Building Construction	1/1/2021	12/31/2021	5	261	
4	Architectural Coating	Architectural Coating	1/1/2021	1/7/2021	5	5	
5	Piping	Building Construction	3/1/2021	6/30/2021	5	88	
6	Retaining Wall Construction	Building Construction	7/1/2021	7/30/2021	5	22	
7	Pump Station Construction	Building Construction	8/1/2021	12/31/2021	5	110	
8	Paving	Paving	2/1/2022	2/2/2022	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,500; Non-Residential Outdoor: 500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38

Vista E Reservoir Project - San Diego County, Winter

Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation and Grading	Crawler Tractors	1	8.00	212	0.43
Site Preparation and Grading	Excavators	2	8.00	158	0.38
Site Preparation and Grading	Graders	0	8.00	187	0.41
Site Preparation and Grading	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation and Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Reservoir Construction	Cranes	0	4.00	231	0.29
Reservoir Construction	Excavators	2	8.00	158	0.38
Reservoir Construction	Forklifts	0	6.00	89	0.20
Reservoir Construction	Skid Steer Loaders	1	8.00	65	0.37
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Architectural Coating	Air Compressors	1	8.00	78	0.48
Pump Station Construction	Cranes	0	4.00	231	0.29
Pump Station Construction	Forklifts	0	6.00	89	0.20
Pump Station Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Piping	Cranes	0	4.00	231	0.29
Piping	Excavators	1	8.00	158	0.38
Piping	Forklifts	0	6.00	89	0.20
Piping	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Retaining Wall Construction	Cranes	0	4.00	231	0.29
Retaining Wall Construction	Forklifts	0	6.00	89	0.20

Vista E Reservoir Project - San Diego County, Winter

Retaining Wall Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation and Grading	Bore/Drill Rigs	1	8.00	221	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	12.00	4.00	64.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	0	16.00	0.00	476.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	0	20.00	0.00	800.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pump Station Construction	0	8.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Piping	0	8.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Retaining Wall Construction	0	8.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Vista E Reservoir Project - San Diego County, Winter

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2167	0.0000	0.2167	0.0328	0.0000	0.0328			0.0000			0.0000
Off-Road	0.7270	7.4665	9.6354	0.0147		0.3796	0.3796		0.3492	0.3492		1,425.9820	1,425.9820	0.4612		1,437.5117
Total	0.7270	7.4665	9.6354	0.0147	0.2167	0.3796	0.5962	0.0328	0.3492	0.3820		1,425.9820	1,425.9820	0.4612		1,437.5117

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-003	0.2773	0.0665	7.6000e-004	0.0172	8.9000e-004	0.0181	4.7200e-003	8.6000e-004	5.5700e-003		82.8687	82.8687	7.6800e-003		83.0608
Vendor	0.0157	0.4507	0.1275	1.0700e-003	0.0271	2.2500e-003	0.0293	7.8000e-003	2.1500e-003	9.9500e-003		114.5849	114.5849	9.2200e-003		114.8154
Worker	0.0499	0.0333	0.3207	9.5000e-004	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		94.9358	94.9358	2.8600e-003		95.0073
Total	0.0735	0.7613	0.5147	2.7800e-003	0.1429	3.8300e-003	0.1467	0.0387	3.6500e-003	0.0423		292.3894	292.3894	0.0198		292.8834

Vista E Reservoir Project - San Diego County, Winter

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0975	0.0000	0.0975	0.0148	0.0000	0.0148			0.0000			0.0000
Off-Road	0.7270	7.4665	9.6354	0.0147		0.3796	0.3796		0.3492	0.3492	0.0000	1,425.9820	1,425.9820	0.4612		1,437.5117
Total	0.7270	7.4665	9.6354	0.0147	0.0975	0.3796	0.4771	0.0148	0.3492	0.3640	0.0000	1,425.9820	1,425.9820	0.4612		1,437.5117

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-003	0.2773	0.0665	7.6000e-004	0.0172	8.9000e-004	0.0181	4.7200e-003	8.6000e-004	5.5700e-003		82.8687	82.8687	7.6800e-003		83.0608
Vendor	0.0157	0.4507	0.1275	1.0700e-003	0.0271	2.2500e-003	0.0293	7.8000e-003	2.1500e-003	9.9500e-003		114.5849	114.5849	9.2200e-003		114.8154
Worker	0.0499	0.0333	0.3207	9.5000e-004	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		94.9358	94.9358	2.8600e-003		95.0073
Total	0.0735	0.7613	0.5147	2.7800e-003	0.1429	3.8300e-003	0.1467	0.0387	3.6500e-003	0.0423		292.3894	292.3894	0.0198		292.8834

Vista E Reservoir Project - San Diego County, Winter

3.3 Site Preparation and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5383	0.0000	0.5383	0.0585	0.0000	0.0585			0.0000			0.0000
Off-Road	2.0548	23.1730	19.3455	0.0390		1.0612	1.0612		0.9763	0.9763		3,772.9064	3,772.9064	1.2202		3,803.4122
Total	2.0548	23.1730	19.3455	0.0390	0.5383	1.0612	1.5996	0.0585	0.9763	1.0348		3,772.9064	3,772.9064	1.2202		3,803.4122

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0703	2.4375	0.5844	6.6600e-003	0.2219	7.8600e-003	0.2298	0.0588	7.5200e-003	0.0663		728.3972	728.3972	0.0675		730.0851
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0444	0.4276	1.2700e-003	0.1314	9.2000e-004	0.1324	0.0349	8.5000e-004	0.0357		126.5811	126.5811	3.8100e-003		126.6764
Total	0.1368	2.4820	1.0120	7.9300e-003	0.3533	8.7800e-003	0.3621	0.0937	8.3700e-003	0.1020		854.9783	854.9783	0.0713		856.7615

Vista E Reservoir Project - San Diego County, Winter

3.3 Site Preparation and Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2423	0.0000	0.2423	0.0263	0.0000	0.0263			0.0000			0.0000
Off-Road	2.0548	23.1730	19.3455	0.0390		1.0612	1.0612		0.9763	0.9763	0.0000	3,772.9064	3,772.9064	1.2202		3,803.4122
Total	2.0548	23.1730	19.3455	0.0390	0.2423	1.0612	1.3035	0.0263	0.9763	1.0026	0.0000	3,772.9064	3,772.9064	1.2202		3,803.4122

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0703	2.4375	0.5844	6.6600e-003	0.2219	7.8600e-003	0.2298	0.0588	7.5200e-003	0.0663		728.3972	728.3972	0.0675		730.0851
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0444	0.4276	1.2700e-003	0.1314	9.2000e-004	0.1324	0.0349	8.5000e-004	0.0357		126.5811	126.5811	3.8100e-003		126.6764
Total	0.1368	2.4820	1.0120	7.9300e-003	0.3533	8.7800e-003	0.3621	0.0937	8.3700e-003	0.1020		854.9783	854.9783	0.0713		856.7615

Vista E Reservoir Project - San Diego County, Winter

3.3 Site Preparation and Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5383	0.0000	0.5383	0.0585	0.0000	0.0585			0.0000			0.0000
Off-Road	1.9048	20.9886	19.2233	0.0390		0.9388	0.9388		0.8637	0.8637		3,775.7070	3,775.7070	1.2211		3,806.2355
Total	1.9048	20.9886	19.2233	0.0390	0.5383	0.9388	1.4772	0.0585	0.8637	0.9222		3,775.7070	3,775.7070	1.2211		3,806.2355

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0660	2.2376	0.5769	6.5600e-003	0.3365	6.9100e-003	0.3434	0.0869	6.6100e-003	0.0935		719.2526	719.2526	0.0668		720.9221
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0628	0.0404	0.3989	1.2300e-003	0.1314	9.1000e-004	0.1323	0.0349	8.4000e-004	0.0357		122.3276	122.3276	3.5100e-003		122.4155
Total	0.1288	2.2779	0.9758	7.7900e-003	0.4679	7.8200e-003	0.4757	0.1218	7.4500e-003	0.1292		841.5803	841.5803	0.0703		843.3375

Vista E Reservoir Project - San Diego County, Winter

3.3 Site Preparation and Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2423	0.0000	0.2423	0.0263	0.0000	0.0263			0.0000			0.0000
Off-Road	1.9048	20.9886	19.2233	0.0390		0.9388	0.9388		0.8637	0.8637	0.0000	3,775.7070	3,775.7070	1.2211		3,806.2355
Total	1.9048	20.9886	19.2233	0.0390	0.2423	0.9388	1.1811	0.0263	0.8637	0.8900	0.0000	3,775.7070	3,775.7070	1.2211		3,806.2355

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0660	2.2376	0.5769	6.5600e-003	0.3365	6.9100e-003	0.3434	0.0869	6.6100e-003	0.0935		719.2526	719.2526	0.0668		720.9221
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0628	0.0404	0.3989	1.2300e-003	0.1314	9.1000e-004	0.1323	0.0349	8.4000e-004	0.0357		122.3276	122.3276	3.5100e-003		122.4155
Total	0.1288	2.2779	0.9758	7.7900e-003	0.4679	7.8200e-003	0.4757	0.1218	7.4500e-003	0.1292		841.5803	841.5803	0.0703		843.3375

Vista E Reservoir Project - San Diego County, Winter

3.4 Reservoir Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326		1,501.4824	1,501.4824	0.4856		1,513.6226
Total	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326		1,501.4824	1,501.4824	0.4856		1,513.6226

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0234	0.7925	0.2043	2.3200e-003	0.0536	2.4500e-003	0.0560	0.0147	2.3400e-003	0.0170		254.7339	254.7339	0.0237		255.3251
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446		152.9095	152.9095	4.3900e-003		153.0193
Total	0.1018	0.8429	0.7030	3.8500e-003	0.2179	3.5800e-003	0.2214	0.0583	3.3900e-003	0.0616		407.6434	407.6434	0.0280		408.3445

Vista E Reservoir Project - San Diego County, Winter

3.4 Reservoir Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326	0.0000	1,501.4824	1,501.4824	0.4856		1,513.6226
Total	0.7211	7.2061	10.1938	0.0155		0.3615	0.3615		0.3326	0.3326	0.0000	1,501.4824	1,501.4824	0.4856		1,513.6226

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0234	0.7925	0.2043	2.3200e-003	0.0536	2.4500e-003	0.0560	0.0147	2.3400e-003	0.0170		254.7339	254.7339	0.0237		255.3251
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446		152.9095	152.9095	4.3900e-003		153.0193
Total	0.1018	0.8429	0.7030	3.8500e-003	0.2179	3.5800e-003	0.2214	0.0583	3.3900e-003	0.0616		407.6434	407.6434	0.0280		408.3445

Vista E Reservoir Project - San Diego County, Winter

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.6350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2919	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255		375.2641	375.2641	0.0258		375.9079
Total	4.9269	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255		375.2641	375.2641	0.0258		375.9079

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077

Vista E Reservoir Project - San Diego County, Winter

3.5 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.6350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2919	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255	0.0000	375.2641	375.2641	0.0258		375.9079
Total	4.9269	2.0358	2.4234	3.9600e-003		0.1255	0.1255		0.1255	0.1255	0.0000	375.2641	375.2641	0.0258		375.9079

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077

Vista E Reservoir Project - San Diego County, Winter

3.6 Piping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0588	0.0152	1.7000e-004	3.9700e-003	1.8000e-004	4.1500e-003	1.0900e-003	1.7000e-004	1.2600e-003		18.8879	18.8879	1.7500e-003		18.9318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0331	0.0789	0.2146	7.8000e-004	0.0697	6.3000e-004	0.0703	0.0185	5.9000e-004	0.0191		80.0518	80.0518	3.5100e-003		80.1395

Vista E Reservoir Project - San Diego County, Winter

3.6 Piping - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0588	0.0152	1.7000e-004	3.9700e-003	1.8000e-004	4.1500e-003	1.0900e-003	1.7000e-004	1.2600e-003		18.8879	18.8879	1.7500e-003		18.9318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0331	0.0789	0.2146	7.8000e-004	0.0697	6.3000e-004	0.0703	0.0185	5.9000e-004	0.0191		80.0518	80.0518	3.5100e-003		80.1395

Vista E Reservoir Project - San Diego County, Winter

3.7 Retaining Wall Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1175	0.0303	3.4000e-004	7.9400e-003	3.6000e-004	8.3100e-003	2.1800e-003	3.5000e-004	2.5200e-003		37.7759	37.7759	3.5100e-003		37.8636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0349	0.1377	0.2298	9.5000e-004	0.0737	8.1000e-004	0.0745	0.0196	7.7000e-004	0.0204		98.9397	98.9397	5.2700e-003		99.0713

Vista E Reservoir Project - San Diego County, Winter

3.7 Retaining Wall Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1175	0.0303	3.4000e-004	7.9400e-003	3.6000e-004	8.3100e-003	2.1800e-003	3.5000e-004	2.5200e-003		37.7759	37.7759	3.5100e-003		37.8636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0349	0.1377	0.2298	9.5000e-004	0.0737	8.1000e-004	0.0745	0.0196	7.7000e-004	0.0204		98.9397	98.9397	5.2700e-003		99.0713

Vista E Reservoir Project - San Diego County, Winter

3.8 Pump Station Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.9300e-003	0.2350	0.0606	6.9000e-004	0.0159	7.3000e-004	0.0166	4.3500e-003	6.9000e-004	5.0500e-003		75.5518	75.5518	7.0100e-003		75.7271
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0383	0.2552	0.2601	1.3000e-003	0.0816	1.1800e-003	0.0828	0.0218	1.1100e-003	0.0229		136.7156	136.7156	8.7700e-003		136.9349

Vista E Reservoir Project - San Diego County, Winter

3.8 Pump Station Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.9300e-003	0.2350	0.0606	6.9000e-004	0.0159	7.3000e-004	0.0166	4.3500e-003	6.9000e-004	5.0500e-003		75.5518	75.5518	7.0100e-003		75.7271
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0383	0.2552	0.2601	1.3000e-003	0.0816	1.1800e-003	0.0828	0.0218	1.1100e-003	0.0229		136.7156	136.7156	8.7700e-003		136.9349

Vista E Reservoir Project - San Diego County, Winter

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833		709.3618	709.3618	0.2294		715.0973
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833		709.3618	709.3618	0.2294		715.0973

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1918	0.0547	5.2000e-004	0.0135	3.8000e-004	0.0139	3.9000e-003	3.7000e-004	4.2600e-003		56.2205	56.2205	4.2800e-003		56.3276
Worker	0.0149	9.2000e-003	0.0925	3.0000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		29.4610	29.4610	8.0000e-004		29.4811
Total	0.0208	0.2010	0.1473	8.2000e-004	0.0464	6.0000e-004	0.0470	0.0126	5.7000e-004	0.0132		85.6815	85.6815	5.0800e-003		85.8087

Vista E Reservoir Project - San Diego County, Winter

3.9 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833	0.0000	709.3618	709.3618	0.2294		715.0973
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3732	3.8248	4.7443	7.3300e-003		0.1992	0.1992		0.1833	0.1833	0.0000	709.3618	709.3618	0.2294		715.0973

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1918	0.0547	5.2000e-004	0.0135	3.8000e-004	0.0139	3.9000e-003	3.7000e-004	4.2600e-003		56.2205	56.2205	4.2800e-003		56.3276
Worker	0.0149	9.2000e-003	0.0925	3.0000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		29.4610	29.4610	8.0000e-004		29.4811
Total	0.0208	0.2010	0.1473	8.2000e-004	0.0464	6.0000e-004	0.0470	0.0126	5.7000e-004	0.0132		85.6815	85.6815	5.0800e-003		85.8087

4.0 Operational Detail - Mobile

Vista E Reservoir Project - San Diego County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2400e-003	0.0142	0.0389	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7325	13.7325	7.2000e-004		13.7507
Unmitigated	3.2400e-003	0.0142	0.0389	1.4000e-004	0.0124	1.1000e-004	0.0125	3.3100e-003	1.1000e-004	3.4200e-003		13.7325	13.7325	7.2000e-004		13.7507

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	2.00	0.00	0.00	4,171	4,171
Total	2.00	0.00	0.00	4,171	4,171

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

Vista E Reservoir Project - San Diego County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Vista E Reservoir Project - San Diego County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Vista E Reservoir Project - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Vista E Reservoir Project - San Diego County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	6.3600e-003	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Vista E Reservoir Project - San Diego County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

**Vista Irrigation District – E Reservoir Project
Blasting Emissions**

Anticipated blasting activities is assumed to include the following:

Assumptions:

- 50 cubic yard/blast
- 1 blast/day
- 0.004 ton explosives/per 50 CY blast (maximum blast)
- 11.24 feet average depth

Project Phase Estimates:

- 2,000 total cubic yard/phase
- 40.0 total blasts
- 0.16 total ton explosives/phase
- 0.00 maximum ton explosives/day
- 178 total square feet blasted/phase
- 13 maximum square feet blasted/day

Emissions Calculations:

Pollutant	Source	Emission Factor	Units	Maximum Daily (lbs/day)	Annual (lbs/year)	Annual (ton/year)
ROG	1	N/A	lb/ton	—	—	—
NOx	1	17	lb/ton	0.07	2.72	0.00
CO	1	67	lb/ton	0.27	10.72	0.01
SOx	1	2	lb/ton	0.01	0.32	0.00
PM ₁₀	2	—	lb/blast	0.00	0.02	0.00
PM _{2.5}	2	—	lb/blast	0.00	0.00	0.00

Source/Reference:

1. AP-42, Section 13.3, Table 13.3-1 for ANFO.
2. AP-42, Section 11.9, Table 11.9-1.
 $PM_{10} = 0.52 \times 0.000014 \times (A)^{1.5}$, where A is the horizontal area blasted.
 $PM_{2.5} = 0.03 \times 0.000014 \times (A)^{1.5}$, where A is the horizontal area blasted.

Notes:

lb = pounds

GHG Emissions Calculation Comparison:

Pollutant	Source	Emission Factor	Units	Maximum Daily (lbs/day)	Annual (lbs/year)	Annual (MT/year)
CO ₂	1	10.35	kg/gallon	--	--	0.03
CO ₂	2	0.1670	MT/MT	--	--	0.02

Source/Reference:

1. The Climate Registry. 2018 Emission Factors. Table 12.1 U.S. Default Factors for Calculating CO2 Emissions from Combustion of Fossil Fuel and Biomass.
2. Australian Government - Department of Heritage Australian Greenhouse Office. *AGO Factors and Methods Workbook*. December 2006

Conversion Values:

7.41 lbs/gallon fuel oil

6.00% composition of fuel oil #2 in ANFO

10.35 kg CO₂/gallon fuel oil #2

2000 lbs/ton

1000 kg/MT

1.102 tons/MT

Notes:

MT = metric tons

kg = kilograms

lb = pounds

Appendix B

Biological Resources Technical Letter Report

November 25, 2019

11538

Mr. Greg Keppler
Vista Irrigation District
1391 Engineer Street
Vista, California 92081

Subject: *Biological Resources Technical Letter Report for the E Reservoir Replacement and Pump Station Project*

Dear Mr. Greg Keppler:

Dudek was retained by Vista Irrigation District (VID) to complete a biological resources technical letter report for the E Reservoir Replacement and Pump Station Project (proposed project) located at 2330 Edgehill Road in the County of San Diego, California, just east of the City of Vista. The proposed project includes the replacement of the existing oval shaped, partially buried, 1.5-million-gallon E Reservoir with a new reservoir and construction a new pump station on the 1.88-acre property comprised of one parcel (APN: 174-240-33) (Figure 1; Attachment A). The new reservoir would increase storage capacity and provide the VID with a facility that meets applicable current codes and standards, and the new pump station would provide a redundant water supply to higher-pressure zones within the VID's service area when disruptions occur to primary water supplies.

The purpose of this report is to describe the biological character of the proposed project site in terms of vegetation, flora, wildlife, and wildlife habitats; analyze the potential for biological impacts of the proposed project; and proposed avoidance, minimization, and/or mitigation measures to offset potential biological resources impacts in accordance with California Environmental Quality Act (CEQA) guidelines.

1 Methods

On January 10, 2019, Dudek biologist Mike Howard conducted a general biological resources survey and mapping of vegetation communities. The survey was conducted from 8:45 am to 10:45 am under sunny skies, calm winds, and temperature ranging from 56-58°F. Vegetation communities and other land cover were mapped in the field directly onto 100-scale (1 inch = 100 feet) digital orthographic field map using the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) classification system. Prior to the survey, Dudek reviewed regional biological databases and references, including regional vegetation data, California Natural Diversity Database (CNDDDB) species occurrences, US Fish and Wildlife Service (USFWS) data, regional Multiple Habitat Conservation Program (MHCP) and Multiple Species Conservation Program (MSCP) information, and other regional sources on vegetation, wetlands, special-status species, and wildlife movement. During the field reconnaissance, an inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs was developed, as well as an assessment of potential special-status species that could occur on property based on habitats present.

2 Environmental Setting

The proposed project would be located on a 1.88-acre parcel of land located within Section 16 of Township 11 South, Range 3 West of the San Marcos, CA 7.5' United States Geological Survey (USGS) Topographic Quadrangle Map. The project site is located in unincorporated land in the County of San Diego (County) just to the east of the City of Vista (City) in the northern portion of San Diego County.

The site is approximately 1.88 acres and a portion of Edgemoor Road is constructed on the southerly edge of the parcel. Existing elevations on the site range from 765 to 730 feet above mean sea level (amsl) sloping generally from northeast to southwest. The existing oval-shaped reservoir on site was constructed in 1929. It is partially buried with sloped walls and constructed of reinforced gunite concrete walls and floor. The roof is comprised of two layers of corrugated metal roofing with wood timber framing. Other facilities on the site include a slump block building, fencing, access roads, and associated landscaping. Surrounding land uses include rural residential development and agriculture.

3 Results

3.1 Vegetation Communities and General Biological Diversity

Nearly the entire proposed project site is characterized by developed and ornamental planting land cover. Developed land cover on the site is comprised of the existing E Reservoir facility, associated facilities, and access roads, which cover approximately 1.42 acres. Ornamental planting areas cover approximately 0.39 acres of the site and consist of eucalyptus trees (*Eucalyptus* sp.), ornamental pine trees (*Pinus* sp.), Peruvian peppertree (*Schinus molle*), onionweed (*Asphodelus fistulosus*), hottentot fig (*Carpobrotus edulis*), and bare ground.

The proposed project site is largely developed and provides limited habitat for wildlife. The ornamental tree species and limited native vegetation provide habitat for species common to urban areas, particularly bird species such as black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), and song sparrow (*Melospiza melodia*).

The narrow, steep slope on the east side of the reservoir is characterized by plant species associated with disturbed coastal sage scrub, including predominantly California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*). This small vegetation patch is open and sparse with evidence of ground disturbance and patches dominated by non-native exotic plant species, including black mustard (*Brassica nigra*) and tree tobacco (*Nicotiana glauca*). This area of the site was mapped as disturbed coastal sage scrub based on the characteristic dominant species; however, this isolated vegetation patch is very small (less than 0.07 acres) and well below the state-defined minimum mapping unit¹ for vegetation community mapping (CDFW-CNPS 2019; CDFW 2018). Coastal sage scrub vegetation is identified as a special-status vegetation type; however, the remnant patch on the project site would not be considered substantial or suitable to support special-status wildlife associated with coastal sage scrub due to its size, disturbed nature, and isolation from other native vegetation.

¹ Minimum mapping unit (MMU) can vary depending on the area of the mapping effort and the sensitivity of the vegetation community being mapped; however, minimum mapping unit size is not greater than 10 acres and is usually 1 or 2 acres in size. Special vegetation types are mapped at a 0.25-acre MMU. Minimum width of a mapped polygon is generally no less than 30 feet.

Table 1 provides a summary of the vegetation communities and other land cover on the proposed project site, and Figure 2 shows the vegetation mapping of the site. A total of 18 plant species were recorded on the project site, as provided in Attachment B. Seven wildlife species were recorded on the project site, as provided in Attachment C.

Table 1. Vegetation Communities and Other Land Cover

Vegetation Community / Land Cover	Acreage
Developed	1.42
Ornamental Plantings	0.39
disturbed Coastal Sage Scrub	0.07
Total	1.88

3.2 Wetland and Water Resources

No jurisdictional wetlands or waters features potentially subject to the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, or California Department of Fish and Wildlife occur on the proposed project site.

3.3 Special-Status Species

Special-status species include plant and wildlife species that are federally- or state-listed as endangered, threatened, or candidates under the federal and state endangered species list, species listed as state rare or fully protected, wildlife designated as state species of special concern, and plant species with a California Rare Plant Rank (CRPR) 1A, 1B, 2A, or 2B (CDFW 2019a; CNPS 2019). Special-status species occurrence information in the region is based on the federal, state, and local occurrence database records (CDFW 2019b, USFWS 2019, and CCH 2019).

No special-status plant species were identified on the proposed project site. Based on a review of the special-status plant species known from the region, each special-status plant species would either not be expected to occur or would have a low potential to occur on the proposed project site. A full review of the 68 potential special-status plant species is provided in Attachment D.

No special-status wildlife species were identified on the proposed project site. Based on a review of the special-status wildlife species known from the region, each special-status wildlife species would either not be expected to occur or would have a low potential to occur on the proposed project site. A full review of the 52 potential special-status wildlife species is provided in Attachment E.

3.4 Wildlife Movement and Other Regional Consideration

The proposed project site is largely developed and is situated within surrounding land uses characterized by rural residential development and agriculture. No wildlife corridors have been identified on the site or in the vicinity of the site. The site is not a part of and does not contain a riparian corridor or other contiguous habitat linkage that could be used by wildlife for movement. Therefore, the proposed project site provides little value or function for wildlife movement.

In terms of other regional considerations, the proposed project site is located on VID property within unincorporated San Diego County. The County of San Diego is in the process of developing the North County Multiple Species Conservation Program (MSCP), which would provide a regional strategy for conserving the County's biological resources and a process for permitting development activities. The North County MSCP has not been finalized or approved and would not apply to VID projects; however, the document provides relevant conservation planning information for the region. The preliminary draft of the North County MSCP (County of San Diego 2009) excludes the proposed project site and the surround rural residential / agricultural areas from the pre-approved mitigation area (PAMA; future habitat reserve areas); therefore, the site and surroundings are not considered important for biological conservation in the draft North County MSCP.

4 Anticipated Project Impacts and Analysis of Significance

The proposed project includes the replacement of the existing E Reservoir with a new reservoir and construction a new pump station on the property. The new reservoir would increase storage capacity and provide the VID with a facility that meets applicable current codes and standards, and the new pump station would provide a redundant water supply to higher-pressure zones within the VID's service area when disruptions occur to primary water supplies. For the purposes of analyzing impacts to biological resources, it was assumed that the entire proposed project site would be directly impacted by activities associated with demolition and construction of the new reservoir, pump station, and associated facilities.

4.1 Explanation of Findings of Significance

Impacts to biological resources must be quantified and analyzed to determine whether such impacts are significant under the California Environmental Quality Act (CEQA). Appendix G of the CEQA Guidelines specify that a proposed project may have a significant effect on the environment if the project would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS?
- c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The following provides an evaluation of the direct, indirect, and cumulative impacts of the proposed project and an analysis of significance of these impacts pursuant to CEQA.

4.2 Direct Impacts

The proposed project would result ground disturbance and in the direct, permanent impact to the biological resources on the entire site from demolition of the existing facilities and construction of the proposed project.

4.2.1 Vegetation Communities

Implementation of the proposed project would result in ground disturbance and direct, permanent impact to the entire 1.88-acre proposed project site. Under CEQA significance criteria b) listed above in Section 4.1, the impact to vegetation communities and other land cover from the proposed project would be less than significant would not require mitigation.

Developed and ornamental planting land cover characterize the majority of the site (1.81 acres), which would not be considered sensitive under CEQA and impacts to these area would be less than significant. Coastal sage scrub is considered a sensitive natural community by CDFW; however, impacts to 0.07 acres of this isolated, remnant patch of vegetation would not be considered a substantial impact on a sensitive natural community under CEQA significance criteria b). The disturbed coastal sage scrub vegetation on the site is on a steep slope and surrounded by rural residential and agricultural land uses. The vegetation patch is open with evidence of past ground disturbance and non-native exotic plant species occur throughout. This vegetation patch was not considered suitable to support special-status plant or wildlife species and is considerably smaller than the state minimum mapping unit size for vegetation mapping. Therefore, the negligible loss of this vegetation would not be considered a substantial impact on a sensitive natural community and the impact would be less than significant.

4.2.2 Wetland and Water Resources

No wetland or water resources occur on the proposed project site; therefore, the proposed project would have no impact on state or federally protected wetlands addressed under CEQA significance criteria c) listed above in Section 4.1.

4.2.3 Special-Status Species

No special-status plant species were detected on the proposed project site, and no special-status plant species are likely to occur. The majority of the site (over 96%) is characterized by developed and ornamental planting land cover that does not provide suitable habitat to support special-status plant species, and the remainder of the site (0.07 acres) is not likely to or has a low potential to support these species. As a result, the proposed project would not have a substantial adverse effect on special-status plant species under CEQA significance criteria a), and the impacts of the proposed project would be less than significant and would not require mitigation.

No special-status wildlife species were detected on the proposed project site, and no special-status wildlife species are likely to occur. The majority of the site (over 96%) is characterized by developed and ornamental planting land cover that does not provide suitable habitat to support special-status wildlife species, and the remainder of the site (0.07 acres) is not likely to or has a low potential to support these species. As a result, the proposed project would not have a substantial adverse effect on special-status plant species under CEQA significance criteria a), and the impacts of the proposed project would be less than significant and would not require mitigation.

Trees, shrubs, and structures on the proposed project site have the potential to support nesting birds protected by the Migratory Bird Treaty Act (MBTA) and/or the California Fish and Game Code. Direct impacts to nesting birds would be a significant impact under CEQA significance criteria a), absent mitigation. In order to avoid nesting birds during construction of the proposed project, pre-construction nesting bird surveys and avoidance measures shall be implemented pursuant to MM BIO-1 (Pre-Construction Nesting Bird Surveys and Reporting) provided in Section 5. With implementation of the proposed mitigation measure to avoid impacts to nesting birds, this impact would be reduced to a level that is less than significant.

4.2.4 Wildlife Movement and Other Regional Considerations

As described above in Section 3.4, the proposed project site provides little value or function for wildlife movement; therefore, the proposed project would not interfere substantially with the movement of wildlife and impacts would be less than significant under CEQA significance criteria d) and would not require mitigation.

No local policies or ordinances protecting biological resources or provisions of any approved habitat conservation plans would apply to the proposed project; therefore, the no impacts under CEQA significance criteria e) or f) would result.

4.3 Indirect Impacts

Indirect impacts to biological resources could result to adjacent areas during construction of the proposed project from dust generation, soil erosion and runoff, and water quality degradation. These impacts have the potential to be significant. However, the project would be required to comply with San Diego Air Pollution Control District Rule 55 (fugitive dust control), which regulates dust emissions from construction/demolition activity. The project would comply with the Construction General Permit Order 2009-009-DWQ and prepare a Stormwater Pollution Prevention Plan, which must identify best management practices to reduce construction impacts on water quality. Additionally, all construction activities would be limited to the project site and developed/disturbed areas. Further, during operation, stormwater runoff would be treated through a water quality basin prior to discharge from the site. Therefore, indirect impacts would be less than significant.

4.4 Cumulative Impacts

The proposed project would involve demolition of an existing reservoir and construction of a new reservoir and pump station in an area of existing rural residential and agricultural land uses. The proposed project site supports negligible biological resources and the impacts of the proposed project would not contribute appreciably to the cumulative loss of biological resources in the region. The proposed project would mitigate potential impacts to nesting birds and potential indirect effects from construction. With implementation of these measures, the proposed project's contribution to cumulative biological resources impacts would be less than significant.

5 Avoidance, Minimization, and Mitigation Measures

The following mitigation measure would be required to reduce potentially significant impacts of the proposed project on biological resources below a level of significance.

MM BIO-1. Pre-Construction Nesting Birds Surveys and Reporting. To avoid impacts to breeding and nesting birds in accordance to the MBTA and California Fish and Game Code, construction activities shall take place outside of

Mr. Greg Keppler

Subject: Biological Resources Technical Letter Report for the E Reservoir Replacement and Pump Station Project

the nesting season; nesting season is March 1 (January 1 for raptors) through September 15. If construction cannot take place outside the nesting season, a breeding/nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to ground disturbing activities to determine if active nests of bird species protected by the MBTA and/or the California Fish and Game Code are present in the impact area or within 300 feet of the impact area. If active nests are found, an avoidance buffer shall be established (typically 50 to 300 feet, depending on the species) until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. A survey and monitoring report documenting the pre-construction survey results and implemented avoidance measures shall be submitted.

Sincerely,



Mike Howard
Senior Project Manager / Biologist

Att.: A. Figures
B. Plant Species List
C. Wildlife Species List
D. Special-Status Plant Species Potential to Occur
E. Special-Status Wildlife Species Potential to Occur

cc: Andrew Talbert, Dudek

References

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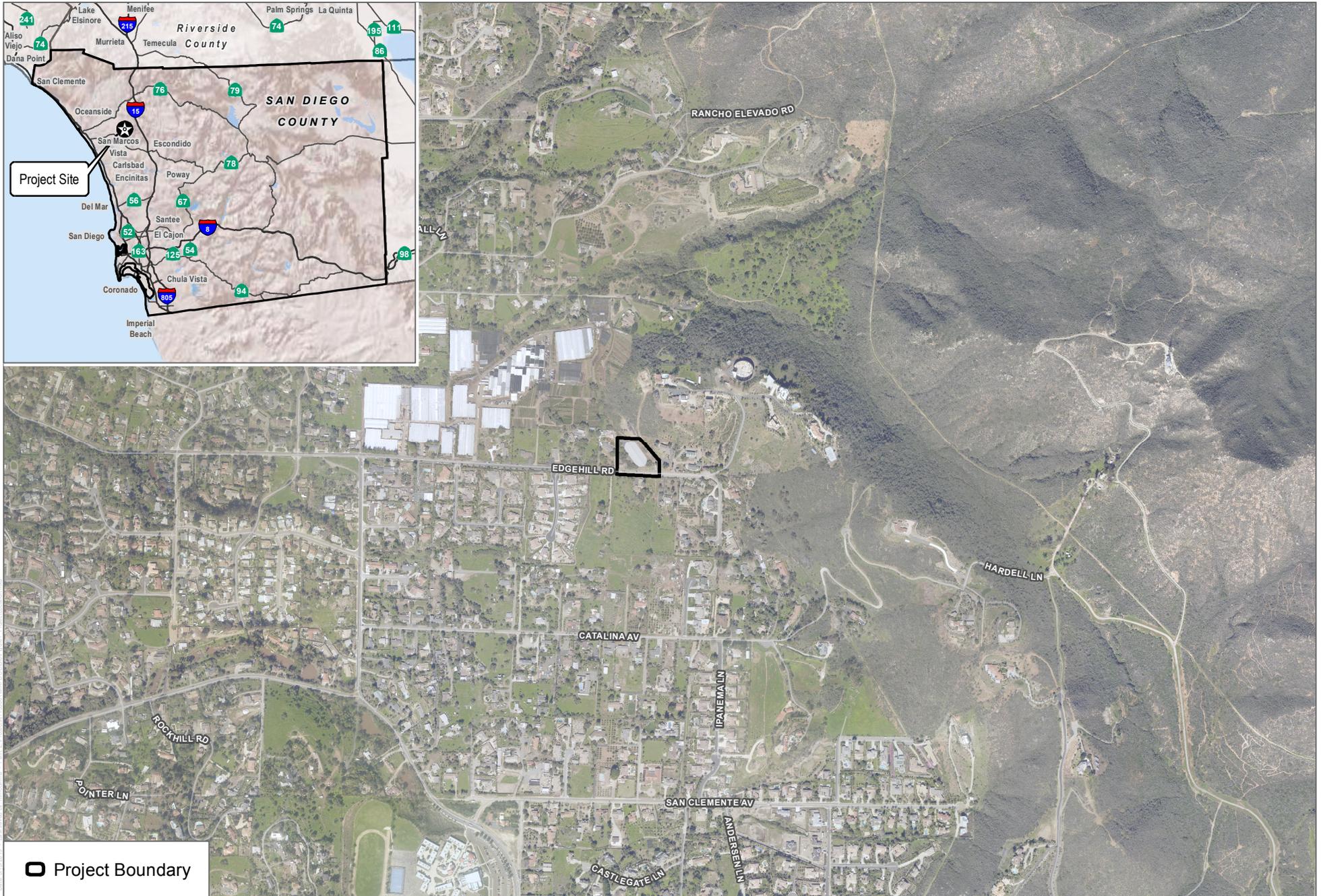
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Attachment A

Figures



Project Boundary

SOURCE: SANGIS 2017



FIGURE 1
Project Location



- Project Boundary
- Vegetation Communities
- DEV, Developed
- ORN, Ornamental
- dCSS, disturbed Coastal Sage Scrub

SOURCE: SANGIS 2017



FIGURE 2

Vegetation Communities

Summary of Biological Resources Existing Conditions for Vista Irrigation District E Reservoir Replacement and Pump Station Project



Attachment B

Plant Species List

EUDICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

* *Carpobrotus edulis*—hottentot fig

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Malosma laurina—laurel sumac

* *Schinus molle*—Peruvian peppertree

APIACEAE—CARROT FAMILY

* *Foeniculum vulgare*—fennel

ASTERACEAE—SUNFLOWER FAMILY

Artemisia californica—California sagebrush

Encelia californica—California brittle bush

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly Russian thistle

CUCURBITACEAE—GOURD FAMILY

Cucurbita foetidissima—Missouri gourd

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus* sp. —eucalyptus

LAMIACEAE—MINT FAMILY

Salvia mellifera—black sage

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum—California buckwheat

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—PINE FAMILY

Pinus sp. —ornamental pine

MONOCOTS

ASPHODELACEAE—ASPHODEL FAMILY

* *Asphodelus fistulosus*—onionweed

POACEAE—GRASS FAMILY

* *Pennisetum setaceum*—fountain grass

* signifies introduced (non-native) species



Attachment C

Wildlife Species List

BIRD

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Corvus brachyrhynchos—American crow

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Melospiza melodia—song sparrow

Melospiza crissalis—California towhee

MAMMAL

RATS, MICE, AND VOLES

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp. — woodrat

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Attachment D

Special-Status Plant Species Potential to Occur

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; sandy/annual herb/(Jan)Mar-Sep/245-5250	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, openings/annual herb/Apr-June/30-3150	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed with negligible suitable habitat. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Acmispon prostratus</i>	Nuttall's acmispon	None/None/1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar-June(July)/0-35	Not expected to occur. The site is outside of the species' known elevation range and there are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Adolphia californica</i>	California adolphia	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec-May/30-2430	Not expected to occur. There is no suitable clay soil present and the site is primarily developed and with negligible suitable habitat. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Agave shawii</i> var. <i>shawii</i>	Shaw's agave	None/None/2B.1	Coastal bluff scrub, Coastal scrub; Maritime succulent scrub/perennial leaf succulent/Sep-May/5-395	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr-Oct/65-1360	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec-June/0-1200	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	None/None/1B.1	Chaparral/perennial evergreen shrub/Dec-Mar/670-2200	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Atriplex coulteri</i>	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; alkaline or clay/perennial herb/Mar-Oct/5-1510	Not expected to occur. There is no suitable alkaline or clay soil on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Atriplex pacifica</i>	South Coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar-Oct/0-460	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Atriplex parishii</i>	Parish's brittlescale	None/None/1B.1	Chenopod scrub, Playas, Vernal pools; alkaline/annual herb/June-Oct/80-6235	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Baccharis vanessae</i>	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; sandstone/perennial deciduous shrub/Aug,Oct,Nov/195-2360	Not expected to occur. There is no suitable habitat and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Bloomeria clevelandii</i>	San Diego goldenstar	None/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial bulbiferous herb/Apr-May/160-1525	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar-June/80-3675	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	None/None/1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools; mesic, clay/perennial bulbiferous herb/May-July/95-5550	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Calochortus dunnii</i>	Dunn's mariposa lily	None/SR/1B.2	Closed-cone coniferous forest, Chaparral, Valley and foothill grassland; gabbroic or metavolcanic, rocky/perennial bulbiferous herb/(Feb)Apr-June/605-6005	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	None/None/3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy or clay/annual herb/Mar-May(June)/0-985	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019, CCH 2019).
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	None/None/1B.2	Closed-cone coniferous forest, Chaparral/perennial evergreen shrub/Apr-June/770-2475	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus	None/None/2B.2	Chaparral/perennial evergreen shrub/Dec-May/0-1245	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 1 mile from the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	None/None/1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May–Nov/0–1575	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None/None/1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2100	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Chamaebatia australis</i>	southern mountain misery	None/None/4.2	Chaparral (gabbroic or metavolcanic)/perennial evergreen shrub/Nov–May/980–3345	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. The closest known occurrence is less than 5 miles from the project site (CCH 2019).
<i>Chorizanthe orcuttiana</i>	Orcutt's spineflower	FE/SE/1B.1	Closed-cone coniferous forest, Chaparral (maritime), Coastal scrub; sandy openings/annual herb/Mar–May/5–410	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	None/None/1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr–July/95–5020	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Clarkia delicata</i>	delicate clarkia	None/None/1B.2	Chaparral, Cismontane woodland; often gabbroic/annual herb/Apr–June/770–3280	Not expected to occur. There is no suitable habitat on site, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr-June/95-2590	Not expected to occur. There is no suitable habitat on site, and the site is primarily developed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Corethrogyne filaginifolia</i> var. <i>incana</i>	San Diego sand aster	None/None/1B.1	Coastal bluff scrub, Chaparral, Coastal scrub/perennial herb/June-Sep/5-375	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Mesa sand aster	None/None/1B.1	Coastal bluff scrub, Chaparral (maritime, openings), Coastal scrub; sandy/perennial herb/May,July,Aug,Sept/45-490	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	None/None/1B.2	Coastal scrub; often clay/annual herb/Feb-June/65-900	Not expected to occur. There is no suitable clay soil on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Dichondra occidentalis</i>	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar-July/160-1640	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019, CCH 2019).
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None/None/1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr-June/15-1475	Not expected to occur. There is no suitable clay soil on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Dudleya multicaulis</i>	many-stemmed dudleya	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; often clay/perennial herb/Apr-July/45-2590	Not expected to occur. There is no suitable clay soil on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Dudleya variegata</i>	variegated dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial herb/Apr-June/5-1905	Not expected to occur. There is no suitable clay soil or vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Dudleya viscida</i>	sticky dudleya	None/None/1B.2	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial herb/May-June/30-1805	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush	None/None/1B.1	Chaparral, Coastal scrub; mesic/perennial evergreen shrub/(July)Sep-Nov/95-1970	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; mesic/annual / perennial herb/Apr-June/65-2035	Not expected to occur. There are no vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Eryngium pendletonense</i>	Pendleton button-celery	None/None/1B.1	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; clay, vernal mesic/perennial herb/Apr-June(July)/45-360	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Erysimum ammophilum</i>	sand-loving wallflower	None/None/1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; sandy, openings/perennial herb/Feb-June/0-195	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Euphorbia misera</i>	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec-Aug(Oct)/30-1640	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Ferocactus viridescens</i>	San Diego barrel cactus	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem succulent/May-June/5-1475	Not expected to occur. There are no vernal pools on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Hazardia orcuttii</i>	Orcutt's hazardia	None/ST/1B.1	Chaparral (maritime), Coastal scrub; often clay/perennial evergreen shrub/Aug-Oct/260-280	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>	beach goldenaster	None/None/1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar-Dec/0-4020	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Holocarpha virgata</i> ssp. <i>elongata</i>	graceful tarplant	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/annual herb/May–Nov/195–3610	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known occurrence is approximately 5 miles from the project site (CCH 2019).
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/Feb–July(Sep)/225–2655	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Horkelia truncata</i>	Ramona horkelia	None/None/1B.3	Chaparral, Cismontane woodland; clay, gabbroic/perennial herb/May–June/1310–4265	Not expected to occur. The site is outside of the species' known elevation range. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	None/None/1B.2	Chaparral, Coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/30–445	Not expected to occur. The site is outside of the species' known elevation range. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Iva hayesiana</i>	San Diego marsh-elder	None/None/2B.2	Marshes and swamps, Playas/perennial herb/Apr–Oct/30–1640	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is approximately 5 miles from the project site (CDFW 2019).
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/0–4005	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	None/None/1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr–July/1705–4495	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Leptosyne maritima</i>	sea dahlia	None/None/2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/15–490	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	intermediate monardella	None/None/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest (sometimes); Usually understory/perennial rhizomatous herb/Apr–Sep/1310–4100	Not expected to occur. The site is outside of the species' known elevation range. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	felt-leaved monardella	None/None/1B.2	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/980–5165	Not expected to occur. The site is outside of the species' known elevation range. The closest known CNDDDB occurrence is less than 1 mile from the project site from 1986 (CDFW 2019).
<i>Nama stenocarpa</i>	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/15–1640	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Navarretia fossalis</i>	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/95–2150	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	None/None/1B.2	Coastal dunes/annual herb/Apr–Sep/0–330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None/None/2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-160–1310	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Nolina cismontana</i>	chaparral nolina	None/None/1B.2	Chaparral, Coastal scrub; sandstone or gabbro/perennial evergreen shrub/(Mar)May-July/455-4185	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr-Aug/45-2165	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Pinus torreyana</i> ssp. <i>torreyana</i>	Torrey pine	None/None/1B.2	Closed-cone coniferous forest, Chaparral; Sandstone/perennial evergreen tree/N.A./95-525	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Pogogyne abramsii</i>	San Diego mesa mint	FE/SE/1B.1	Vernal pools/annual herb/Mar-July/295-655	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly/perennial herb/(July)Aug-Nov(Dec)/0-6890	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Quercus dumosa</i>	Nuttall's scrub oak	None/None/1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb-Apr(May-Aug)/45-1310	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Salvia munzii</i>	Munz's sage	None/None/2B.2	Chaparral, Coastal scrub/perennial evergreen shrub/Feb-Apr/375-3495	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT D. SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	None/None/2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar-June/45-5020	Not expected to occur. There are no playas or alkaline soils on site. Additionally, the site is primarily developed and the negligible coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Stemodia durantifolia</i>	purple stemodia	None/None/2B.1	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan)Apr,June,Aug,Sep,Oct,Dec/590-985	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Suaeda esteroa</i>	estuary seablite	None/None/1B.2	Marshes and swamps (coastal salt)/perennial herb/(May)July-Oct(Jan)/0-15	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	None/None/1B.2	Chaparral, Coastal scrub/perennial deciduous shrub/Apr-May/540-3280	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed. The closest known CNDDDB occurrence is less than 1 mile from the project site (CDFW 2019).

Status Legend:

FE: Federally listed as endangered

FT: Federally listed as threatened

SE: State listed as endangered

ST: State listed as threatened

SR: State Rare

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

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

References

CDFW (California Department of Fish and Wildlife). 2019. California Natural Diversity Database (CNDDDB). RareFind Version 4.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.

CCH (Consortium of California Herbaria). 2019. Data provided by the Consortium of California Herbaria. Regents of the University of California. Updated August 16, 2019. Accessed November 2019. ucjeps.berkeley.edu/consortium/



Attachment E

Special-Status Wildlife Species Potential to Occur

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Amphibians				
<i>Anaxyrus californicus</i>	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Spea hammondi</i>	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture	Not expected to occur. There are no vernal pools on site. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
Reptiles				
<i>Actinemys marmorata</i>	northwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Anniella stebbinsi</i>	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley-foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Arizona elegans occidentalis</i>	California glossy snake	None/SSC	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Phrynosoma blainvillii</i>	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. The closest known CNDDDB occurrence is less than 1 mile from the project site (CDFW 2019).
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Thamnophis sirtalis</i> ssp. (Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 m)	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
Birds				
<i>Agelaius tricolor</i> (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to nest. There are no emergent wetlands or grasslands on site, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Aquila chrysaetos</i> (nesting & wintering)	golden eagle	BCC/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to nest; low potential to winter. There are no open areas of scrubland on site. Additionally, the site is primarily developed and the suitable coastal sage scrub is fragmented and isolated. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Athene cunicularia</i> (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego & Orange Counties only)	coastal cactus wren	BCC/SSC	Southern cactus scrub patches	Not expected to occur. There are no suitable cactus scrub patches on site. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Charadrius alexandrinus nivosus</i> (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Circus hudsonius</i> (nesting)	northern harrier	None/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Coccyzus americanus occidentalis</i> (nesting)	western yellow-billed cuckoo	FT, BCC/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Elanus leucurus</i> (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to nest. There is no riparian habitat on site. Additionally, the site is primarily developed and the suitable coastal sage scrub is fragmented and isolated. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Empidonax traillii extimus</i> (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Icteria virens</i> (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to nest. There are no dense, wide riparian woodlands on site. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Ixobrychus exilis</i> (nesting)	least bittern	BCC/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Laterallus jamaicensis coturniculus</i>	California black rail	BCC/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site; however, the occurrence is from 1938 and is possible extirpated (CDFW 2019).
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (<i>Salicornia</i> spp.)	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Low potential to occur. Negligible coastal scrub present with sandstone, however the habitat is fragmented and disturbed and the site is mostly developed. The remnant patch of vegetation would not support nesting coastal California gnatcatchers and protocol surveys for this species were not considered necessary and were not conducted. The closest known CNDDDB occurrence approximately 3 miles south of the project site in the Santa Fe Hills opens space area in San Marcos (CDFW 2019).
<i>Rallus obsoletus levipes</i>	Ridgway's rail	FE/SE, FP	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Riparia riparia</i> (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Setophaga petechia</i> (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Sternula antillarum browni</i> (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Fishes				
<i>Eucyclogobius newberryi</i>	tidewater goby	FE/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Gila orcuttii</i>	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
Mammals				
<i>Antrozous pallidus</i>	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to occur. There is negligible scrub on site, however the habitat is fragmented, there are no rocky outcrops for roosting, there are no open habitats on site, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented and isolated, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented and isolated, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented and isolated, and the site is primarily developed. The closest known CNDDDB occurrence is approximately 4 miles from the project site within Guajome Regional Park in 1988 (CDFW 2019).
<i>Eumops perotis californicus</i>	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented, there is no suitable woodland or rocky crevices for roosting, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Lasiurus xanthinus</i>	western yellow bat	None/SSC	Valley-foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Not expected to occur. No suitable vegetation present. The closest known CNDDDB occurrence is less than 1 mile from the project site (CDFW 2019).
<i>Leptonycteris yerbabuena</i>	lesser long-nosed bat	FDL/SSC	Sonoran desert scrub, semi-desert grasslands, lower oak woodlands	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	None/SSC	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented and isolated, and the site is

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
				primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Low potential to occur. There is suitable coastal scrub, however the habitat is fragmented and isolated, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None/SSC	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Nyctinomops macrotis</i>	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Not expected to occur. There are no coastal strands, coastal dunes, and river alluvium on site, and the site is primarily developed. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Taxidea taxus</i>	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Low potential to occur. There is negligible coastal scrub, however the habitat is fragmented and isolated, and the site is primarily developed. The closest known CNDDDB occurrence is less than 5 miles from the project site (CDFW 2019).

ATTACHMENT E. SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Invertebrates				
<i>Bombus crotchii</i>	Crotch bumble bee	None/PSE	Open grassland and scrub communities supporting suitable floral resources.	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. There are no vernal pools on site. There are no known occurrences within 5 miles of the project site (CDFW 2019).
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. There are no vernal pools on site. There are no known occurrences within 5 miles of the project site (CDFW 2019).

Status Notes:

FE: Federally Endangered

FT: Federally Threatened

FDL: Federally Delisted

BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern

SSC: California Species of Special Concern

FP: California Fully Protected Species

WL: California Watch List Species

SE: State Endangered

ST: State Threatened

PSE: Proposed State Endangered

References

CDFW (California Department of Fish and Wildlife). 2019. California Natural Diversity Database (CNDDDB). RareFind Version 4.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.

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Appendix C1

Cultural Resources Report

**NEGATIVE CULTURAL RESOURCES REPORT
FOR THE VISTA IRRIGATION DISTRICT,
E RESERVOIR REPLACEMENT AND PUMP STATION
PROJECT, CITY OF VISTA,
SAN DIEGO COUNTY, CALIFORNIA**

Lead Agency:

Vista Irrigation District

Contact: Greg Keppler
1391 Engineer Street,
Vista, California 92081

Prepared by:

Scott Wolf, B.S.

DUDEK

605 Third Street
Encinitas, California 92024

MAY 2019

Negative Cultural Resources Report for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Authors: Scott Wolf B.S.

Firm: Dudek

Project Proponent: Greg Keppler
Vista Irrigation District,
1391 Engineer Street,
Vista, California 92081

Report Date: May 2019

Report Title: Negative Cultural Resources Report for Vista Irrigation District E Reservoir Replacement and Pump Station Project, City of Vista, San Diego County, California

Type of Study: Phase I Archaeological Inventory

Resources: None

USGS Quads: San Marcos, CA 1:24,000; T 11S, R 3W; Section 16

Acreage: 1.88-acre

Permit Numbers: N/A

Keywords: City of Vista, Vista Irrigation District, Pedestrian Survey, Phase I Inventory, San Diego County, CRHR; CEQA; Negative

**Negative Cultural Resources Report for the Vista Irrigation District E
Reservoir Replacement and Pump Station Project**

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May 3, 2019

Mr. Greg Keppler
Vista Irrigation District
1391 Engineer Street,
Vista, California 92081

Subject: Negative Cultural Resources Report for the Vista Irrigation District E Reservoir Replacement and Pump Station Project, City of Vista, San Diego County, California

Dear Mr. Keppler:

This letter documents the results of the cultural resources inventory in support of the Vista Irrigation District E Reservoir Replacement and Pump Station Project (“Project”), located in the City of Vista, San Diego County, California (Figure 1). The Project proposes redesign and re-development of Vista Irrigation District’s (VID) E Reservoir. The VID has determined that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community. The VID is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA).

The Project APE is comprised of 1.88-acre parcel of land located at 2258 Edgehill Road, Vista. The Project site falls within Section 16 of Township 11 South, Range 3 West of the San Marcos, CA 7.5’ United States Geological Survey (USGS) Topographic Quadrangle Map (Figure 1).

In accordance with CEQA, Dudek performed a Phase I cultural resources inventory for the entire 1.88-acre parcel. The cultural resources inventory consists of a South Coastal Information Center (SCIC) records search, review of archival aerial images and historic topographic maps, a Native American Heritage Commission (NAHC) Sacred Lands File search, and an intensive Phase I pedestrian survey of the Project APE. The results of the records search, Sacred Lands File search, and pedestrian survey were negative for archaeological resources. Archival research indicates that the reservoir has been unchanged since its construction in 1929. The reservoir structure was documented and evaluated for architectural significance in an independent technical report by Dudek Architectural Historians Nicole Frank and Kara R. Dotter (Frank and Dotter 2019).

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The Project site has been occupied since 1929, however, there is a low potential to encounter intact subsurface archaeological deposits due to the historic and modern disturbances (e.g. reservoir construction and maintenance) have likely disturbed any near-surface resources. Subsurface resources are unlikely to be present. Additionally no previously recorded cultural resources were identified during the archival records search and no resources were identified during the pedestrian survey. Based on the current condition of the Project area and the negative survey and records search results, no further cultural efforts or mitigation, including cultural construction monitoring, are recommended in support of implementation of the Project. In the unlikely event that cultural resources are encountered during exposure of subsurface soils, ground-disturbing work should be immediately halted in the area and a qualified archaeologist should be retained to evaluate the resources.

REGULATORY FRAMEWORK

California Register of Historical Resources

In California, the term “historical resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.” (PRC section 5020.1(j)). In 1992, the California legislature established the CRHR “to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” (PRC section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains “substantial integrity,” and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

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In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than fifty years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see Cal. Code Regs., tit. 14, section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following California Environmental Quality Act (CEQA) statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC section 21083.2(g) defines “unique archaeological resource.”
- PRC section 21084.1 and CEQA Guidelines section 15064.5(a) defines “historical resources.” In addition, CEQA Guidelines section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource;” it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC section 21074, also known as AB52, defines “tribal cultural resources” and requires lead agencies to consider impacts to these resources.
- PRC section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

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More specifically, under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource.” (PRC section 21084.1; CEQA Guidelines section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC section 5024.1(q)), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).) The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).)

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” (CEQA Guidelines section 15064.5(b)(1); PRC section 5020.1(q).) In turn, the significance of an historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines section 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any “historical resources,” then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be

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preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC section 21083.2(a); CEQA Guidelines section 15064.5(c)(4).) However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC section 5097.98.

Assembly Bill 52

California Assembly Bill (AB) 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address tribal concerns regarding project impacts and mitigation to “tribal cultural resources” (TCR). Public Resources Code section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. listed or eligible for listing in the CRHR or a local register of historical resources, or
2. determined by a lead agency to be a TCR.

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City of Vista Cultural, and Historical Resources Guidelines

The following guidelines are taken directly from the City of Vista's General Plan 2030, initially established by the City in 2011, including pages 4.15 to 4.16 (City of Vista 2011).

RCS Goal 11: Continue to preserve and protect places, buildings, and objects that embody the City's social, cultural, commercial, architectural, and agricultural history.

RCS Policy 11.1: Continue to utilize historical resources, such as the Rancho Buena Vista Adobe, for school programs, community education, and events; and coordinate programming with other historic sites.

RCS Policy 11.2: Continue to preserve Vista's historic adobes and nationally registered and significant historic buildings, such as the Rancho Guajome Adobe and the Braun House. Consider national and local historic designations for eligible City-owned properties.

RCS Policy 11.3: Support preservation of historical resources, including providing for adaptive reuse and tax incentives where appropriate.

RCS Policy 12. 2: In collaboration with NAHC and the San Luis Rey Band of Mission Indians, adopt procedures for protecting significant archeological features, and apply to projects requiring discretionary City approval.

RCS Policy 12.3: Ensure that the San Luis Rey Band of Mission Indians is notified of any proposed discretionary planning or grading applications affecting lands with potential archaeological resources.

RCS Policy 12.4: If significant Native American artifacts are discovered during pre-construction or construction phases of a discretionary project or during the implementation a grading permit, the first priority shall be a) to avoid any further disturbance of those areas by re- designing the proposed development or project, and b) to have those areas placed into protected open space via an open space easement or similar protective measure. If avoidance is not feasible based on consultation with the Most Likely Descendant of such artifacts, appropriate mitigation shall be required. Any discovered Native American artifacts shall be returned to their Most Likely Descendant and repatriated at the earliest opportunity.

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RCS Policy 12.5: If Native American human remains and /or associated grave goods are found during any of the activities identified in RCS Policy 3. 2. 4, the first priority shall be a) to avoid any further disturbance (i. e., grading, and development) of those areas in which they are found, and b) to have the remains and /or associated grave goods preserved in place via an open space easement or similar protective land use measure. The second priority shall be that the Most Likely Descendant of the remains and /or associated grave goods, as determined by NAHC, must also have the opportunity to recommend other culturally appropriate treatment.

METHODS

Records Search

Dudek archaeologist Scott Wolf conducted a records search at the South Coastal Information Center (SCIC) on February 13, 2019 for the Project APE and a 1-mile buffer. No archaeological resources have been previously recorded within the Project APE. A total of seven (7) previously recorded resources were identified within the surrounding 1-mile search buffer. These resources include two (2) prehistoric temporary habitation sites, and five (5) historic sites, including three (3) buildings, one (1) shed remains and one (1) historic trail (Table 1).

Table 1. Previous Cultural Resources Identified in the E Reservoir SCIC Records Search 1-mile buffer.

P-Number	Trinomial	Era	Site Type	In/Out Current APE
<i>Outside the Project APE</i>				
P-37-000660	CA-SDI-000660	Prehistoric	Temporary Habitation	Out
P-37-000661	CA-SDI-000661	Prehistoric	Temporary Habitation	Out
P-37-018800	CA-SDI-015675	Historic	Mining Shed Remains	Out
P-37-018801	CA-SDI-015676	Historic	Trail	Out
P-37-028765	-	Historic	Residential Structure	Out
P-37-028767	-	Historic	Residential Structure	Out
P-37-028768	-	Historic	Barn/Farm Structure	Out

SCIC records also indicated that a total of twenty (20) technical studies have been conducted within the 1-mile records search area. Only two (2) of those previous technical studies (report sd-11228: *Historic Resource Survey, A Project of the City of Vista, California* [Marben-Laird 1987]

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and SD-11524: *A Cultural Resources Evaluation for the Vista and Buena Sanitation District 2007 Sewer Master Plan Update [Smith 2007]*) cover or intersect the current Project APE.

Table 2. Previous Cultural Studies Identified in the SCIC E Reservoir Records Search 1-mile buffer.

Report I.D.	Title	Author	Year
<i>Reports Covering or Intersecting the APE</i>			
SD-11228	HISTORIC RESOURCE SURVEY, A PROJECT OF THE CITY OF VISTA, CALIFORNIA	MARBEN-LAIRD ASSOCIATES	1987
SD-11524	A CULTURAL RESOURCES EVALUATION FOR THE VISTA AND BUENA SANITATION DISTRICT 2007 SEWER MASTER PLAN UPDATE	BRIAN F. SMITH AND ASSOCIATES	2007
<i>Reports Outside of the APE</i>			
SD-07800	ARCHAEOLOGICAL ASSESSMENT OF THE 5.4 ACRE T&T RANCH LOCATED AT 1943 CAMINO LOMA VERDE IN VISTA, SAN DIEGO COUNTY	ROBERT WHITE	1991
SD-01601	AN ARCHAEOLOGICAL ASSESSMENT OF A 2+/- ACRE PARCEL LOCATED AT 2057 CATALINA AVENUE, VISTA, SAN DIEGO COUNTY	Archaeological Associates, Ltd.	1990
SD-01988	CULTURAL RESOURCE SURVEY OF THE KOYL/VALE TERRACE SUBDIVISION, VISTA, CALIFORNIA	ERC Environmental and Energy Services Company	1990
SD-02313	ARCHAEOLOGICAL SURVEY OF THE WALDENMAYER SUBDIVISION PROJECT, CITY OF VISTA	BRIAN F. SMITH AND ASSOCIATES	1990
SD-04585	DRAFT ENVIRONMENTAL IMPACT REPORT JAUDI-LUNDBERG GENERAL PLAN AMENDMENT NORTH COUNTY METROPOLITAN PLANNING AREA	BROWNE & VOGT	1985
SD-02579	HISTORICAL/ARCHAEOLOGICAL SURVEY REPORT FOR SAN MARCOS MOUNTAIN NORTH RESEVOIRS	GALLEGOS AND ASOCIATES	1992
SD-03822	CULTURAL REOURCE SURVEY AND ASSESSMENT OF A 386-ACRE PARCEL IN THE SAN MARCOS MOUNTAINS, NEAR VISTA, SAN DIEGO COUNTY, CALIFORNIA	PROFESSIONAL ARCHAEOLOGICAL SERVICES	1999
SD-09185	CULTURAL RESOURCE SURVEY FOR GRANDVIEW TENTATIVE SUBDIVISION MAP	AFFINIS	2004
SD-07823	CULTURAL RESOURCES SURVEY FOR THE HUNTALAS MIDDLE SCHOOL, SITE NUMBER 8 PROJECT	ASM AFFILIATES	2000
SD-08494	NEGATIVE CULTURAL RESOURCES SURVEY REPORT FOR WALDMAN SUBDIVISION-TM 5320; LOG NO. 3-08-033; APN 179-120-59	GAIL WRIGHT	2003
SD-09608	ARCHAEOLOGICAL RESOURCES SURVEY, EDGEHILL SUBDIVISION (WILLOWEN RIDGE), VISTA, SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	2005

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Report I.D.	Title	Author	Year
SD-10420	SAN CLEMENTE AVENUE ARCHAEOLOGY (AFFINIS JOB 1830)	AFFINIS	2003
SD-11382	ARCHAEOLOGICAL RESOURCES SURVEY, SAN CLEMENTE AVENUE (SMITH) SUBDIVISION, VISTA, SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	2007
SD-12059	ARCHAEOLOGICAL RESOURCES SURVEY, CATALINA AVENUE SUBDIVISION, VISTA, SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	2008
SD-14140	ARCHAEOLOGICAL RECORDS SEARCH AND LITERATURE REVIEW, VALLECITOS WATER DISTRICT MASTER PLAN UPDATE SAN DIEGO COUNTY, CALIFORNIA	AFFINIS	2003
SD-15780	CULTURAL RESOURCE ASSESSMENT CLASS III INVENTORY, VERIZON WIRELES SERVICES, BRENGLE TERRACE FACILITY, CITY OF VISTA, SAN DIEGO COUNTY, CALIFORNIA	LSA Associates	2014
SD-16090	CULTURAL RESOURCES SURVEY SUNRISE CIRCLE / ENSITE #18542 (270233) 2317 FOOTHILL DRIVE VISTA, SAN DIEGO COUNTY, CALIFORNIA 92085 NE1/4 SE1/4 S21 T11S R3W	EBI Consulting	2014
SD-16440	CULTURAL RESOURCES SURVEY SUNRISE CIRCLE II/ENSITE #27139 (270233) 2245 FOOTHILL DRIVE, VISTA, SAN DIEGO COUNTY, CALIFORNIA 92084, SECTION 21 T11S R03W, EBI PROJECT NO. 6115005568	EBI Consulting	2015

Dudek’s archival research for the Project indicates that there is a low sensitivity for encountering potential subsurface archaeological deposits. No resources were identified in the Project APE, and only seven (7) resources are located within a 1-mile of the Project area, indicating a low volume of cultural resources in the vicinity. Modern and historic disturbances (e.g. water district and reservoir construction activities) have disturbed near-surface sediments throughout the Project APE. This disturbance suggests there is little to no potential to encounter unidentified significant cultural resources in the APE.

Native American Coordination

A letter requesting a search of the Sacred Lands File was sent to the NAHC on February 01, 2019. The NAHC responded February 06, 2019 indicating that Native American traditional cultural places have not previously recorded within 1-mile of the Project APE. The NAHC attached a list of Native American representatives to contact for more specific information that Tribal representatives may have that is not on file with the NAHC. Letters were sent to each of the representatives on February 07, 2019 for any additional information of resources that may be located in the Project APE.

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To date, five (5) responses have been received for the current proposed project. On February 14, 2019, the Tribal Historic preservation office for the Agua Caliente Band of Cahuilla Indians responded the Project is out of their Tribe's Traditional Use Area and therefore they defer to other Tribes in the area once formal government-to-government consultation is initiated by the lead agency for this project.

On February 20, 2019 representatives of the Cultural Department for the Rincon Band of Luiseño Indians contacted Dudek and shared that the identified APE is within the Ancestral Territory of the Luiseño people, and is also within Rincon's specific area of Historic interest. While they did not have knowledge of cultural resources within or near the proposed Project area, this does not mean that none exist. They suggested archival research be conducted for the Project and that they were interested in participation in any survey.

A third response was received on February 20, 2019 from representatives of the Campo Band of Mission Indians, in which they responded that the Project area has a rich history for the Kumeyaay people and they request that a qualified Kumeyaay monitor be present for any cultural work and additional ground disturbing activities to ensure that Kumeyaay resources are not overlooked.

The fourth response was received by Dudek on March 12, 2019, from Clinton Linton, Cultural Resources Director, representing the Iipay Nation of Santa Ysabel. Mr. Linton states that, for the Project, Santa Ysabel defers to and supports the comments and requests of the San Luis Rey Band.

The fifth response was received on March 18, 2019, from Ray Teran, resources management, representing the Viejas Band of Kumeyaay Indians. Mr. Teran states that, for the Project, Viejas recommends that the San Pasqual Band of Mission Indians be notified of the project, they request that all NEPA/CEQA/NAGPRA laws be followed, and that San Pasqual be notified of any project changes and updates.

The NAHC results, Tribal outreach letters, and Tribal responses received by Dudek are provided in Appendix B.

Field Survey

Dudek archaeologist Scott Wolf conducted the pedestrian survey of the 1.88-acre Project APE on January 24, 2019. This survey was conducted to identify and record any cultural resources that may occur in the Project APE. The survey utilized standard archaeological procedures in accordance with Secretary of Interior's standards and guidelines for a cultural resources inventory. The survey consisted of systematic surface inspection of the Project APE. The ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics,

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fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

The majority of the APE terrain consists of a modestly sloping hillside with a moderately dense cover of mixed-grass scrub brush communities and landscaped trees and vegetation. However almost the entire APE has been disturbed and re-constructed from activities associated with the 1929 construction of the reservoir. The local bedrock exposures within the Project APE, are highly friable and considered of low suitability for use in prehistoric food processing. Evidence for buried cultural deposits was sought through inspection of natural or artificial erosion exposures, exposures from previous ground disturbances, and the spoils from rodent burrows.

SUMMARY AND MANAGEMENT RECOMMENDATIONS

The SCIC records indicate that no archaeological resources have been previously recorded within the Project APE. The NAHC Sacred Lands File search did not indicate that cultural resources are in the vicinity of the Project and subsequent tribal information requests have not yielded any responses to date which provide information or concerns about the Project site. Additionally, the Phase I cultural resources pedestrian survey of the Project APE was negative for archaeological resources. Therefore, no further cultural efforts or mitigation, including cultural construction monitoring, are recommended in support of implementation of the Vista Irrigation District E Reservoir Replacement and Pump Station Project.

Unanticipated Discovery of Cultural Resources

Due to the low potential for cultural resources in the APE, no further cultural work is recommended, including construction monitoring. However, a worker environmental awareness training program (WEAP) should be implemented at the construction kickoff meeting to inform workers of the cultural sensitivity of the general area and of the kinds of artifacts that are commonly found during construction in region. The WEAP training will also inform construction personnel on what to do in the event of a discovery.

In the unlikely event that archaeological materials are identified in the area during earth moving activities, work should be temporary halted in the vicinity and archaeologists consulted. A qualified archaeologist should be retained to assess any unanticipated discovery and evaluation efforts of said resource for CRHR and NRHP listing if required. If the discovery is potentially

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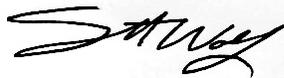
significant under CEQA, additional work such as preparation of an archaeological treatment plan and forma evaluation may be warranted. In accordance with the City General Plan, the first priority is to avoid impacts to significant archaeological resources and to place the resources in an open space easement. If avoidance is not feasible, then mitigation will be required.

Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the remains are determined to be Native American, the Coroner shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descended (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

Should you have any questions relating to this report and its findings please contact Scott Wolf (swolf@dudek.com) or Brad Comeau (bcomeau@dudek.com).

Respectfully Submitted,



Scott Wolf, B.S.
Archaeologist
Office: 760.479.4164
Email: swolf@dudek.com

*Att.: Figure 1, Regional Location Map
A, Confidential SCIC Records Search Confirmation
B, NAHC and Tribal Correspondence*

*cc: Micah Hale, Dudek
Scott Wolf, Dudek
Brad Comeau, Dudek*

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REFERENCES

City of Vista, 2011. City of Vista General Plan 2030. City of Vista. Webpage located @ <https://www.cityofvista.com/services/city-departments/community-development/building-planning-permits-applications/vista-general-plan-2030>. Accessed March 12, 2019.

Frank and Dotter, 2019. *Historical Resources Technical Report for the E Reservoir Replacement and Pump Station Project. Assessor's Identification No. 174-240-33*. Report prepared by Dudek for the Vista Irrigation District, pending.

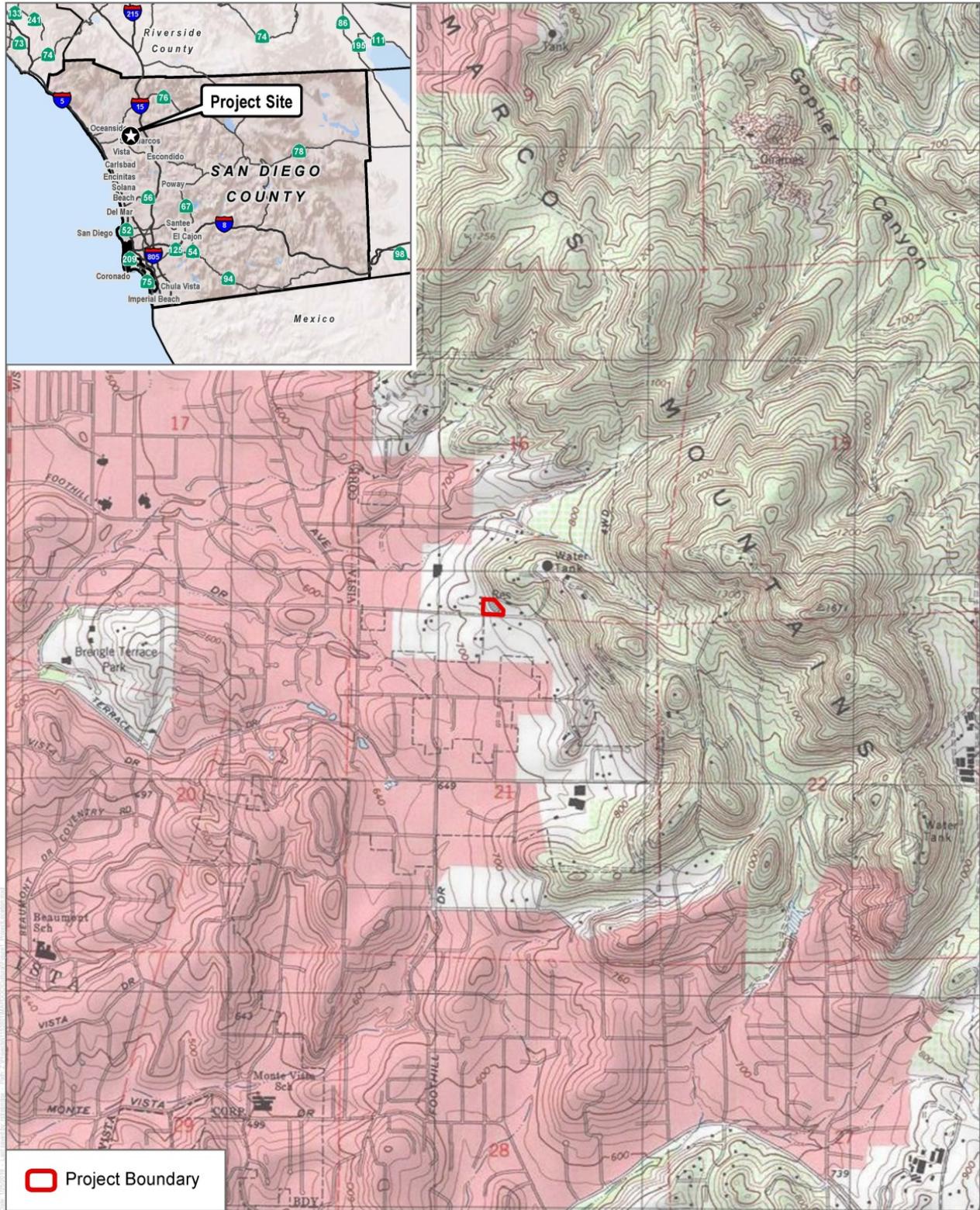
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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

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City of Vista, San Diego County, California*

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CONFIDENTIAL
APPENDIX A
SCIC Records Search Results

APPENDIX B
NAHC and Tribal Correspondence

February 01, 2019

NAHC Staff
Associate Government Program Analyst
Native American Heritage Commission

Subject: NAHC Sacred Lands File Records Search Request for the Vista Irrigation District E Reservoir Project, Vista, California

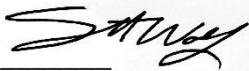
Dear NAHC Staff,

Dudek has been contracted to do a cultural resources Inventory for the Vista Irrigation District E Reservoir Project, City of Vista, California. This project location falls within the San Marcos United States Geological topological quadrangle map, located in Township 11S; Range 3 West; Section 16 and 21.

Dudek is requesting a NAHC search for any sacred sites or other Native American cultural resources that may fall within the proposed project location or a surrounding one-mile buffer. Please provide a Contact List with all Native American tribal representatives that may have traditional interests in this parcel or the surrounding search area. The results of this search can be faxed to 760-632-0164.

If you have any questions relating to this investigation, please contact me directly by email or phone.

Regards,



Scott Wolf, B.S.

Archaeologist

DUDEK

Phone: (760) 479-4164

Cell: (760) 942-8404

Email: swolf@dudek.com

Attachments:

Figure 1. SLF Records Search Request Map

**Native American Heritage Commission
Native American Contact List
San Diego County
2/6/2019**

**Agua Caliente Band of Cahuilla
Indians**

Jeff Grubbe, Chairperson
5401 Dinah Shore Drive
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Cahuilla
Luiseno

lipay Nation of Santa Ysabel

Virgil Perez, Chairperson
P.O. Box 130
Santa Ysabel, CA, 92070
Phone: (760) 765 - 0845
Fax: (760) 765-0320

Diegueno

**Agua Caliente Band of Cahuilla
Indians**

Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Cahuilla
Luiseno

lipay Nation of Santa Ysabel

Clint Linton, Director of Cultural
Resources
P.O. Box 507
Santa Ysabel, CA, 92070
Phone: (760) 803 - 5694
cjlinton73@aol.com

Diegueno

**Barona Group of the Capitan
Grande**

Edwin Romero, Chairperson
1095 Barona Road
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Fax: (619) 443-0681
cloyd@barona-nsn.gov

Diegueno

Inaja-Cosmit Band of Indians

Rebecca Osuna, Chairperson
2005 S. Escondido Blvd.
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Diegueno

**Campo Band of Diegueno
Mission Indians**

Ralph Goff, Chairperson
36190 Church Road, Suite 1
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Diegueno

Jamul Indian Village

Erica Pinto, Chairperson
P.O. Box 612
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
epinto@jiv-nsn.gov

Diegueno

**Kwaaymii Laguna Band of
Mission Indians**

Carmen Lucas,
P.O. Box 775
Pine Valley, CA, 91962
Phone: (619) 709 - 4207

Kwaaymii
Diegueno

Ewiiapaayp Tribe

Michael Garcia, Vice Chairperson
4054 Willows Road
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
michaelg@leaningrock.net

Diegueno

**La Jolla Band of Luiseno
Indians**

Fred Nelson, Chairperson
22000 Highway 76
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

Luiseno

Ewiiapaayp Tribe

Robert Pinto, Chairperson
4054 Willows Road
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
wmicklin@leaningrock.net

Diegueno

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**Native American Heritage Commission
Native American Contact List
San Diego County
2/6/2019**

**La Posta Band of Diegueno
Mission Indians**

Javaughn Miller, Tribal
Administrator
P. O. Box 1120 Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

Pala Band of Mission Indians

Shasta Gaughen, Tribal Historic
Preservation Officer
PMB 50, 35008 Pala Temecula Cupeno
Rd. Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

**La Posta Band of Diegueno
Mission Indians**

Gwendolyn Parada, Chairperson
P. O. Box 1120 Diegueno
Boulevard, CA, 91905
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Fax: (619) 478-2125
LP13boots@aol.com

Pauma Band of Luiseno Indians

Temet Aguilar, Chairperson
P.O. Box 369 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

**Manzanita Band of Kumeyaay
Nation**

Angela Elliott Santos, Chairperson
P.O. Box 1302 Diegueno
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

**Pechanga Band of Luiseno
Indians**

Paul Macarro, Cultural Resources
Coordinator
P.O. Box 1477 Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

**Mesa Grande Band of Diegueno
Mission Indians**

Michael Linton, Chairperson
P.O Box 270 Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com

**Pechanga Band of Luiseno
Indians**

Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula, CA, 92593
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Fax: (951) 695-1778
epreston@pechanga-nsn.gov

**Mesa Grande Band of Diegueno
Mission Indians**

Mario Morales, Cultural
Resources Representative
PMB 366 35008 Pala Temecula Diegueno
Rd.
Pala, CA, 92059
Phone: (760) 622 - 1336

Rincon Band of Luiseno Indians

Bo Mazzetti, Chairperson
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

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**Native American Heritage Commission
Native American Contact List
San Diego County
2/6/2019**

Rincon Band of Luiseno Indians

Jim McPherson, Tribal Historic
Preservation Officer
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
vwhipple@rincontribe.org

**Soboba Band of Luiseno
Indians**

Scott Cozart, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92583 Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

**San Luis Rey Band of Mission
Indians**

San Luis Rey, Tribal Council
1889 Sunset Drive Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

**Soboba Band of Luiseno
Indians**

Joseph Ontiveros, Cultural
Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
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**San Luis Rey Band of Mission
Indians**

1889 Sunset Drive Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

**Sycuan Band of the Kumeyaay
Nation**

Cody J. Martinez, Chairperson
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov

**San Pasqual Band of Diegueno
Mission Indians**

John Flores, Environmental
Coordinator
P. O. Box 365 Diegueno
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
johnf@sanpasqualtribe.org

**Sycuan Band of the Kumeyaay
Nation**

Lisa Haws, Cultural Resources
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1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
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**San Pasqual Band of Diegueno
Mission Indians**

Allen Lawson, Chairperson
P.O. Box 365 Diegueno
Valley Center, CA, 92082
Phone: (760) 749 - 3200
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**Viejas Band of Kumeyaay
Indians**

Robert Welch, Chairperson
1 Viejas Grade Road Diegueno
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov

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**Native American Heritage Commission
Native American Contact List
San Diego County
2/6/2019**

***Viejas Band of Kumeyaay
Indians***

Julie Hagen,
1 Viejas Grade Road
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov

Diegueno

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Vista Irrigation District E Reservoir Project, San Diego County.

DUDEK

Mr. Jeff Grubbe, Chairperson
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92262

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Grubbe,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

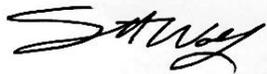
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If you have any knowledge of cultural resources that may exist within or near the project area, please contact me directly at (760) 429-8404 or swolf@dudek.com at your earliest convenience.

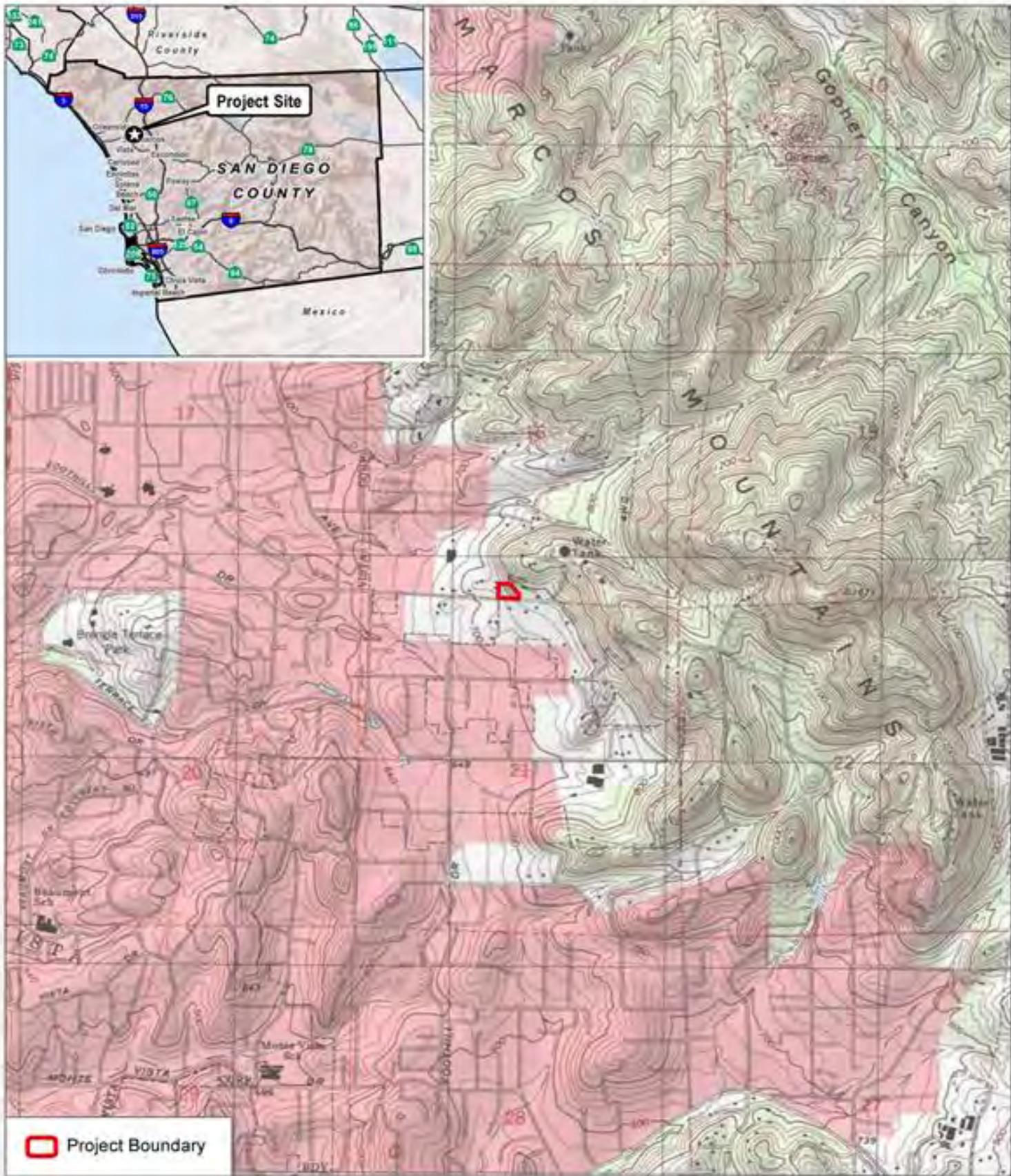
Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency in writing (pursuant to Public Resources Code Section 21080.3.1(b)).

Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Patricia Garcia, Tribal Historic Preservation Officer
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92262

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Garcia,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

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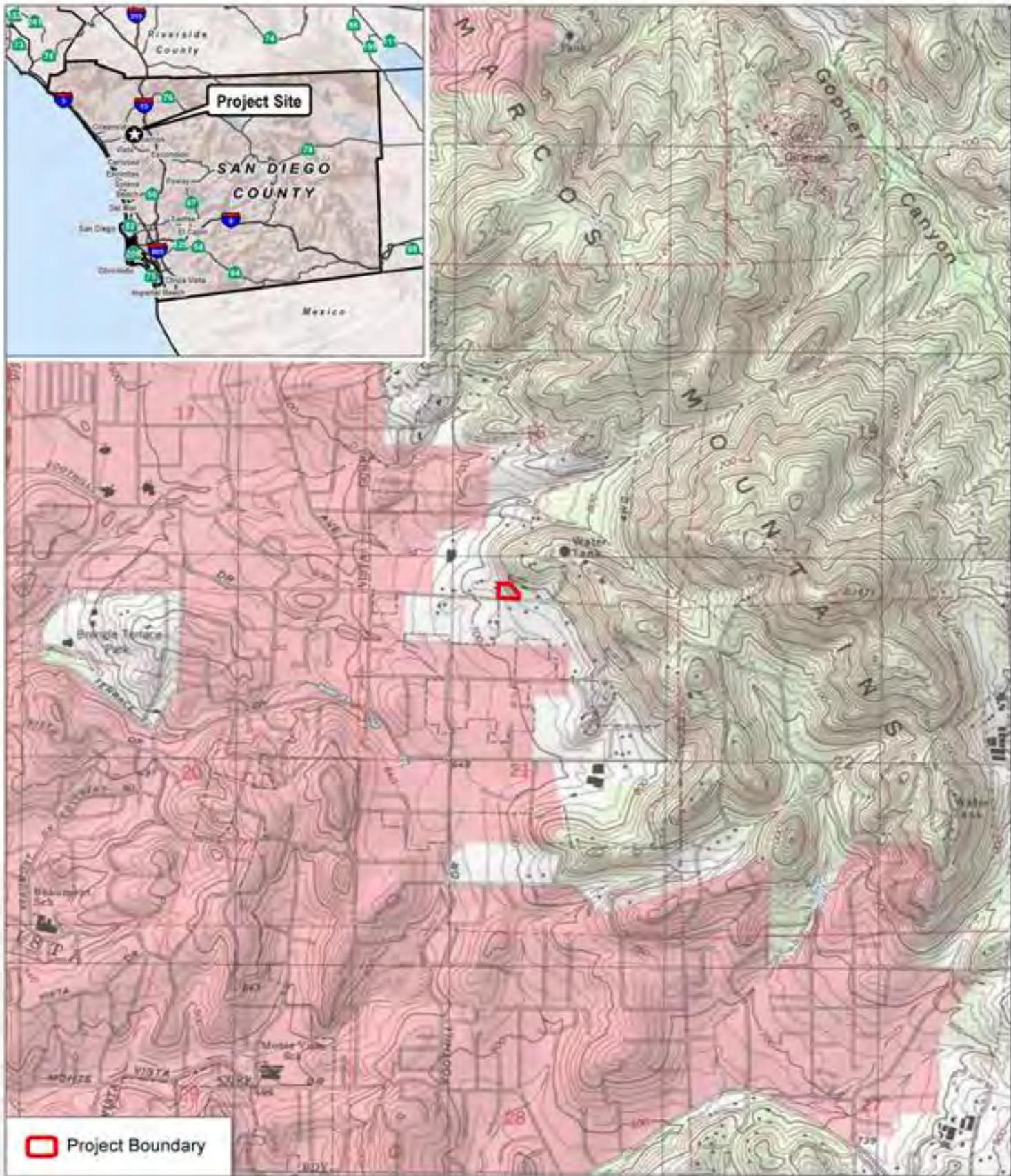
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Edwin (Thorpe) Romero, Chairperson
Barona Group of the Capitan Grande
1095 Barona Road
Lakeside, CA 92040

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Romero,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

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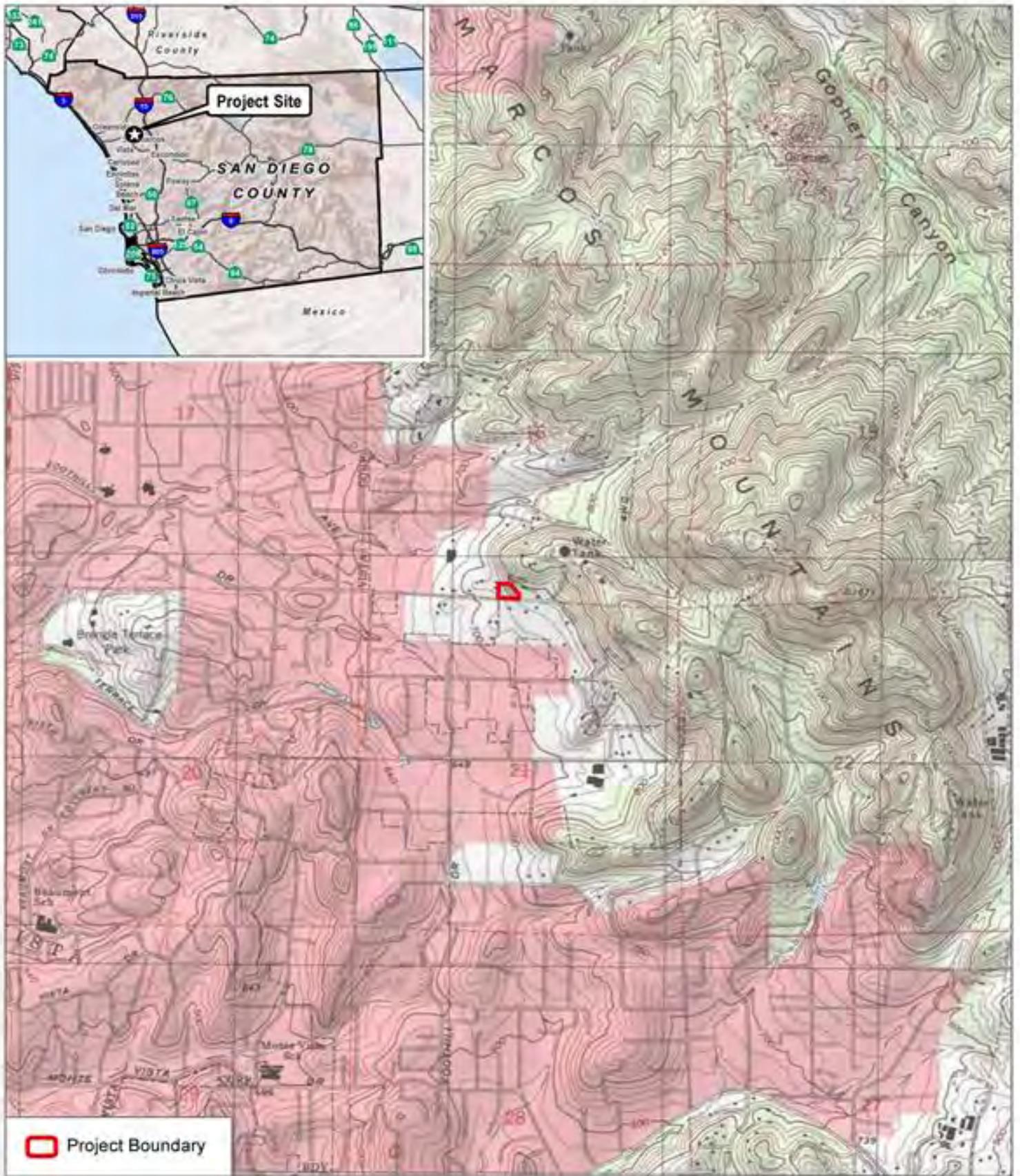
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Ralph Goff, Chairperson
Campo Band of Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Goff,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

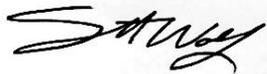
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell

DUDEK

Mr. Robert Pinto, Sr., Chairperson
Ewiaapaayp Tribal Office
4054 Willow Rd.
Alpine, CA 91901

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Pinto, Sr.,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

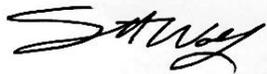
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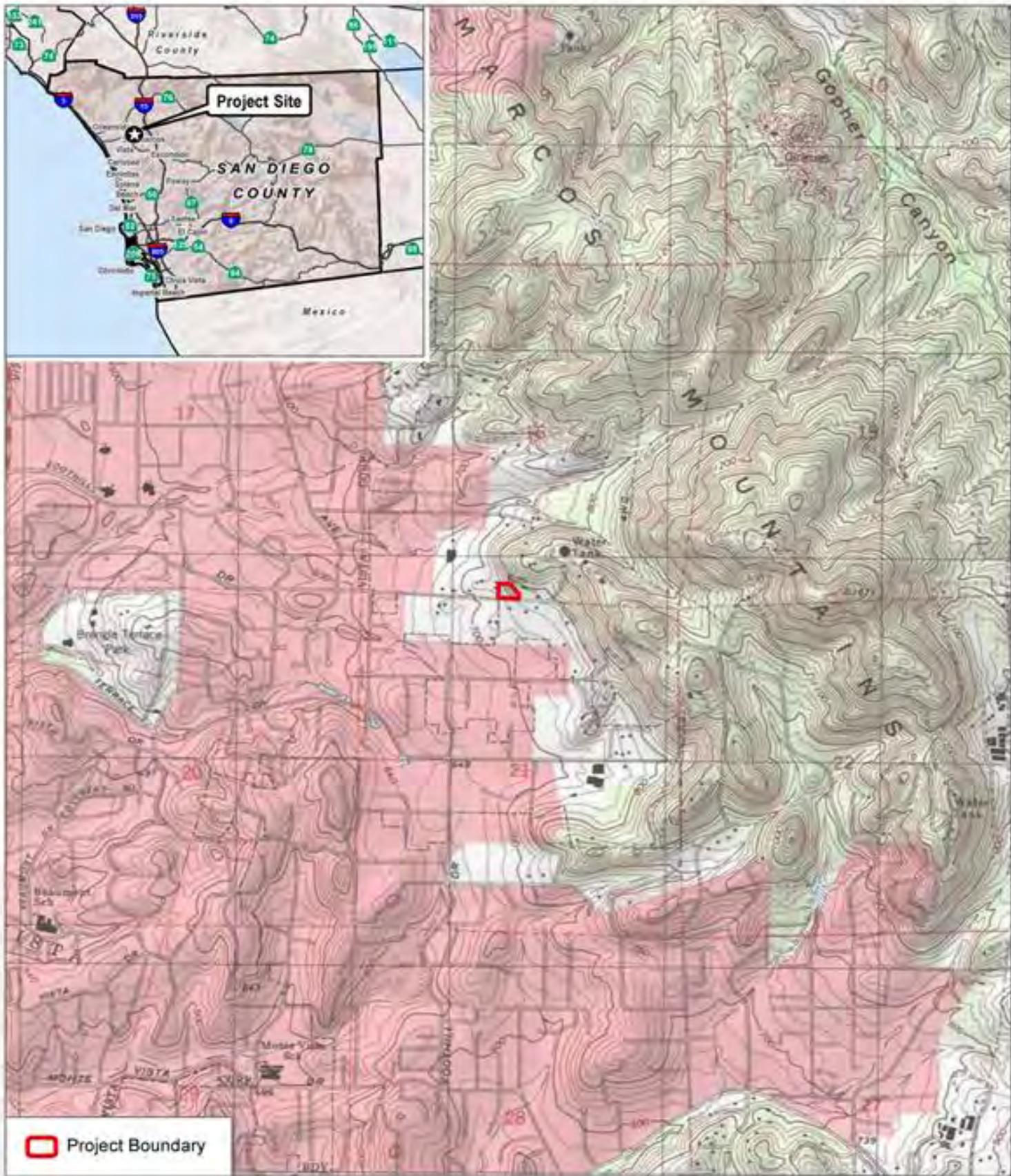
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Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Michael Garcia, Vice Chairperson
Ewiiapaayp Tribal Office
4054 Willows Road
Alpine, CA 91901

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Garcia,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

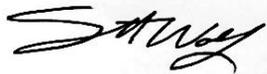
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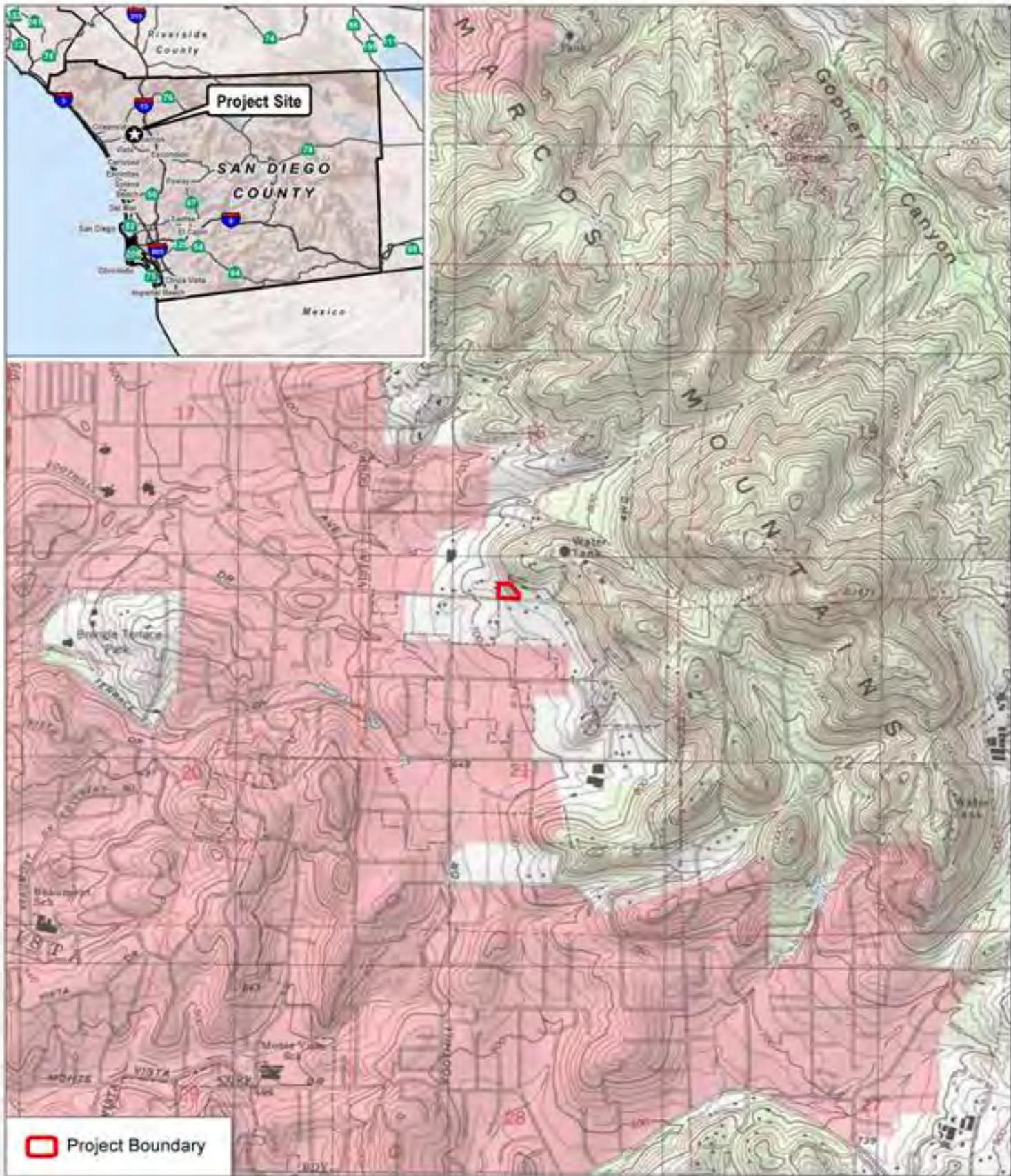
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Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Virgil Perez, Chairperson
Iipay Nation of Santa Ysabel
P.O. Box 130
Santa Ysabel, CA 92070

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Perez,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

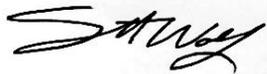
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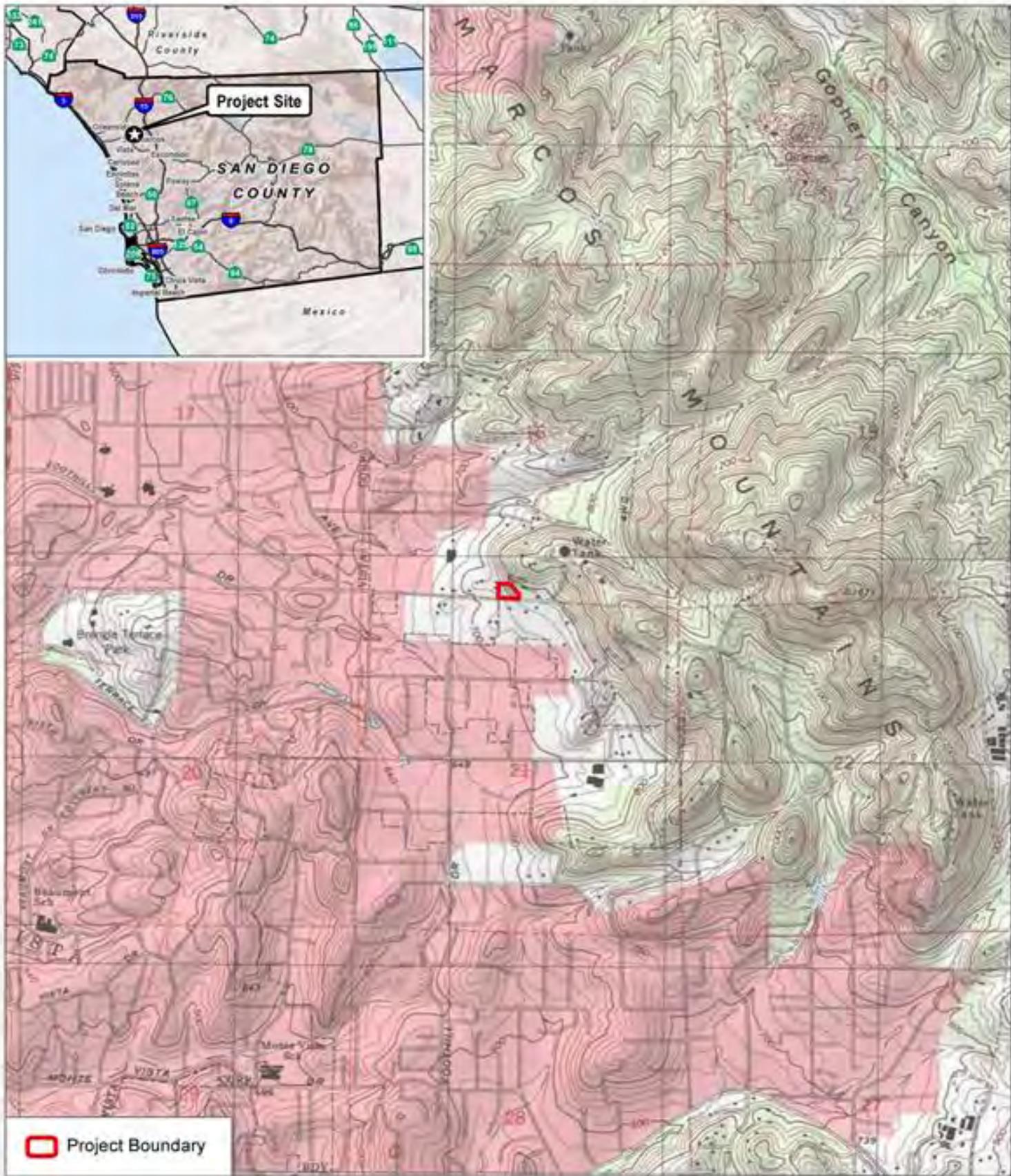
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Sincerely,



Scott Wolf
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760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Rebecca Osuna, Chairperson
Inaja Band of Mission Indians
2005 S. Escondido Blvd.
Escondido, CA 92025

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Osuna,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

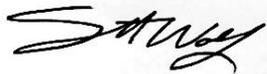
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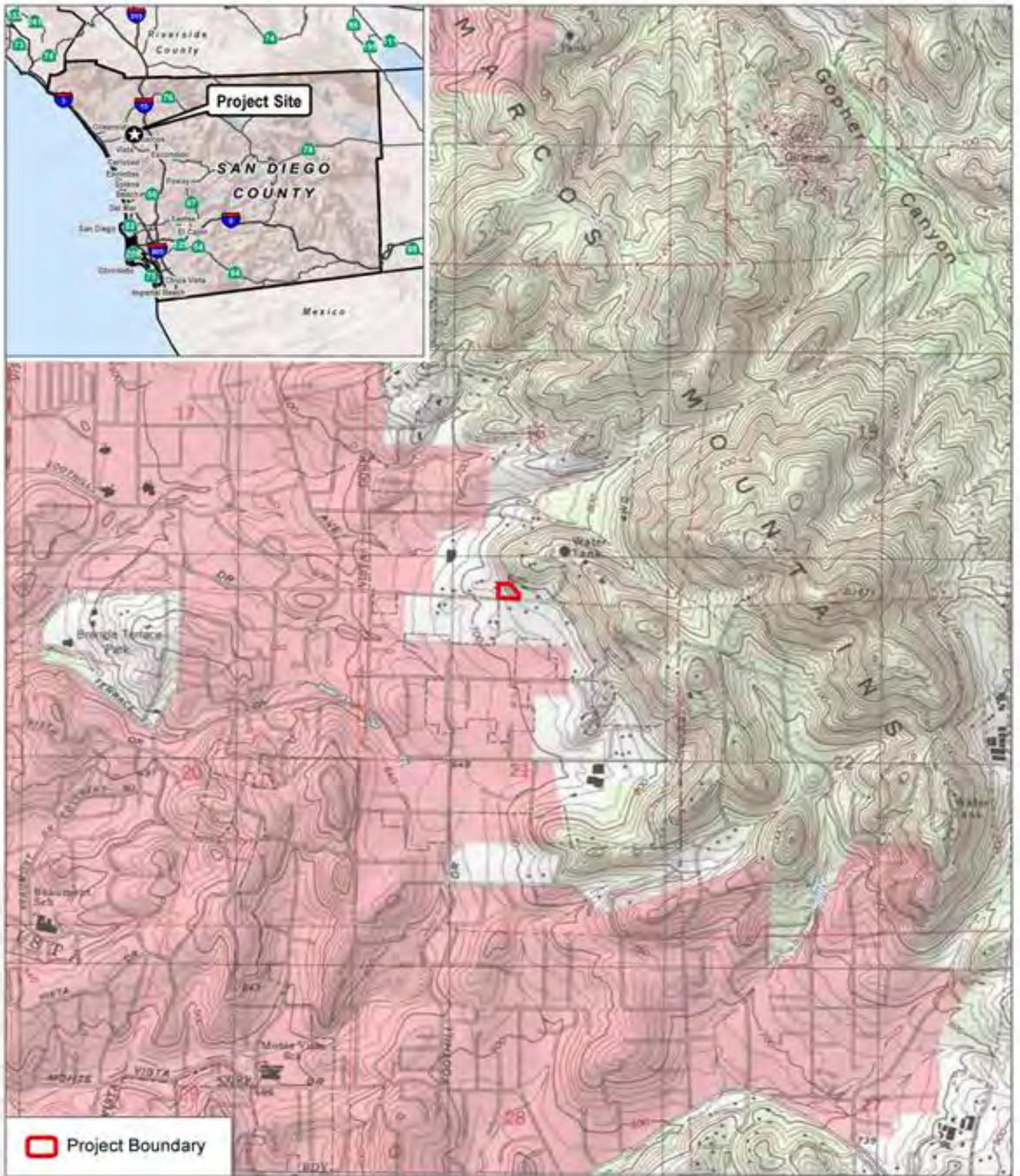
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

DUDEK  0 1,000 2,000 Feet

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Clint Linton, Director of Cultural Resources
Ipay Nation of Santa Ysabel
P.O. Box 507
Santa Ysabel, CA 92070

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Linton,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

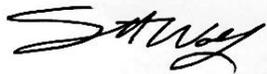
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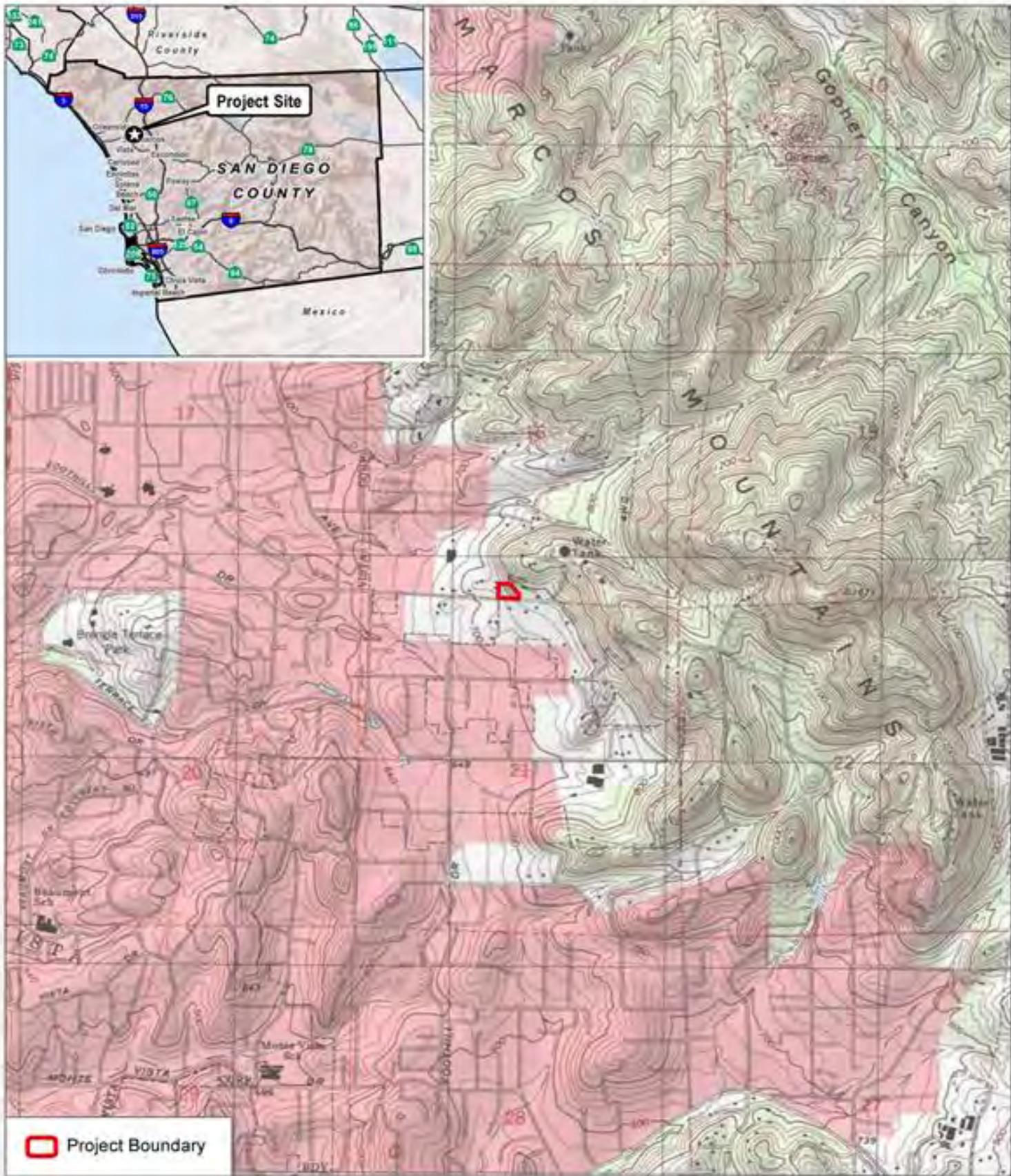
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Scott Wolf
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760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Erica Pinto, Chairperson
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Pinto,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

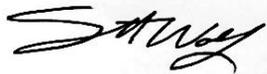
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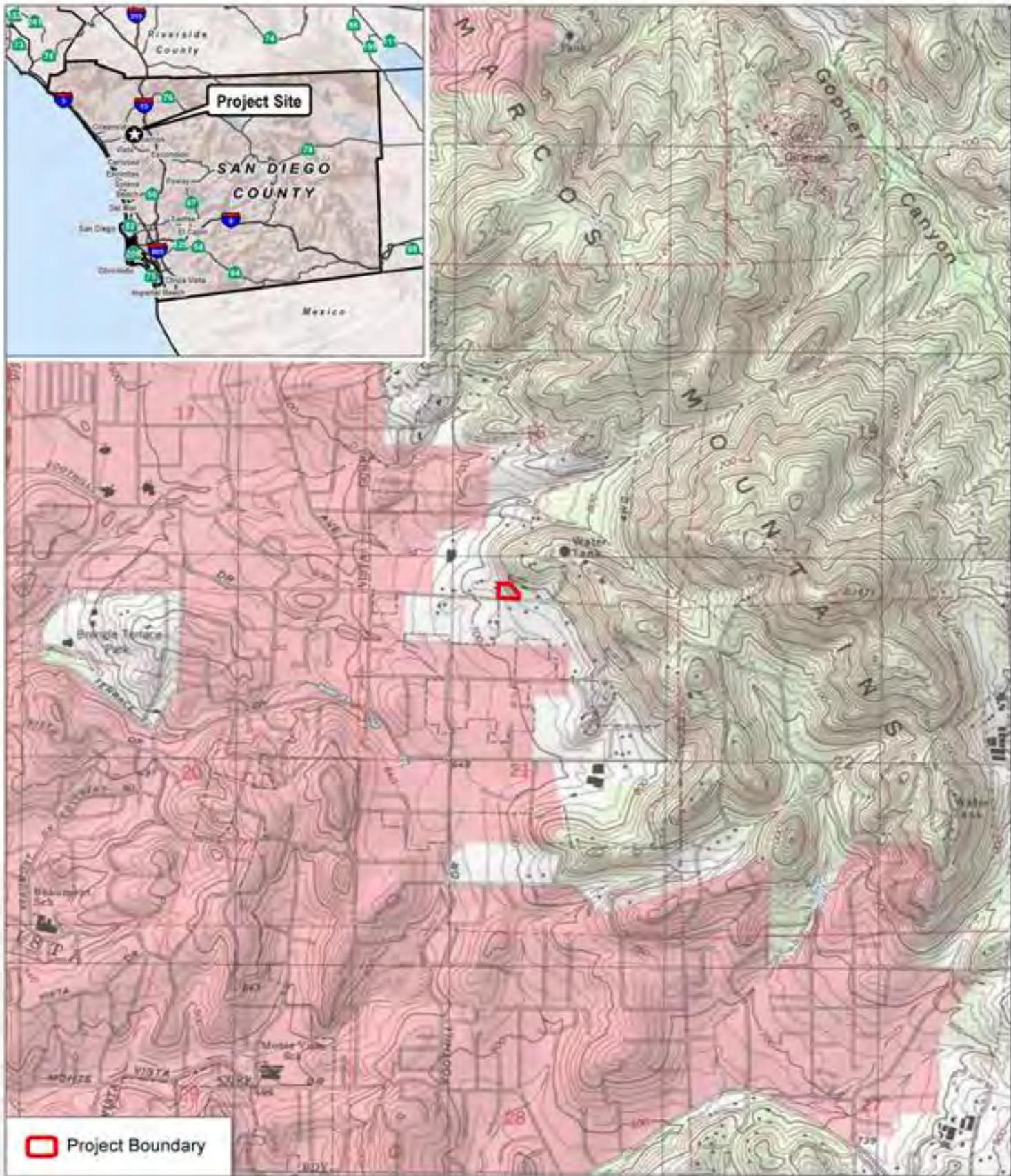
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Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Carmen Lucas,
Kwaaymii Laguna Band of Mission Indians
P.O. Box 775
Pine Valley, CA 91962

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Lucas,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

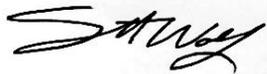
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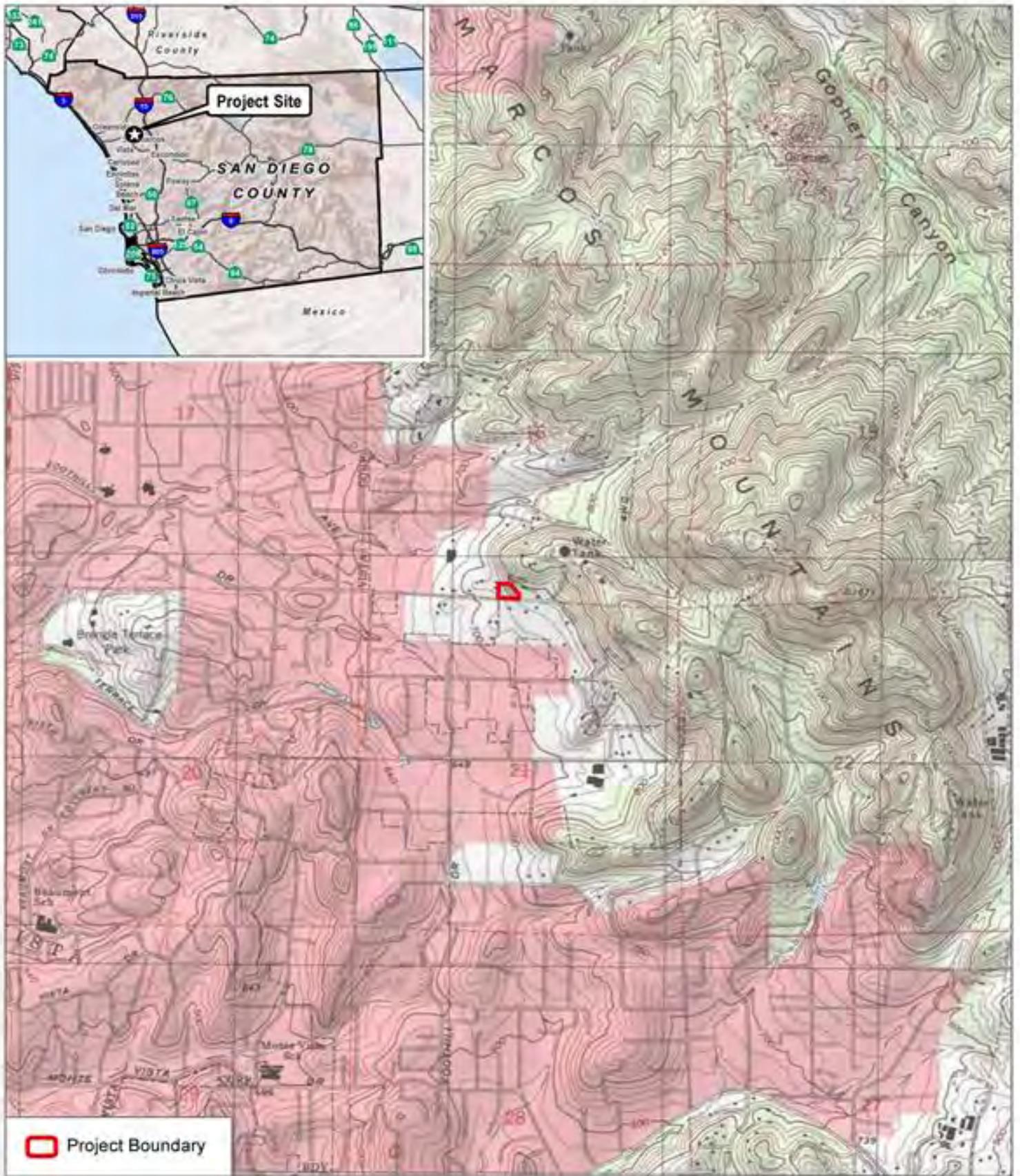
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Fred Nelson, Chairperson
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, CA 92061

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Nelson,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

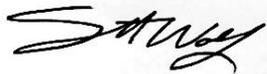
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell

DUDEK

Ms. Gwendolyn Parada, Chairperson
La Posta Band of Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Parada,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

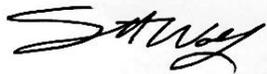
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Thank you for your assistance.

Sincerely,



Scott Wolf
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Swolf@dudek.com
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760-429-8404 Cell

DUDEK

Ms. Javaughn Miller, Tribal Administrator
La Posta Band of Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Miller,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

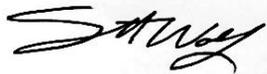
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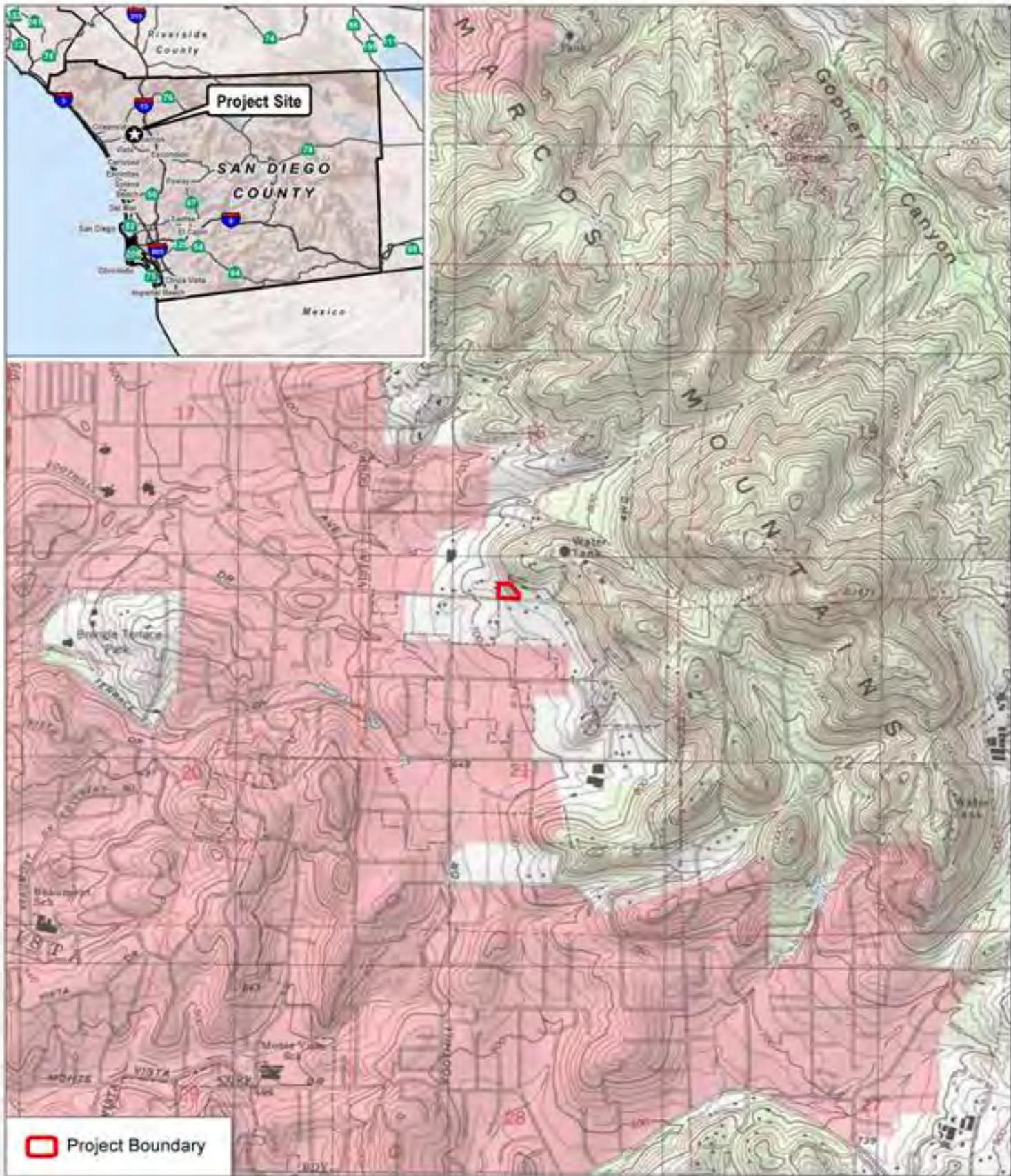
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Scott Wolf
Dudek Archaeologist
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760-479-4164 Office
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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Angela Elliott Santos, Chairperson
Manzanita Band of Kumeyaay Nation
P.O. Box 1302
Boulevard, CA 91905

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Santos,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

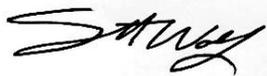
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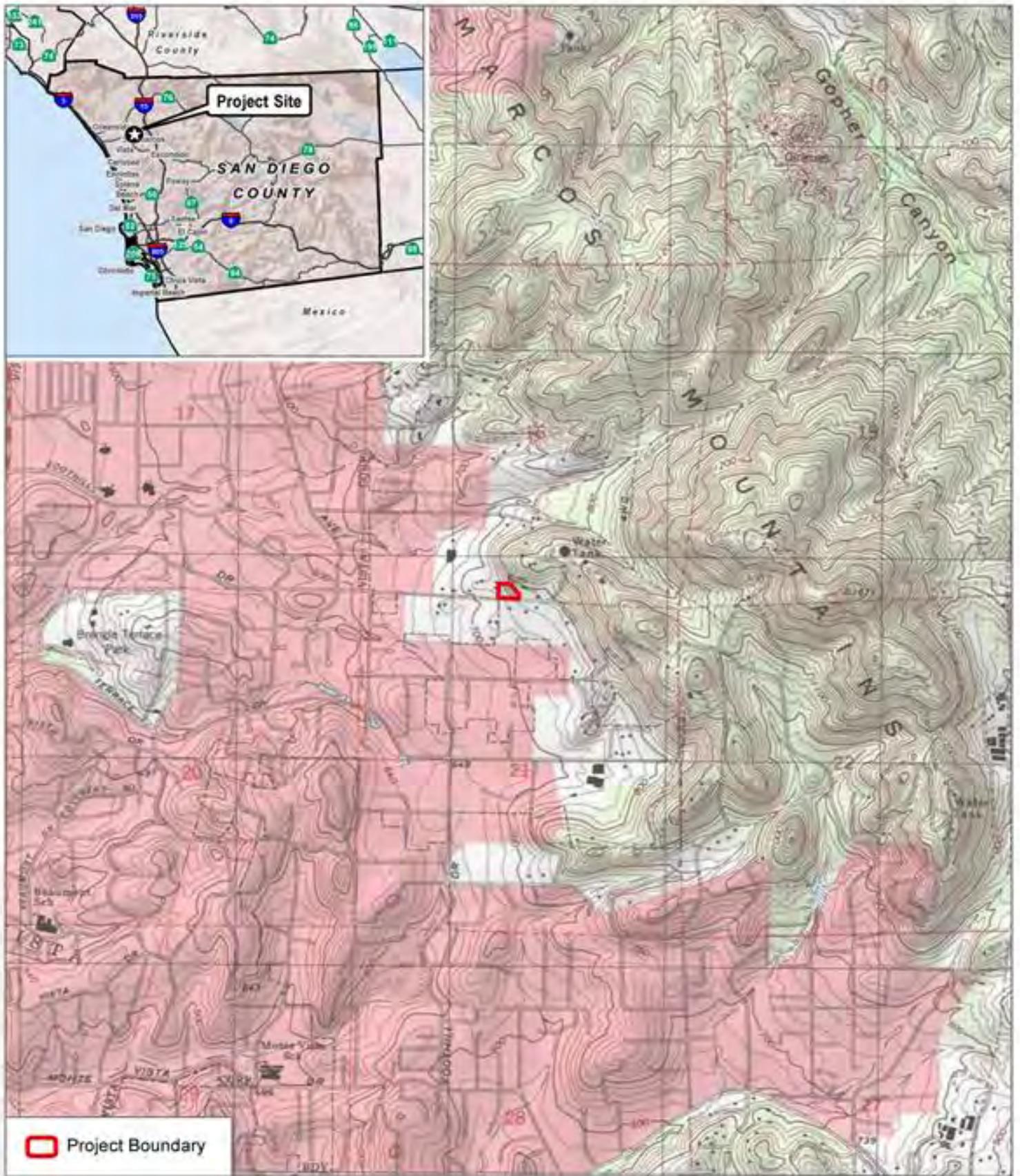
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Dudek Archaeologist
Swolf@dudek.com
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760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Michael Linton, Chairperson
Mesa Grande Band of Dieguneo Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Linton,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

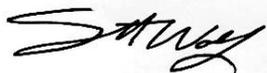
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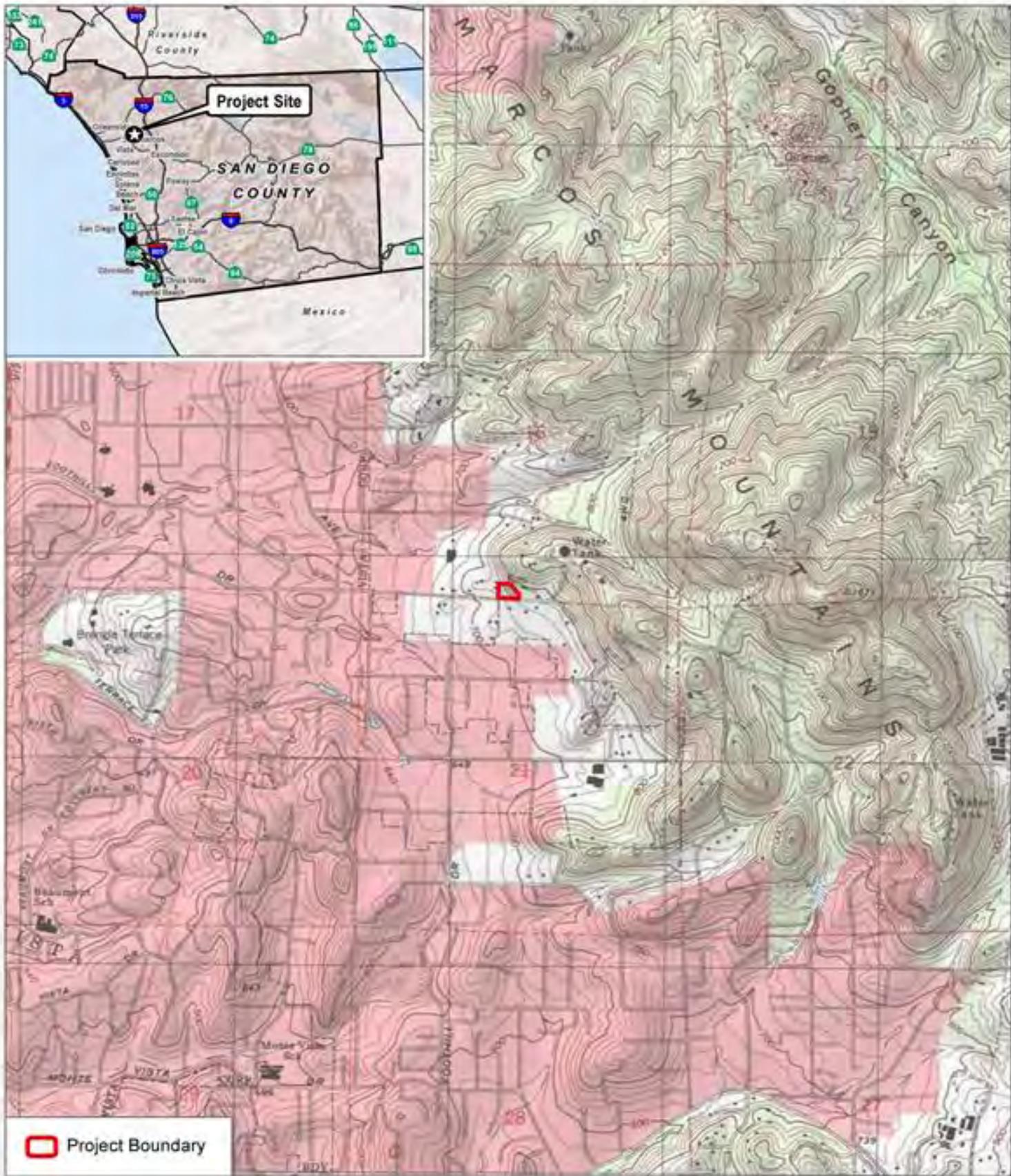
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Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

DUDEK

Mr. Mario Morales, Cultural Resources Rep
Mesa Grande Band of Mission Indians
35008 Pala Temecula Rd. #366
Pala, CA 92059

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Morales,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

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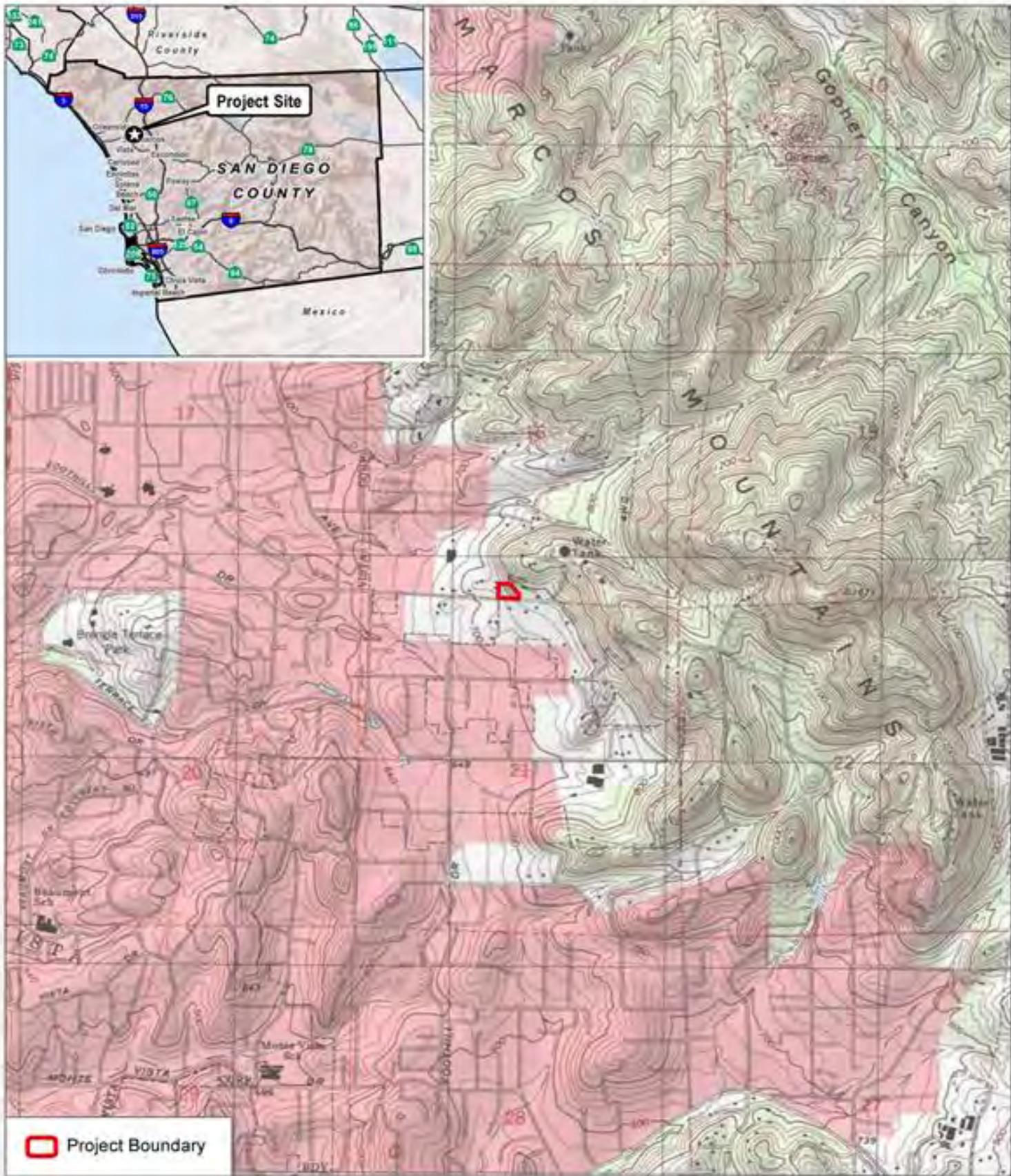
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Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Shasta Gaughen, Tribal Historic Preservation Officer
Pala Band of Mission Indians
35008 Pala Temecula Rd.
Pala, CA 92059

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Gaughen,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

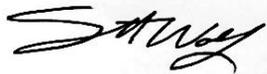
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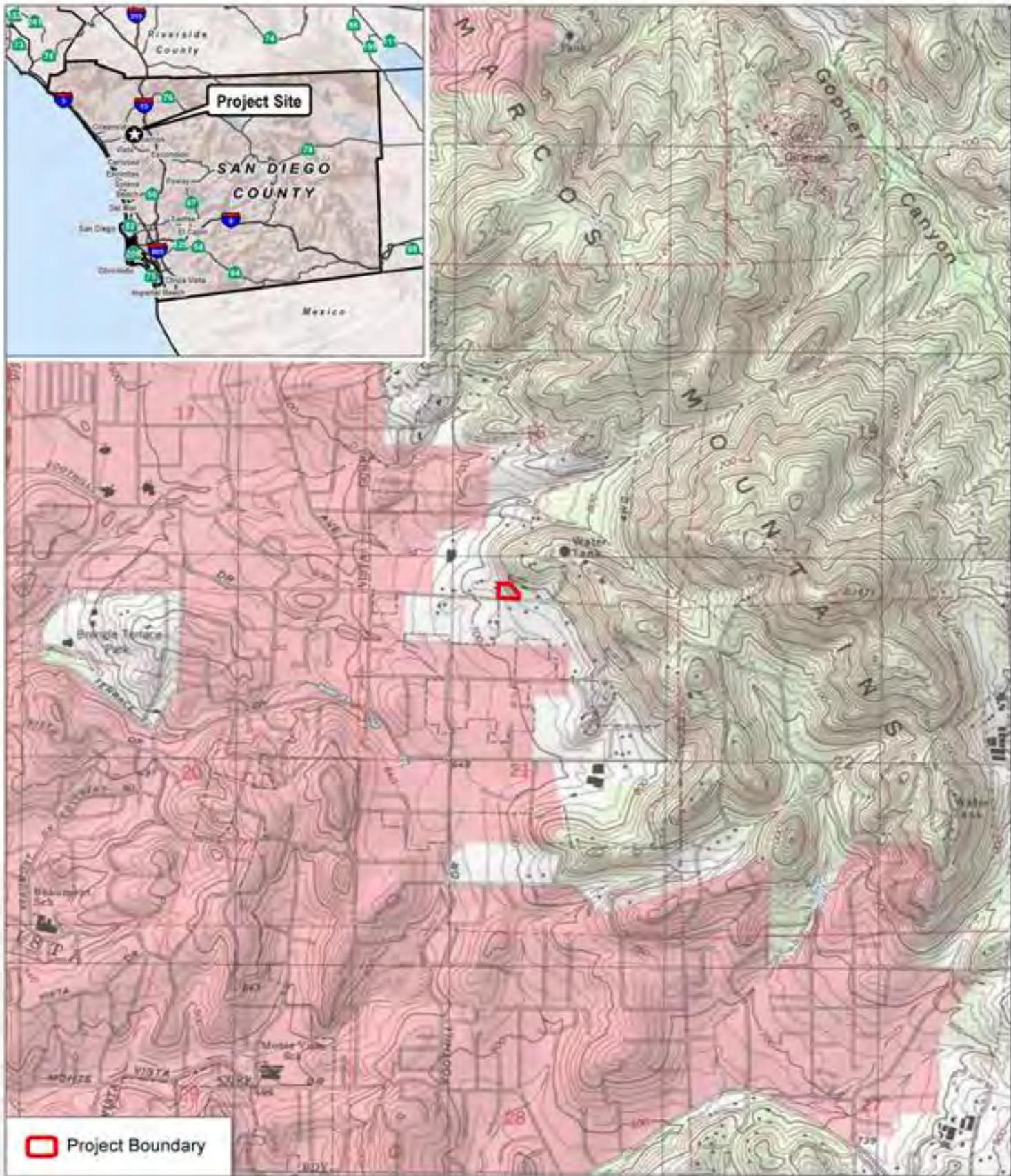
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Swolf@dudek.com
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760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Temet Aguilar, Chairperson
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, CA 92061

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Aguilar,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

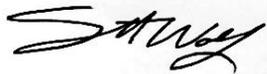
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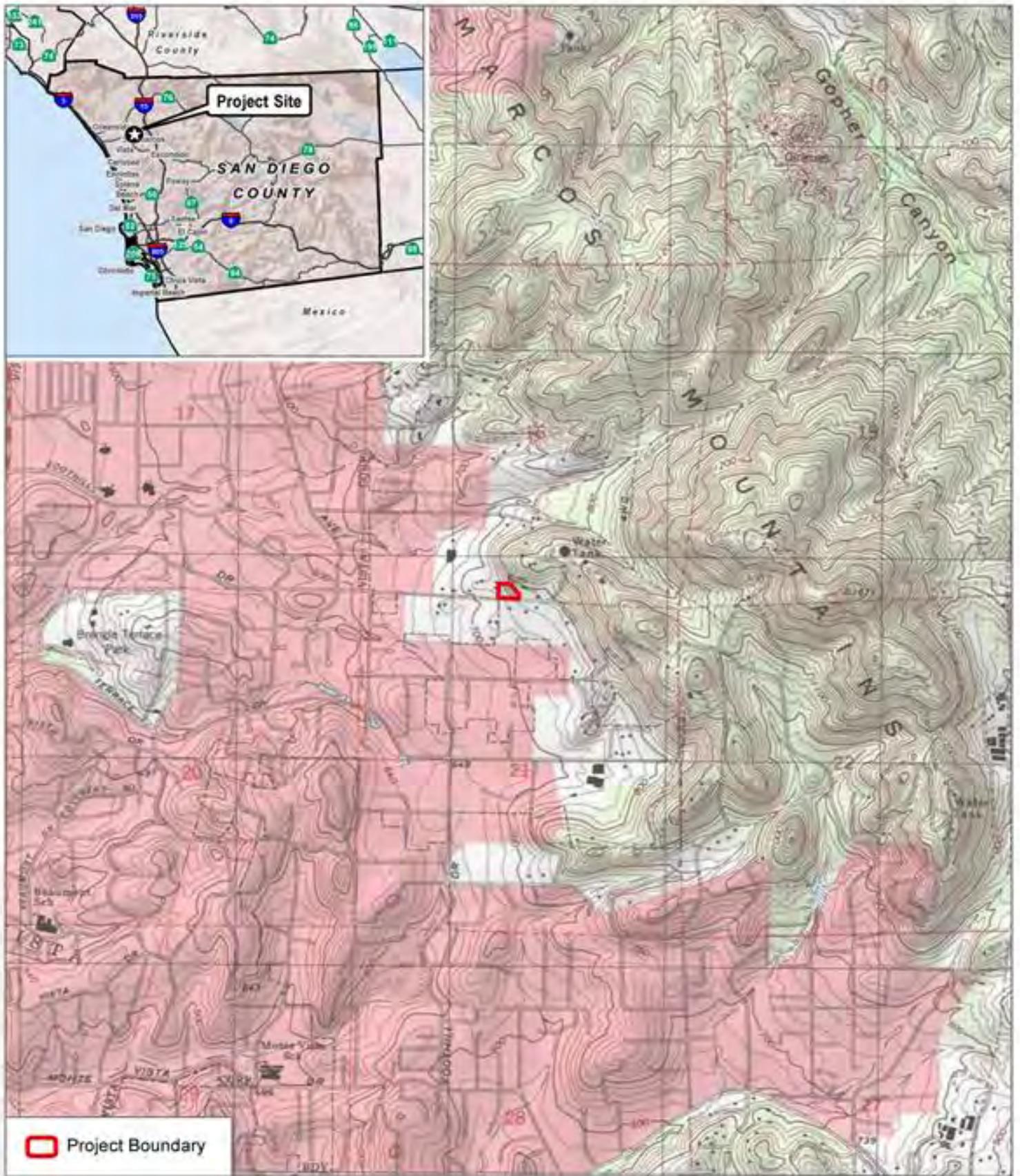
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Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Mark Macarro, Chairperson
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Macarro,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

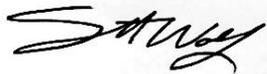
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If you have any knowledge of cultural resources that may exist within or near the project area, please contact me directly at (760) 429-8404 or swolf@dudek.com at your earliest convenience.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency in writing (pursuant to Public Resources Code Section 21080.3.1(b)).

Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell

DUDEK

Mr. Paul Macarro, Cultural Resources Manager
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Macarro,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

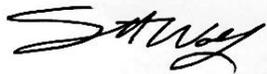
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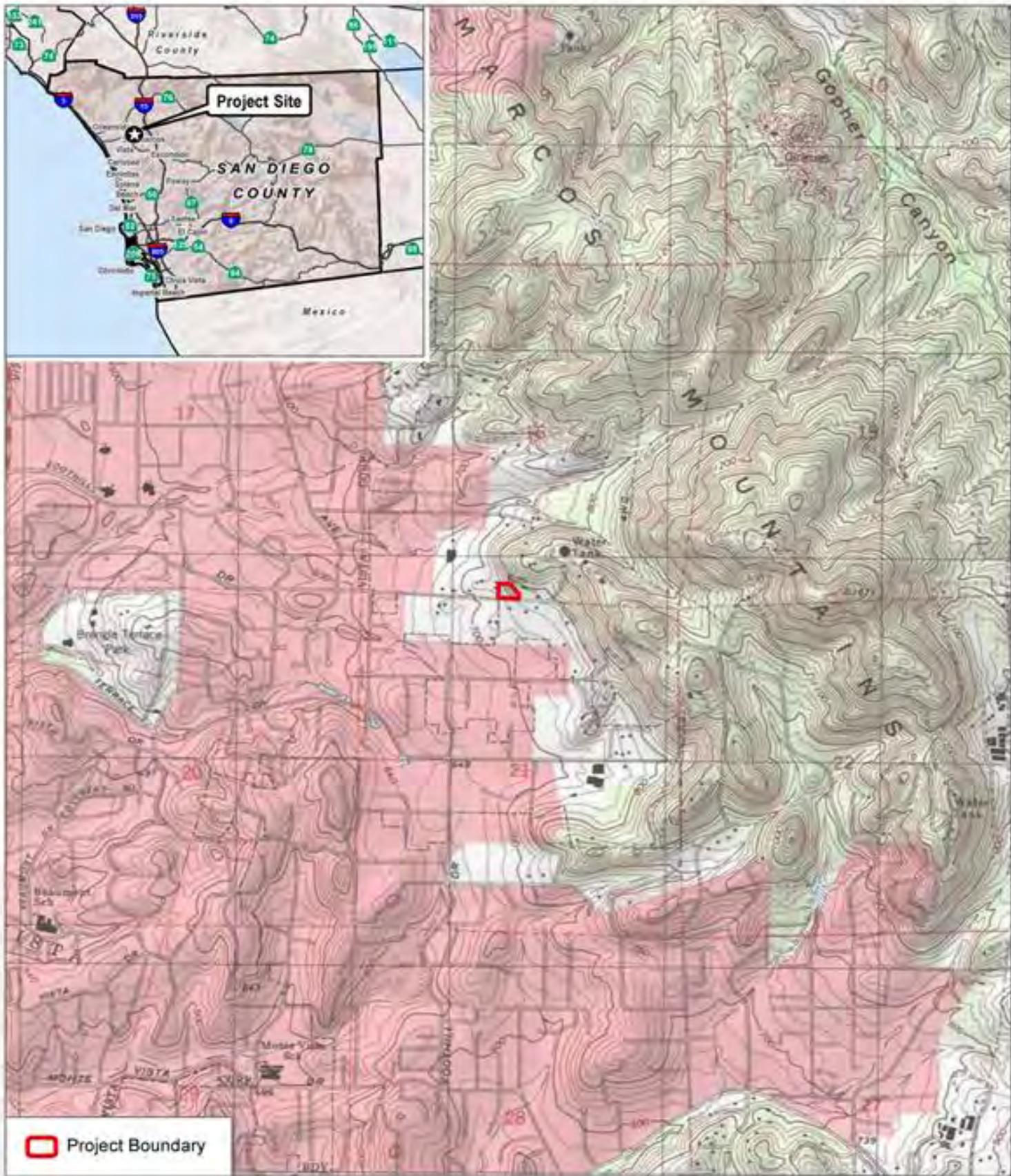
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Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Bo Mazzetti, Tribal Chairman
Rincon Band of Mission Indians
1 W. Tribal Road
Valley Center, CA 92082

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Mazzetti,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

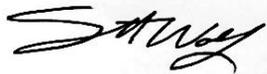
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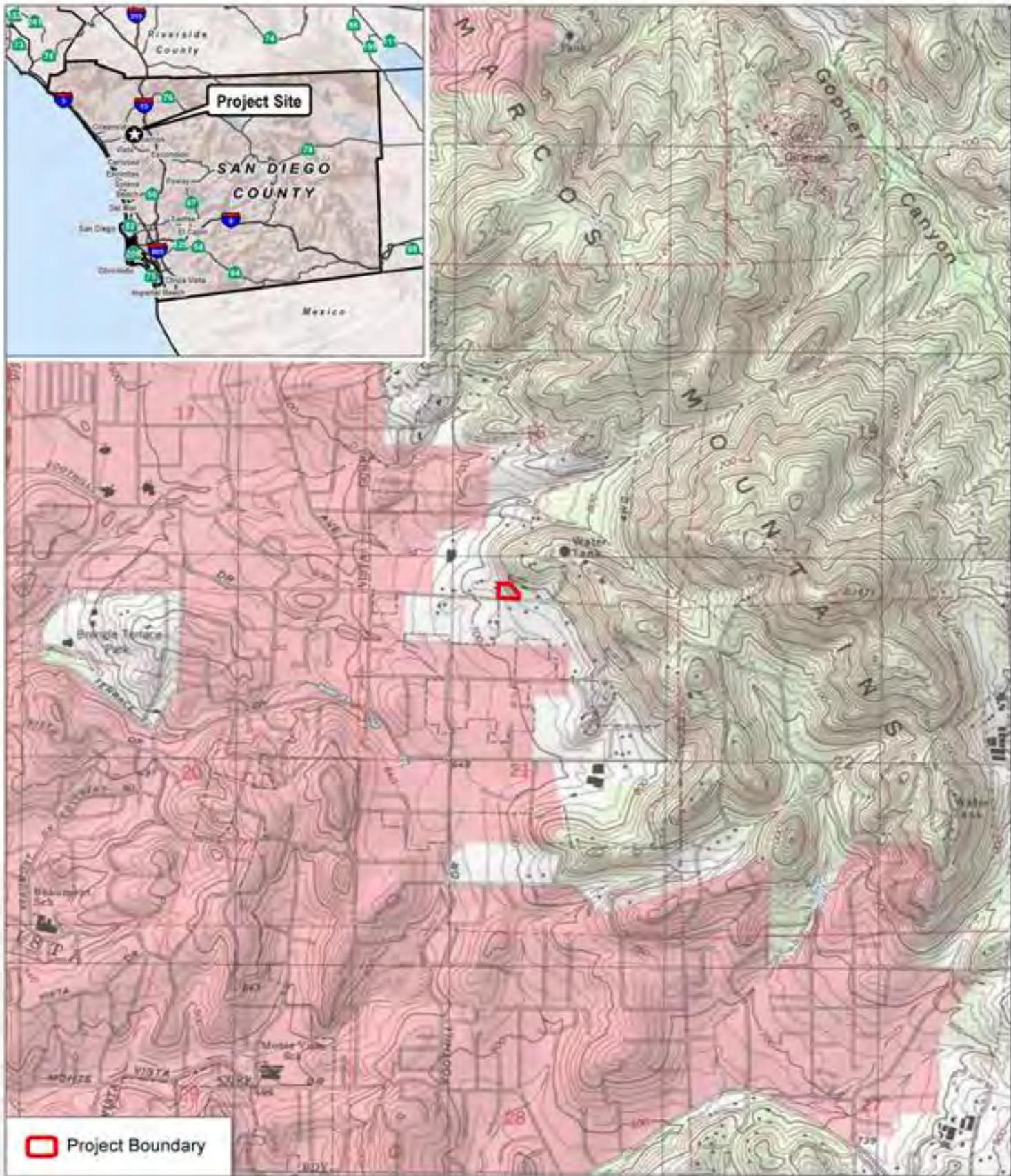
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Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Jim McPherson, Tribal Historic Pres. Officer
Rincon Band of Mission Indians
1 W. Tribal Road
Valley Center, CA 92082

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. McPherson,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

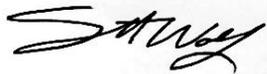
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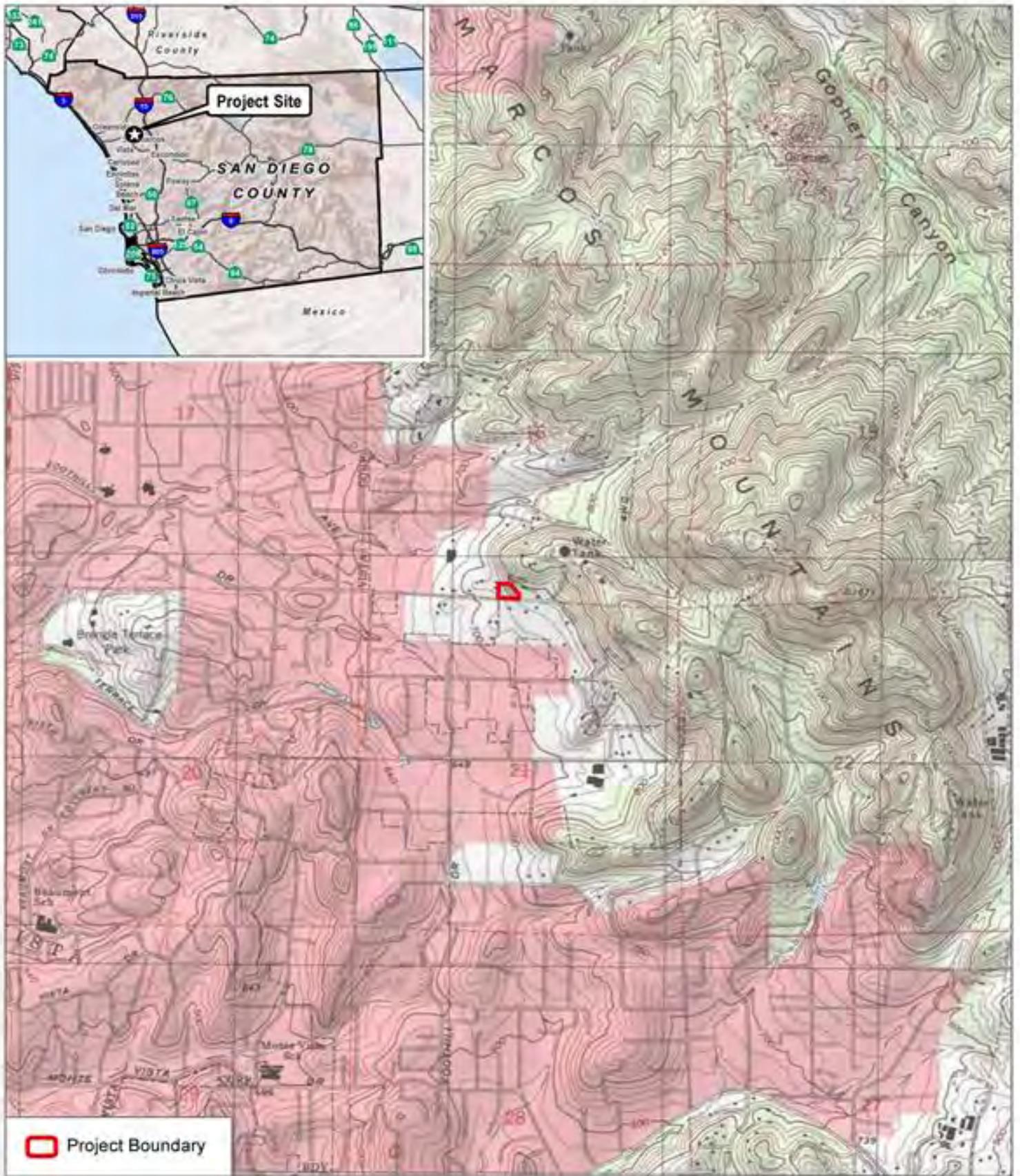
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Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Tribal Council ,
San Luis Rey Band of Mission Indians
1889 Sunset Dr.
Vista, CA 92081

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear ,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

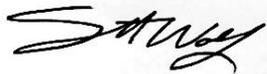
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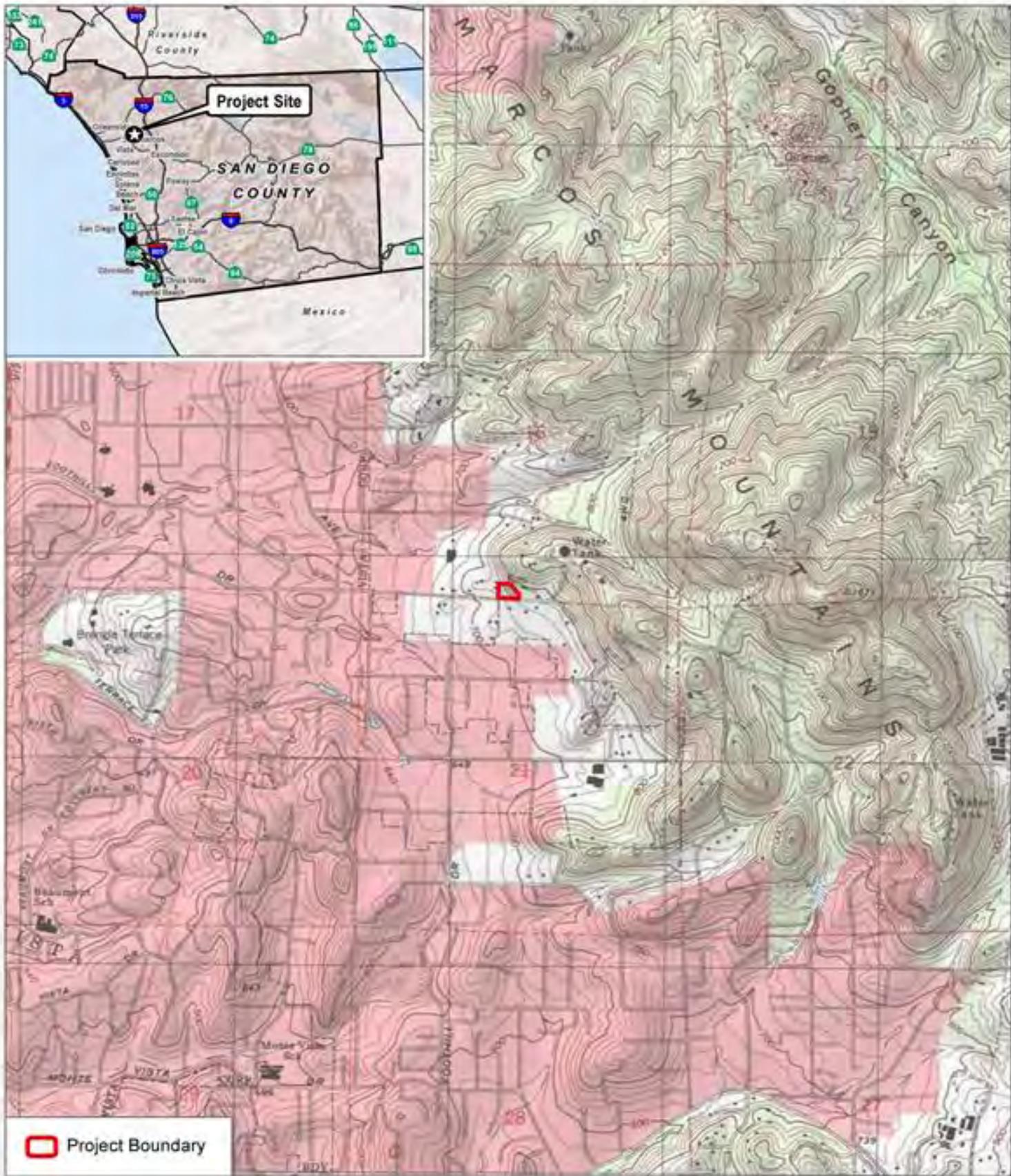
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Scott Wolf
Dudek Archaeologist
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760-479-4164 Office
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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Cultural Department ,
San Luis Rey Band of Mission Indians
1889 Sunset Dr.
Vista, CA 92081

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear ,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

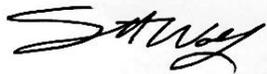
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell

DUDEK

Mr. John Flores, Environmental Coordinator
San Pasqual Band of Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Flores,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

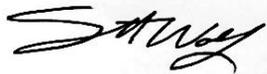
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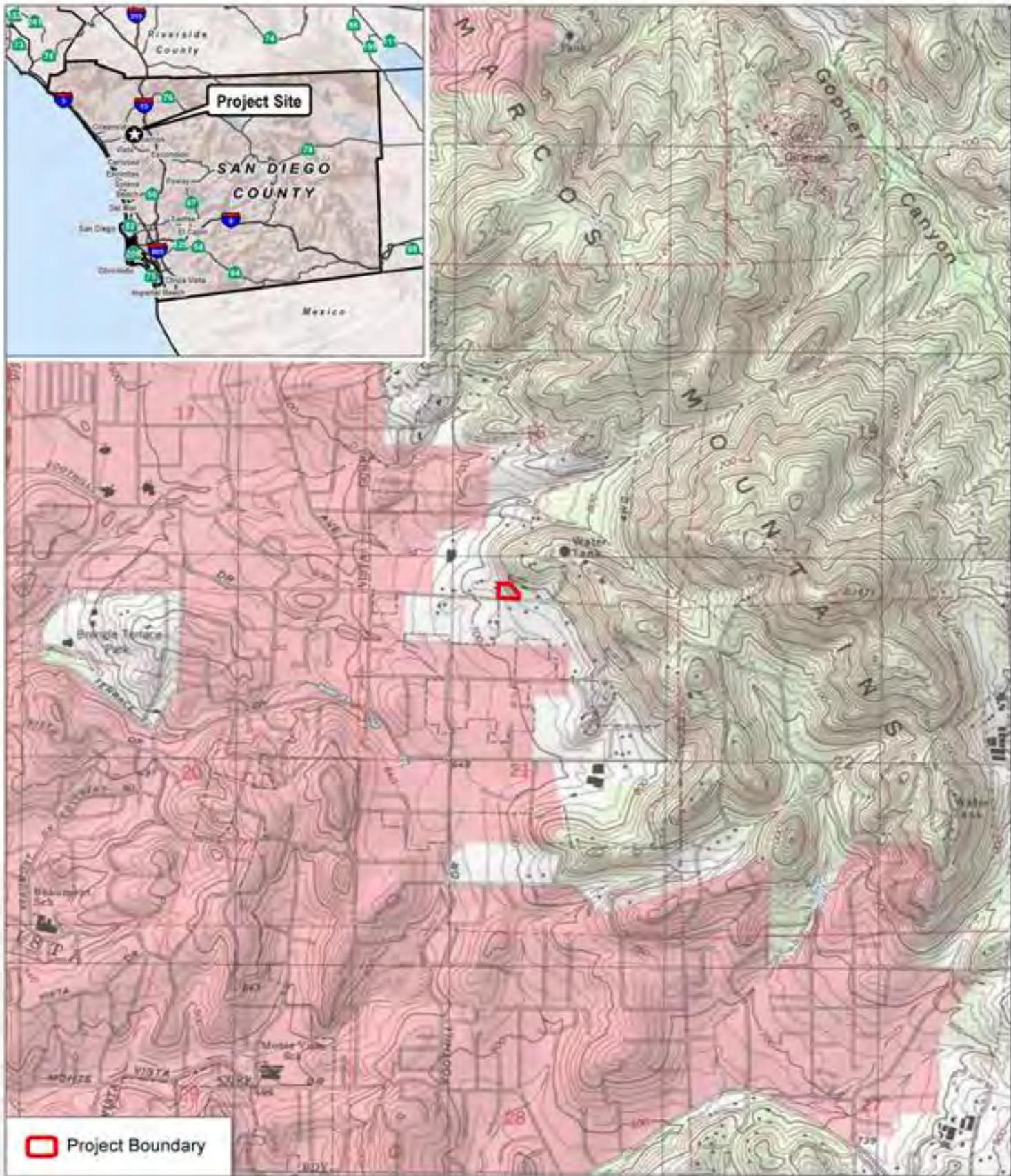
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Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Allen E. Lawson, Chairperson
San Pasqual Band of Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Lawson,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

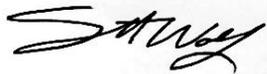
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Dudek Archaeologist
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DUDEK

Mr. Scott Cozart, Chairperson
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92583

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Cozart,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

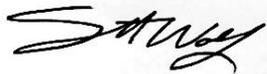
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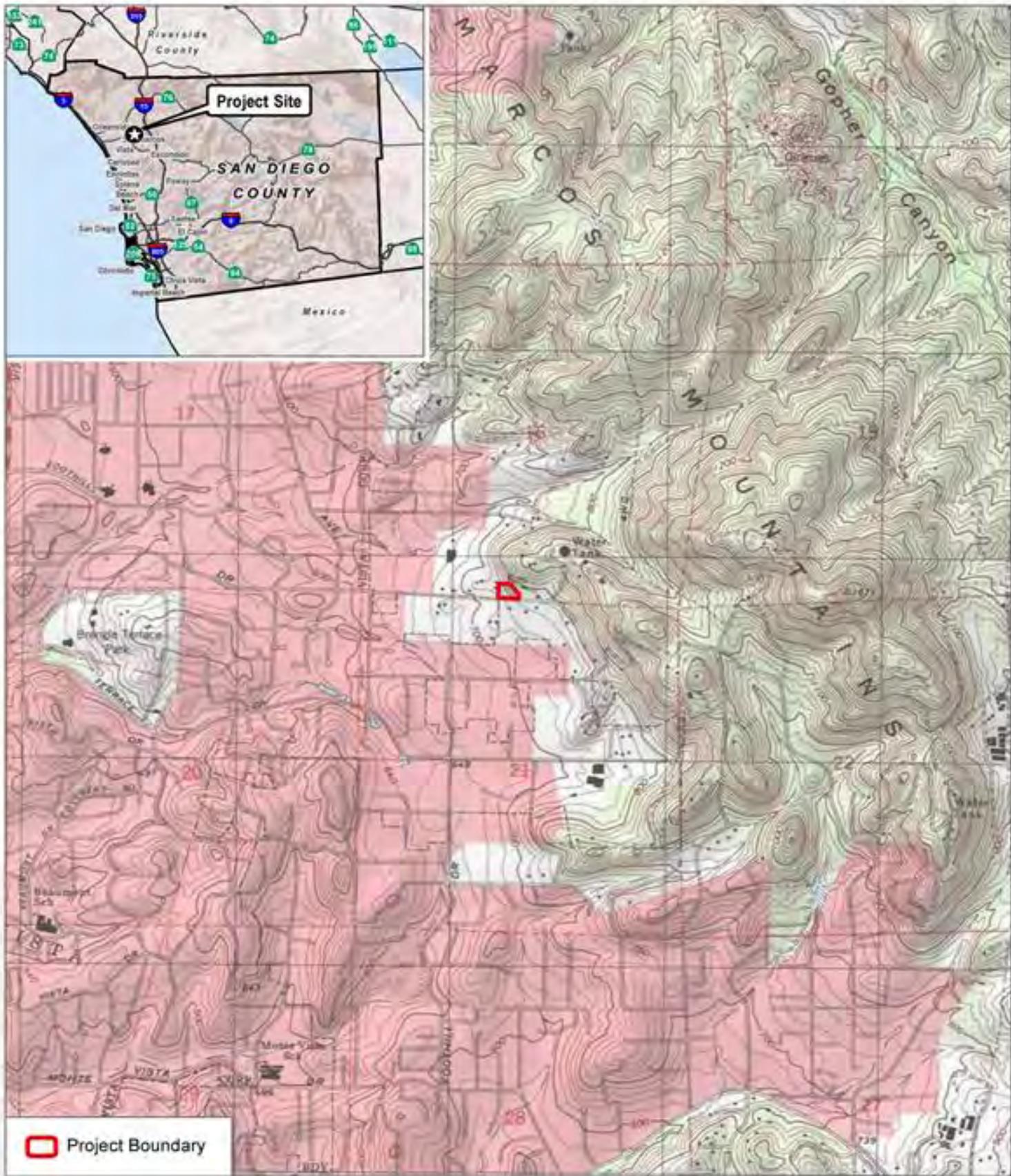
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Swolf@dudek.com
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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Joseph Ontiveros, Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Ontiveros,

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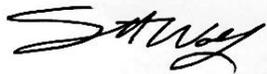
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760-429-8404 Cell

DUDEK

Mr. Cody Martinez, Chairperson
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Martinez,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

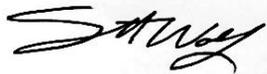
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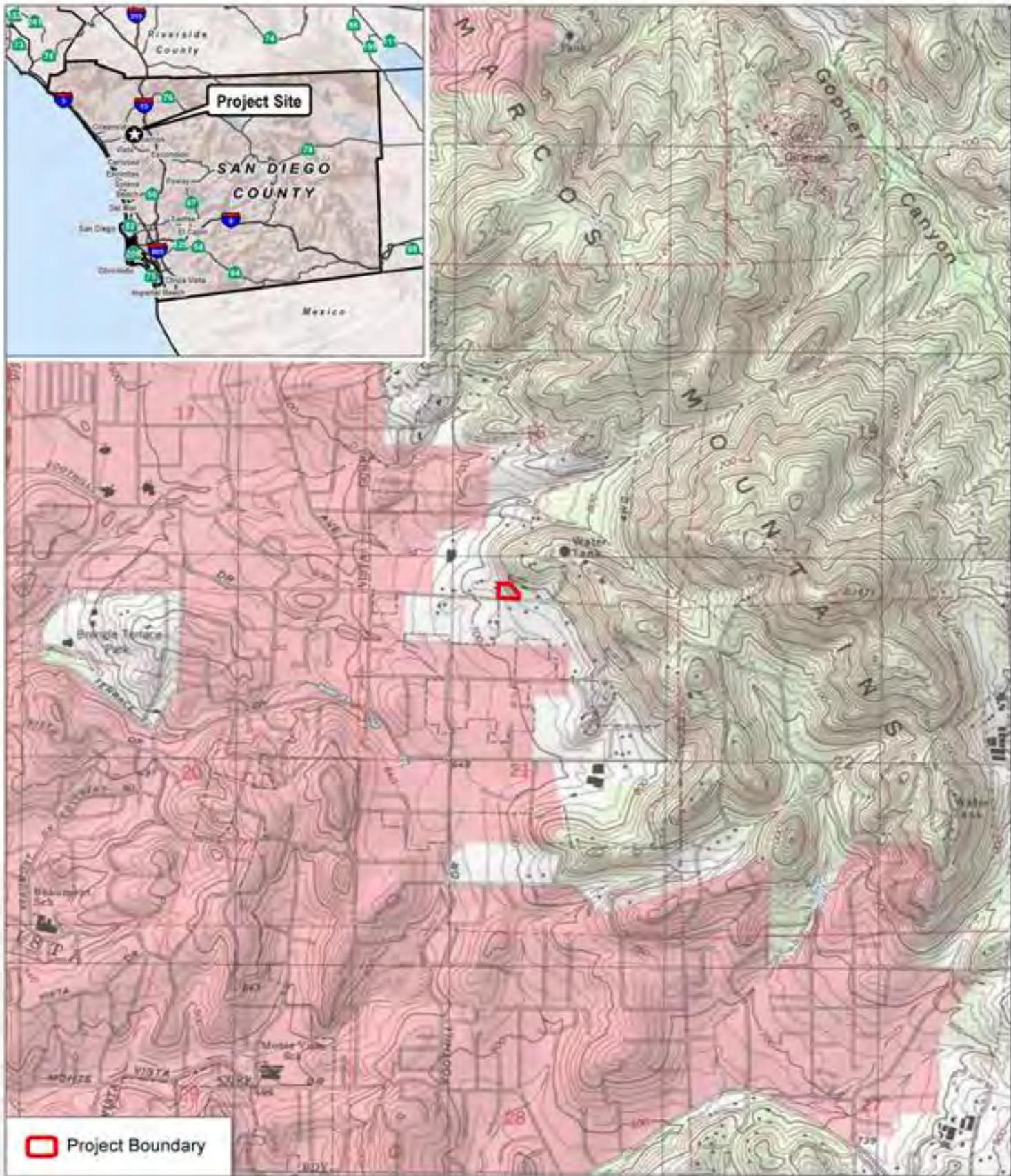
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Scott Wolf
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Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Lisa Haws, Cultural Resource Manager
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Haws,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

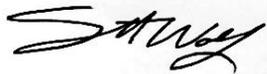
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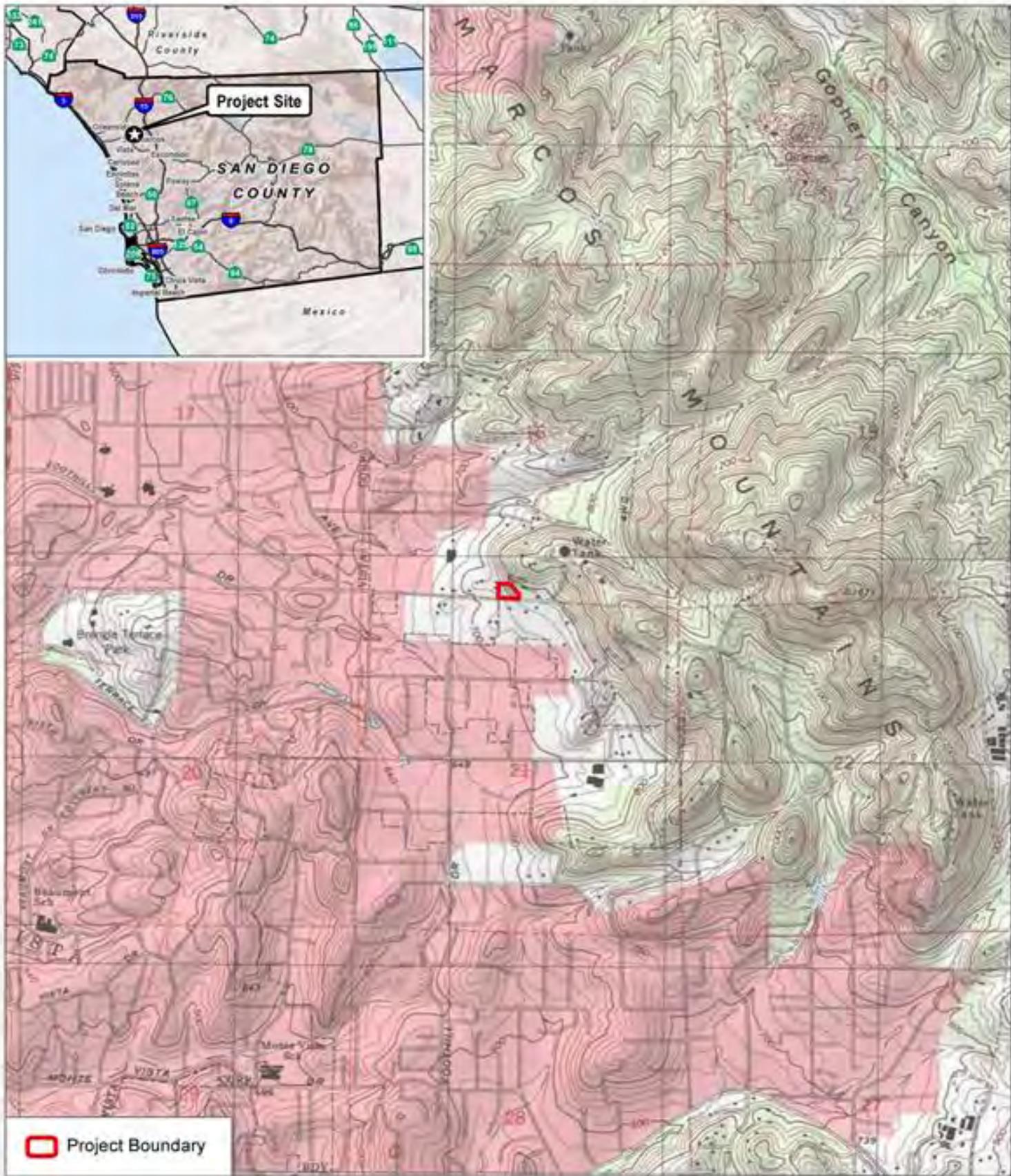
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Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Robert Welch, Sr., Chairperson
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Welch, Sr.,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

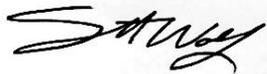
The California Native American Heritage Commission conducted a Sacred Lands File search of the property and surrounding area. As a result, Native American cultural resources were not identified by the NAHC, meaning that no resources are known to exist within one mile of the project APE. Nonetheless, the NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project.

If you have any knowledge of cultural resources that may exist within or near the project area, please contact me directly at (760) 429-8404 or swolf@dudek.com at your earliest convenience.

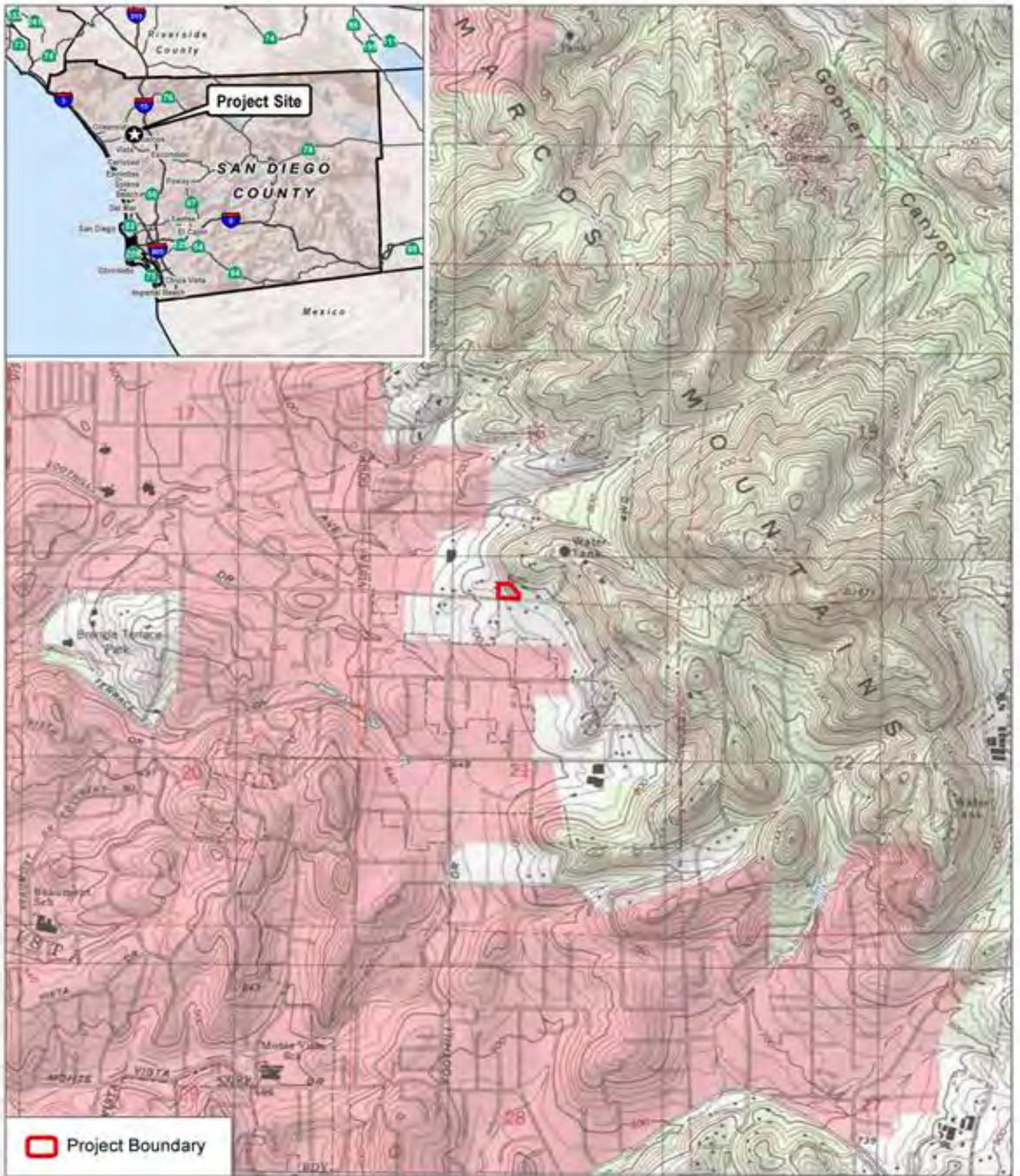
Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency in writing (pursuant to Public Resources Code Section 21080.3.1(b)).

Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1

Project Location

Vista E Reservoir Replacement Project

DUDEK

Mr. Robert J. Welch, Jr., Chairperson
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Mr. Welch, Jr.,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

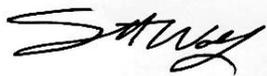
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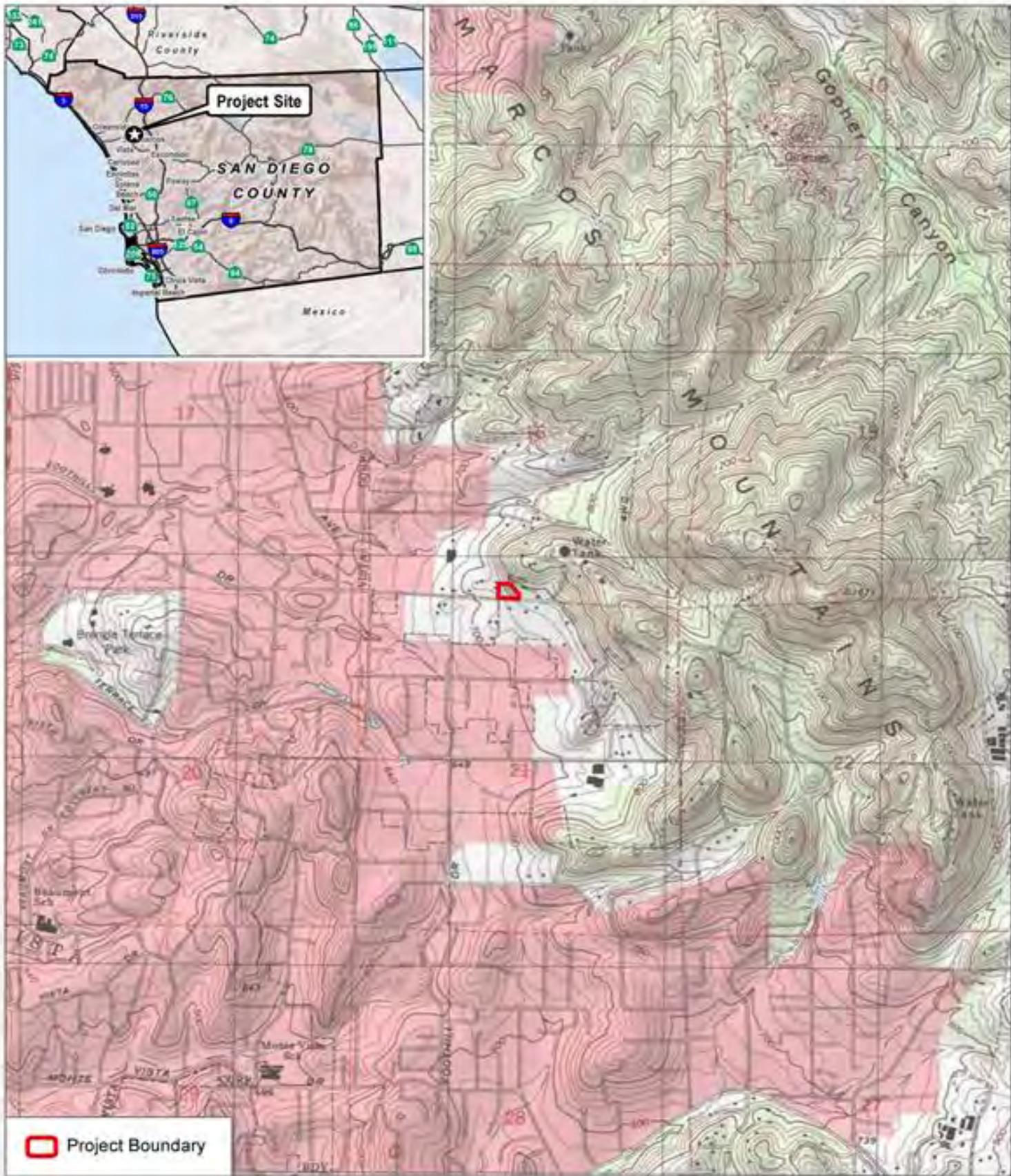
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

DUDEK

Ms. Julie Hagen, Cultural Resources
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the Vista Irrigation District E Reservoir Project, City of Vista, California

Dear Ms. Hagen,

Dudek is contracted to conduct a Phase I cultural resources inventory in support of the Vista Irrigation District E Reservoir Project, located in the City of Vista, San Diego County, California. The Project proposes redesign and re-development of Vista Irrigation District's (VID) E Reservoir. The Project APE is comprised of 1.88 acre of land located at 2258 Edgehill Street, Vista, Township 11 South, Range 3 West; Section 16 of the San Marcos, CA 7.5' United States Geological Survey (USGS) topographic quadrangle map (1968) (Figure 1). The VID has come to the determination that the E Reservoir has reached the end of its useful life and will be replaced with a new reservoir and further equipped with a new pump station. The new reservoir and pump station will provide the District with increased operational storage and flexibility to the surrounding community.

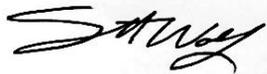
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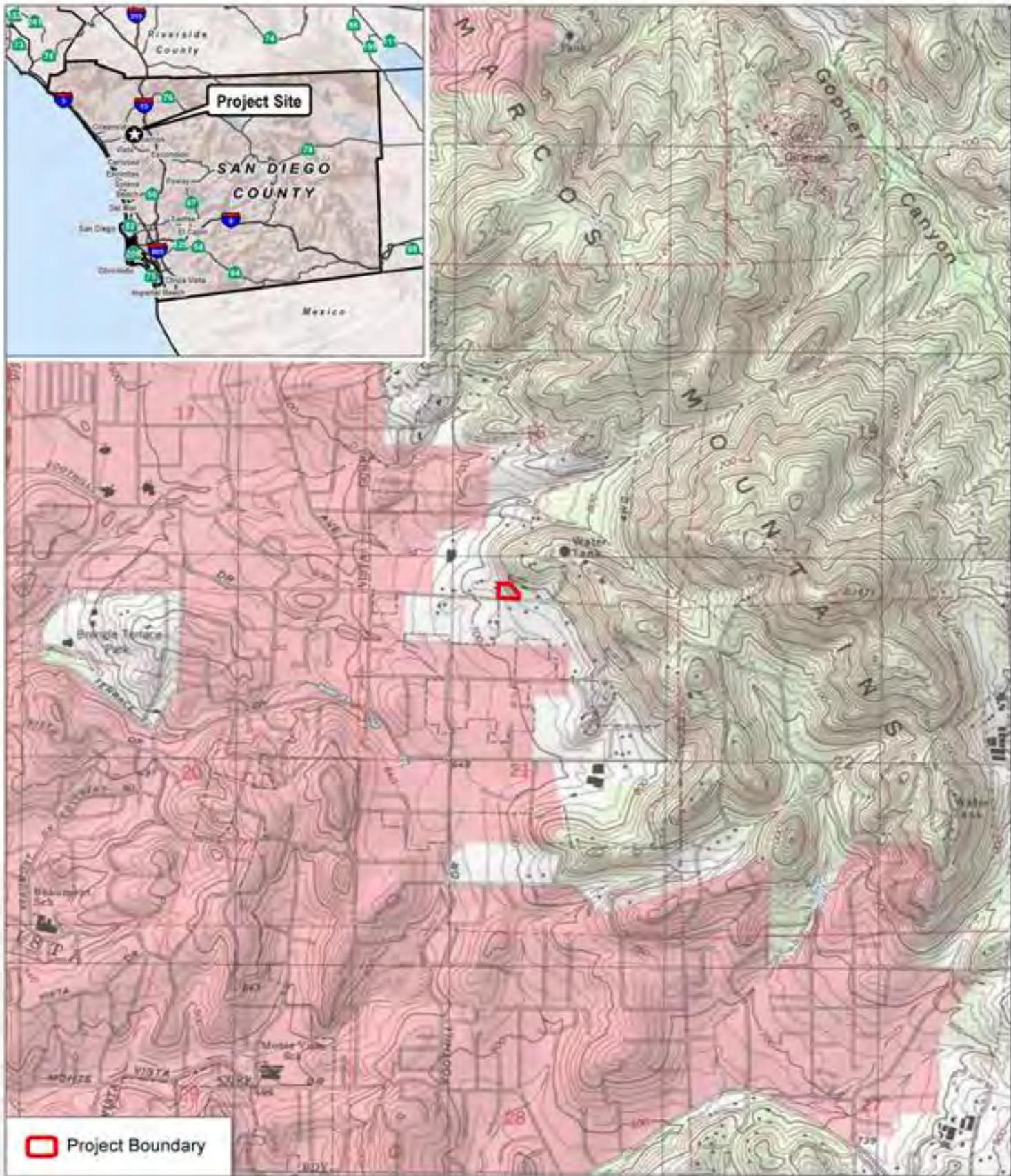
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Thank you for your assistance.

Sincerely,



Scott Wolf
Dudek Archaeologist
Swolf@dudek.com
760-479-4164 Office
760-429-8404 Cell



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

DUDEK  0 1,000 2,000 Feet

FIGURE 1
Project Location

Vista E Reservoir Replacement Project

MEMORANDUM

To: Scott Wolf
From: Lacy Padilla
Archaeological Technician
Agua Caliente Band of Cahuilla Indians
Subject: Vista Irrigation District E Reservoir Project
Date: 02/14/2019
cc: Andrew Talbert
Attachment(s): N/A

Contents on Email received:

“Greetings,

A records check of the Tribal Historic preservation office’s cultural registry revealed that this project is not located within the Tribe’s Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,

Lacy Padilla
Archaeological Technician
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive Palm Springs, CA 92264
D: 760-699-6956 | C: 760-333-5222

The information contained in this message may be privileged and confidential and protected from disclosure. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by replying to the message and deleting it from your computer”

Email received 02/14/2019.



Campo Band of Mission Indians

Chairman Ralph Goff
Vice-Chairman Harry P. Cuero Jr.
Secretary Kerm Shipp
Treasurer Marcus Cuero
Committee Brian Connolly Sr.
Committee Steven M. Cuero
Committee Benjamin Dyche

February 20, 2019

Scott Wolf

Archaeologist

Dudek

605 Third Street

Encinitas, CA 92024

Dear Mr. Wolf

Subject: Vista Irrigation District E Reservoir Project

After review of the Vista Irrigation District E Reservoir Project, Campo Band of Mission Indians concludes this area has a rich history for the Kumeyaay people. There were many villages throughout the Kumeyaay territory. Much of that history was lost when the Kumeyaay people were relocated to other areas. Campo requests any cultural surveys that may have been completed. Campo Band of Mission Indians requests to have a qualified Kumeyaay monitor present for all future surveys and ground disturbing activities, to ensure Kumeyaay Cultural Resources are not overlooked.. If you have questions or concerns, please feel free to contact Marcus Cuero at marcuscuero@campo-nsn.gov or by phone (619) 478-9046.

Sincerely,

Ralph Goff

Chairman

Campo Band of Mission Indians

MEMORANDUM

To: Scott Wolf
From: Destiny Colocho
Cultural Resource Manager and Tribal Historic Preservation Officer
Rincon Band of Luiseño Indians
Subject: VID E Reservoir Project
Date: 02/20/2019
cc: Andrew Talbert
Attachment(s): N/A

Contents on Email received:

“Dear Mr. Wolf,

This letter is written on behalf of the Rincon Band of Luiseño Indians. We have received your notification regarding the above referenced project and we thank you for the opportunity to provide information pertaining to cultural resources. The identified location is within the Ancestral Territory of the Luiseño people, and is also within Rincon’s specific area of Historic interest.

Embedded in the Luiseño territory are Rincon’s history, culture and identity. We do not have knowledge of cultural resources within or near the proposed project area. However, this does not mean that none exist. We recommend that an archaeological record search be conducted. In addition, Rincon is interested in participating in any surveys pertaining to this project.

If you have additional questions or concerns please do not hesitate to contact our office at your convenience at (760) 297-2635.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

Destiny Colocho, RPA
Cultural Resource Manager and Tribal Historic Preservation Officer
Cultural Resource Department
Rincon Band of Luiseño Indians
1 West Tribal Road | Valley Center, CA 92082
Office: 760-297-2635 | Cell: 760-705-7171
Fax: 760-692-1498
Email: dcolocho@rincon-nsn.gov”

Email received 02/20/2019.

MEMORANDUM

To: Scott Wolf
From: Clinton Linton
Director of Cultural Resources
Subject: VID E Reservoir Project
Date: 03/12/2019
cc: Andrew Talbert
Attachment(s): N/A

Contents on Email received:

“Hi Scott,

That is the correct address. Maybe you sent it certified? If so I will never be able to get certified because our PO opens at 9AM and closes by 3PM. I leave before that and get home after.

As for the letter, here are my comments:

For the Vista Irrigation District E Reservoir Project, City of Vista, California, Santa Ysabel defers to and supports the comments and requests of the San Luis Rey Band.

Thank you,

Clint
Clint Linton, President
Cell: (760) 803-5694
Clint@redtailenvironmental.com
P.O. Box 507 Santa Ysabel, CA 92070



Email received 03/12/2019.

Appendix C2

Historical Resources Technical Report

HISTORICAL RESOURCES TECHNICAL REPORT FOR THE E RESERVOIR REPLACEMENT AND PUMP STATION PROJECT

Assessor's Parcel No. 174-240-33

PREPARED FOR:

VISTA IRRIGATION DISTRICT

1391 Engineer Street
Vista, California 92081
Contact: Greg Keppler

PREPARED BY:

Nicole Frank, MSHP and Kara R. Dotter, MSHP

DUDEK

605 Third Street
Encinitas, California 92024

MAY 2019

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EXECUTIVE SUMMARY

Dudek was retained by the Vista Irrigation District (VID) to complete a cultural resources study for a project that proposes to replace the existing oval shaped E Reservoir with a new reservoir and construct a new pump station on the existing E Reservoir site located on Edgehill Road in the County of San Diego (APN: 174-240-33). This Historical Resources Technical Report (HRTR) study involved completion of a California Historical Resources Information System (CHRIS) records search and a pedestrian survey of the project site by a qualified architectural historian for historical resources. All buildings and structures over 45 years old were recorded and evaluated for historical significance. The significance evaluation included conducting archival and building development research for each building on the property; and completion of a historic context of the property. Archaeological resources, including Native American Heritage Commission (NAHC) and local tribes/groups outreach are addressed in the companion report, *Negative Cultural Resources Report for the Vista Irrigation District E Reservoir Project, City of Vista, San Diego County, California* (Wolf and Hale 2019).

This study was conducted in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines, and the project site was evaluated in consideration of National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and in accordance with the County of San Diego Local Register of Historical Resources.

The partially underground reservoir located on Edgehill Road in unincorporated land in the County of San Diego (APN: 174-240-33) was evaluated for historical significance and does not appear eligible for inclusion in the NRHP, CRHR, or local register (6Z) due to a lack of significant historical associations. The reservoir is not considered to be a historical resource for the purposes of CEQA. Therefore, the proposed project would have a less-than-significant impact on historical resources under CEQA.

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1 INTRODUCTION

Dudek was retained by the Vista Irrigation District (VID or district) to complete technical reports for cultural resources and historical built environment resources in support of the E Reservoir Replacement and Pump Station Project (proposed project). The proposed project includes the replacement of the existing oval shaped, partially buried, 1.5 million gallon (MG) E Reservoir with a new reservoir and construction a new pump station on the 1.88-acre property comprised of one parcel (APN: 174-240-33) located at 2258 Edgehill Road in the eastern part of Vista (Figure 1, Regional Map). The new reservoir would increase storage capacity and provide the VID with a facility that meets applicable current codes and standards. The new pump station would provide a redundant water supply to higher-pressure zones within the VID's service area when disruptions occur to primary water supplies.

This study involved completion of a California Historical Resources Information System (CHRIS) records search, a pedestrian survey of the project site, and evaluation of the reservoir for historical significance. The significance evaluation included conducting archival and building development research on the project site and completion of a historic context of the property, as well as preparation of Department of Parks and Recreation (DPR) 523 forms (Appendix A).

This study was conducted in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines. The project site was evaluated in consideration of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the County of San Diego designation criteria and integrity requirements.

1.1 Project Description and Location

The project site is located in unincorporated land in the County of San Diego just to the east of the City of Vista (City) in the northern portion of San Diego County. Regionally, the unincorporated land is bordered by the Marine Corps Base Camp Pendleton to the north, Hidden Meadows (a census-designated place) to the east, the City of San Marcos to the south, and the City of Carlsbad and Oceanside to the west. Locally, the project site is bounded by agriculture and residential land to the north; open land including the San Marcos mountain range and residential buildings to the east; commercial and residential development to the south; and commercial and residential uses to the west (Figure 1, Regional Map). The project site is composed of one parcel (APN: 174-240-33).

1.2 Project Personnel

The fieldwork, associated property evaluation, pedestrian survey, and preparation of the Historical Resources Technical Report and DPR 523 forms were completed by Dudek Architectural Historian Nicole Frank, MSHP. The report was reviewed for quality assurance/quality control by Dudek Senior Architectural

Historians Kara R. Dotter, MSHP and Samantha Murray, MA. All Dudek staff meet the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) for architectural history. Preparer's qualifications are located in Appendix B. The CHRIS Records Search was completed by Dudek Archaeologist Scott Wolf, BA.

1.3 Regulatory Setting

Federal

While there is no federal nexus for this project, the subject property was evaluated in consideration of the NRHP designation criteria and integrity requirements. The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service (NPS), under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act (NHPA), as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by NPS.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, How to Apply the National Register Criteria, as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 1990). NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed

fewer than 50 years before evaluation must be proven to be “exceptionally important” (criteria consideration G per the NRHP guidance) to be considered for listing.

State

California Register of Historical Resources (CRHR)

In California, the term “historical resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.” (PRC section 5020.1(j).) In 1992, the California legislature established the CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” (PRC section 5024.1(a).) The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains “substantial integrity,” and (ii) meets at least one of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than fifty years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see Cal. Code Regs., tit. 14, section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP; and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC section 21083.2(g) defines “unique archaeological resource.”
- PRC section 21084.1 and CEQA Guidelines section 15064.5(a) defines “historical resources.” In addition, CEQA Guidelines section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource;” it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC section 21074(a) defines “tribal cultural resources.”
- PRC section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource." (PRC section 21084.1; CEQA Guidelines section 15064.5(b).) If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).) The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).)

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." (CEQA Guidelines section 15064.5(b)(1); PR Code section 5020.1(q).) In turn, the significance of a historical resource is materially impaired when a project:

HISTORICAL RESOURCES TECHNICAL REPORT FOR
THE E RESERVOIR REPLACEMENT AND PUMP STATION PROJECT

- (1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- (2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- (3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

(CEQA Guidelines section 15064.5(b)(2).) Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC section 21083.2(a); CEQA Guidelines section 15064.5(c)(4).) However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC section 5097.98.

Local

County of San Diego Ordinance No. 9493

The County proposes creating a local register of historical resources located within the unincorporated area of the County of San Diego. The Local Register is an authoritative listing and guide to be used by local agencies, private groups, and citizens in identifying historical resources in the County of San Diego. In addition, the listing shall also be used as a management tool for planning, and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change.

County of San Diego Administrative Code Section 396.7. Local Register of Historical Resources: Establishment; Criteria for Inclusion Therein

The criteria for listing historical resources in the Local Register are consistent with those developed by the Office of Historic Preservation (OHP) for listing resources to the California Register of Historical Resources (California Register), but have been modified for local use in order to include a range of historical resources which specifically reflect the history and prehistory of San Diego County. Only resources that meet the criteria set out below may be listed or formally determined eligible for listing to the Local Register.

a) Types of resources eligible for nomination:

(1) Building. A resource, such as a house, barn, church, factory, hotel, or similar structure created principally to shelter or assist in carrying out any form of human activity. “Building” may also be used to refer to an historically and functionally related unit, such as a courthouse and jail or a house and barn.

(2) Site. A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possessed historical, cultural, or archaeological value regardless of the value of any existing building, structure, or object. A site need not be marked by physical remains if it is the location of a prehistoric or historic event, and if no buildings, structures, or objects marked it at that time. Examples of such sites are trails, designed landscapes, battlefields, habitation sites, Native American ceremonial areas, petroglyphs, and pictographs.

(3) Structure. The term “structure” is used to describe a construction made for a functional purpose rather than creating human shelter. Examples of structures include mines, flumes, roads, bridges, and tunnels.

(4) Object. The term “object” is used to describe those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed, as opposed to a building or structure. Although it may be moveable by nature or design, an object is associated with a specific setting or environment. Objects should be in a setting appropriate to their significant historic use, role, or character. Objects that are relocated to a museum are not eligible for listing in the Local Register. Examples of objects include but are not limited to fountains, monuments, maritime resources, trains, planes, sculptures, and boundary markers.

(5) Historic District. Historic districts are united geographic entities that contain a concentration of buildings, structures, objects, and/or sites united historically, prehistorically, culturally, or architecturally. Historic districts are defined by precise geographic boundaries. Therefore, districts with unusual boundaries require a description of what lies immediately outside the area, in order to define the edge of the district and to explain the exclusion of adjoining areas. The district must meet at least one of the criteria for significance discussed below in Section (b).

Those individual resources contributing to the significance of the historic or archaeological district will also be listed in the Local Register. For this reason, all individual resources located within the boundaries of an historic or archaeological district must be designated as either contributing or as non-contributing to the significance of the district.

(b) Criteria for evaluating the significance of historical resources. An historical resource must be significant at the local level under one or more of the following four criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of San Diego County’s history and cultural heritage;
- (2) Is associated with the lives of persons important to the history of San Diego County or its communities;
- (3) Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) Has yielded or may be likely to yield, information important in prehistory or history.

(c) Integrity. Integrity is the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Historical resources eligible for listing in the Local Register must meet one of the criteria of significance described in Section V(b), above, and retain enough of their historic character or appearance to be recognizable as historical resources and to convey

the reasons for their significance. Historical resources that have been preserved, rehabilitated, or restored according to the guidelines approved by the Secretary of Interior may also be evaluated for listing.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for eligibility. Alterations over time to a resource or changes in its use may themselves have historical, cultural, or architectural significance.

Figure 1. Project Location Map

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2 BACKGROUND RESEARCH

2.1 CHRIS Records Search

Dudek archaeologist Scott Wolf conducted an in-house records search at Dudek of CHRIS data obtained from the South Coastal Information Center (SCIC) on February 13, 2019 for the project site and a 1-mile buffer. The full discussion is included in the companion report, *Negative Cultural resources Report for the Vista Irrigation District E Reservoir Project, City of Vista, San Diego County, California* (Wolf and Hale 2019). Search results relevant to built environment historic resources include two residential structures and a barn/farm structure, all three of which lie outside of the project site (Table 1).

Table 1. Previously Recorded Historic Built Environment Resources within 1 mile of the Project Site

P-Number	Trinomial	Era	Site Type	In/Out Current Project Site
P-37-028765	-	Historic	Residential Structure	Out
P-37-028767	-	Historic	Residential Structure	Out
P-37-028768	-	Historic	Barn/Farm Structure	Out

2.2 Building Development Research

Historical Newspaper Review

Dudek reviewed historical newspapers online from Newspapers.com and Genealogybank.com in an effort to understand the development of the subject property. These documents helped to establish a history of the property and were used in the preparation of this report. The majority of the newspapers used in this report came from the Los Angeles Times and the San Diego Union Tribune.

Sanborn Fire Insurance Maps

Sanborn Fire Insurance Map repositories were reviewed including the Library of Congress and the ProQuest Digital Sanborn Maps 1867-1970. No maps were available for both the City of Vista and the project area.

Historic Aerial Photographs

The subject property was reviewed on historic aerial photographs via Nationwide Environmental Title Research LLC (NETR) from the years 1936, 1946, 1953, 1964, 1967, 1981, 1989, 1994, 1996, 2002, 2003, 2005, 2009, 2010, 2012, and 2014, and UC Santa Barbara FrameFinder (UCSB) from years 1946, 1953, 1964, and 1974. The earliest historic aerial photograph of the subject property from 1936 shows the oval footprint of

the E Reservoir with four vents located at each of the four corners and one round vent and two small buildings to its southwest connected by a path or pipeline. The subject property is surrounded by undeveloped land to the east and farmland to the west. The residences in the surrounding area are sparse and located on large plots of land. Very little change occurred between the 1936 and 1946 aerials with the subject property remaining as an oval footprint and the surrounding area dominated by farms, orchards, and open land. The 1953 aerial shows the reservoir covered with corrugated metal rooftop mirroring the original oval footprint while development around the project location showed a small increase. The largest amount of development was focused around Vista's downtown center. The 1964 aerial displays no change. By the 1967 aerial, the two small buildings had been removed from the property and left vacant. The period from 1953 to 1967 showed a boom in development, with the construction of the Highway 78 from the Pacific Coast through Vista to San Marcos. With the construction of the highway, the amount of residential development almost doubled, with planned developments beginning to replace farmlands and orchards. The 1974 aerial displays development beginning to move into the once vacant mountain range to the project site's east with no changes made to the subject property. The second largest period of growth can be seen in the 1981 photograph with a majority of the western farmland replaced with planned residential developments and light-industrial buildings. The subject property remained the same, as it appeared in the 1974 aerial until 2009 with the construction of a new small pressure reducing station on the southwest corner of the property where there once were two buildings upon construction in 1929. Development in the surrounding area continued to increase up until 2009 when once prevalent farmland was almost completely replaced with residential and commercial development and remained the same in density for the 2010, 2012, and 2014 photographs (NETR 2019; UCSB 2019).

3 HISTORIC CONTEXT

The project site is located at 2258 Edgehill Road (APN 174-240-33) in the City of Vista. The VID property is located on the north side of Edgehill Road, facing southeast, and was constructed in 1929 on a lot 1.88-acre lot (San Diego County Assessor Property Assessment Information System).

The following historic context addresses relevant themes concerning the history of the project site. It begins with a general overview of the development of the City of Vista the City closest to the project site, and provides a brief discussion of the history of water patterns within the City, and the Vista Irrigation District the owner and developer of the subject property.

3.1 Historical Overview of the City of Vista

Francisco Ulloa, exploring the Pacific coast under orders from Hernán Cortes, is reported to have stopped at the San Luis Rey River in 1540, marking the first contact between Europeans and the Luiseño Indians, although the accuracy of his exploration is disputed. Juan Rodriguez Cabrillo, who is widely considered the first European to explore Alta California, sailed the coast through Luiseño territory in 1542, but is not reported to have landed. Father Junípero Serra initiated Spanish colonial settlement in 1769 with the founding of the first mission in San Diego. Father Juan Mariner and Father-Presidente Fermín Lasuén explored what would become northern San Diego County and western Riverside County in 1795 and 1797, respectively, in search of a location for another mission. In 1798, Lasuén founded Mission San Luis Rey de Francia in the San Luis Rey Valley, which was once land inhabited by the Luiseño Indians. Mission San Luis Rey would become one of the largest and most prosperous missions in California (Garrahy and Weber 1971; Brigandi 1998).

Under Spanish control, the missions set out to convert local populations to Christianity and to expand the influence of the Spanish empire. To support the growing mission, numerous *asistencias*, or sub-missions, and ranchos were established throughout the territory at or adjacent to Luiseño villages. Following Mexican independence from Spain in 1821, secularization of the missions began in 1833 in order to turn over the large land holding to private citizens, including local Indians. Mission San Luis Rey was divided into six ranchos in 1835: Santa Margarita, Las Flores, Guajome, Agua Hedionda, Buena Vista, and Monserrate. Rancho Guajome and Buena Vista became the base of what makes up today's modern Vista (Bibb 1991; Van Horn 1974).

In 1851, a group of Cahuilla and Cupeño Indians attacked American settlers in Warner's Hot Spring, hoping to unite Indian tribes and drive out the Americans (Bibb 1991). Led by Pablo Apis, the Luiseño of Temecula went to Mission San Louis Rey and remained out of the conflict (Bibb 1991). In 1852, the Treaty of Temecula (Treaty of Peace and Friendship) was signed, providing certain lands, horses, cattle, and other supplies to the Luiseño, Cahuilla, and Serrano in exchange for government control of the rest of their lands. The U.S. Senate rejected this treaty, and 17 others in California, later that year (Bibb 1991; Van Horn 1974).

After the secularization of the California missions, Mexican governor Pío Pico awarded 2,219 acres to the Luiseño brothers Andrés and José Manuel. This land grant was known as Rancho Guajome, named after the Luiseño village *wakhavumi*, meaning “place of the frogs.” The brothers sold their land to a wealthy Los Angeles merchant, Abel Stearns. Stearns presented the land to his sister-in-law, Ysidora Bandini as a wedding present to Cave Johnson Coutts in 1851. Coutts, an American army officer was appointed as sub-agent for the San Luis Rey Indians, which secured him cheap labor to develop the property into a successful cattle ranch. Rather quickly, Coutts’ businesses became successful and he became one of the wealthiest men in Southern California (Christenson and Sweet 2008; Smyth 1907; Cavalier 2008).

The Rancho Buena Vista land grant originally consisted of 1,184 acres issued by Gov. Pío Pico to Felipe Subria, a Luiseño Indian. Mexican law recognized Christianized Native Californians as citizens and therefore able to receive land grants. The property changed hands multiple times before being purchased by Cave Johnson Coutts in 1866 along with the San Marcos and La Jolla ranchos, and government land amounting to 20,000 acres. Coutts continued to develop his land by planting orchards and vineyards. The combined ranchos of Guajome and Buena Vista were celebrated for their hospitality, being the center of social activities for the surrounding ranchers and continued well past Coutts death in 1874 (Christenson and Sweet 2008; Smyth 1907; Cavalier 2008).

The last rancho that comprised a portion of modern-day Vista, the majority being located in the nearby city of Carlsbad, was Rancho Agua Hedionda. Agua Hedionda was comprised of 13,311 acres and was granted to Juan María Romualdo Marrón in 1842 by Mexican governor Juan Bautista Alvarado. Marrón was granted the land due to his political connections. In 1852, he applied to the Board of Land Commissioners for a clear land title, although he died only a year later. His widow, Felipa Osuna and their four children continued the legal battle, and eventually was issued a patent to ranch on the land in 1872. Although by this time, the Californio cattle-based economy fell on hard times based on a series of circumstances including drought and a changing market. The passing of the “No-Fence” law of 1850 was also a victory for farmers over the cattleman and represented a shift in the California economic structure to be based on the cultivation of the soil rather than cattle (Christenson and Sweet 2008; Ludeke 1980; Cavalier 2008).

As the large ranchos began to fade, a growing number of settlers began moving to the area to set up small-scale agricultural holdings. The annexation of California as a state also encouraged a change in the economy. John Frazier, one of these new settlers, attempted to open the first post office in the area, eventually setting on the name Vista in 1882. Another pair of influential settlers was Bernard and Jules Jacques Delpy, who came to Vista in 1873 from France. The uncle and nephew built the first successful winery in northern San Diego County 1884, which remained open until the prohibition era. A railroad was completed in 1887 from Oceanside to Escondido, which allowed Vista an economic mode of transportation to ship crops. The Vista Land Company, a quarter-million-dollar corporation organized by Hartley-Martin Real Estate Company of Redlands, purchased a major portion of Rancho Buena Vista in 1912. The company then laid out several streets and constructed the 26-room Vista Inn, which became the center of social and business life in northern

San Diego County. Despite the growing number of economic opportunities in the area, Vista remained small through the early 1910s, with the population at less than 1,000 people (Cavalier 2008; City of Vista 2019).

The main factor that kept Vista small was its lack of available water. The crops that could be cultivated were dry farmed such as oats and hay. Developers at the time saw the potential in the area with its gently rolling hills, fertile soil, and moderate climate. The Vista Water Company, which was founded in 1911, provided the majority of the water from several wells near the Buena Creek. It was not until 1923 with the formation of the Vista Irrigation District (VID), that water was brought in at a large scale from Lake Henshaw with the capacity of 200,000-acre feet of water. The construction of the new water supply allowed Vista's downtown to grow exponentially and by the 1930s, the population had risen to 10,000. The area was described as being within the "perfect climate belt," with 3,000 acres planted for avocados, oranges, lemons and other fruit trees and an additional 1,500 acres devoted to off-season vegetables, bulbs and flowers. The largest export was tomatoes, with the amount of train cars being shipped rising from 18 in 1926, to more than 300 in 1929. The area eventually was nicknamed the avocado capitol of the world in 1948 once the orchards planted in the 1930s has fully matured (Cavalier 2008; City of Vista 2019; ET 1930).

Through World War II, Vista remained agriculturally based, advertising in newspapers under the name "The Sub-tropic Empire." Despite the area's prime conditions for farming, after the end of WWII, agriculture began to decline and that land was utilized for housing developments. In 1955, the population had risen to 16,742 and in order to combat possible problems due to this growth, the county Planning Commission put into action the first master plan. Part of this master plan was the implementation of a new sewer system that would cost taxpayers \$175,000, upon the bonds passing, residential construction continued to increase. The Vista Irrigation District, the sole water supplier for 11,000 acres in the Vista area, also made plans in 1956 to increase water pressure and build a reservoir. With the changes made to Vista and their population growth, the city elected to be incorporated as a city on January 23, 1968. Upon incorporation, the city's popularity and population only continued to increase from the 1970s into the early 2000s, with a population of 33,340 in 1980. Numerous apartment complexes were built to replace farmland and accommodate transplants as well as the development of some light manufacturing businesses into the Business Park area on the south side (Cavalier 2008; The Vista Press 1963; SDU 1956; Scaglione 1980).

3.2 Vista Irrigation District

The VID was created in 1923 as an independent special district formed under the Irrigation District Act of 1916 to provide local water service. Considerable time and effort went into convincing the public the advantages of forming a district so that outside water could be utilized for regional land. On August 28, 1923, an election was held that passed the formation of the VID, with 104 votes in favor, to four votes not in favor. Under the direction of resident engineer and manager, Kenneth Q. Volk, the VID forged ahead, selling \$1,500,000 of the district's bonds to J.R. Mason & Co. of San Francisco and Alvin H Frank & Co. of Los

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Angeles bearing interest at 6 percent and payable from twenty to forty years. With the sales of these bonds, the cash in the district treasury amounted to \$1,300,000 by 1925 (SDU 1925; LAT 1925; VID 2019).

Upon its dedication in 1923, the VID encompassed 17,500 acres of citrus and avocado lands. The area celebrated the arrival of the first water from Lake Henshaw, located on the headwaters of the San Luis Rey River, on February 27, 1926. The then town of Vista occupied the geographical center of the district, and formally began to develop soon after a steady flow of water was brought to the area. Contemporary newspapers advertised such headlines as “Water is King in Southern California and Vista has an Ample Dependable Supply,” where the VID would act as an advocate for the town of Vista and the fertile land in which it occupied (LAT 1929). The district sought to expand the population of the town and in doing so expand their service area. In order to create a more dependable water supply, they constructed five new reservoirs from 1925 to 1929. These reservoirs included E1 (1925), A (1926), C (1926), MD (1926), and E (1929) (VID 2019; VID 2018).

In June 1946, after several years of negotiations, the VID acquired for approximately \$5,000,000 the San Diego County Water Co., including Henshaw Dam and Reservoir, Lake Henshaw and Warner Ranch, comprising some 43,700 acres. The deal involved the purchase of common stock of the water company for \$3,818,000 plus an additional fund, which was used to retire the outstanding 3 ¾ percent bonds of the Water Company and \$500,000 per value of 7 percent preferred stock. VID since its inception had purchased its water from the water company at a cost of \$210,000 a year for 12,000-acre feet. After the 1946 purchase, the district obtained its water at \$165,000 or \$15 per acre-foot. The nature of this sale was purely economic and ultimately resulted in cheaper water for the VID (LAT 1946; VID 2019; Fowler 1953).

Over the next decade, the VID sought to combat drought conditions that began in the early 1950s. In 1951, Lake Henshaw, from which the district received a majority of its water through a complicated lake, river, and flume system, had begun to dry up. In response to their water accessibility being threatened, the VID dug 20 wells in the Henshaw Basin to get to subterranean water and planned for 10 more. Drought conditions continued, forcing the VID to become a member of the San Diego County Water Authority to take advantage of water imported from the Colorado River and Northern California in 1954. By 1955, the agricultural economy of Vista had begun to decline, partially due to the consistent droughts. Many avocado and citrus groves were split into parcels and used to build new residences and sub divisions. As efforts continued to conserve water and better serve the area, VID constructed seven more reservoirs including the following: HP (1962), HB (1964), Pechstein (1978), Deodar (1978), San Luis Rey (1978), Lupine Hills (1987), and H (1997). In 2016, the VID served over 28,600 accounts, the majority of which were residential, with nearly 5.6 billion gallons of water distributed and sold within the district. Of that amount, only 6% was for agriculture, with the majority (70%) being for residential use (SDU 1951; VID 2019).

3.3 History of Project Site

The E Reservoir was the last to be constructed during the VID's first formal period of development in the 1920s. In c. 1929, the Escondido Cement Products Company was awarded the contract for construction of the reservoir, being the lowest bidder at \$11,680.07. The contract included excavation, embankment, concrete pouring, concrete lining of the floor, roofing, and miscellaneous work. The reservoir originally was intended to be fully underground, measuring the approximate footprint of the modern reservoir at 225 feet long by 97 feet wide (SDU 1929).

The E Reservoir was built with two small buildings to its direct southwest. It is unknown whether these buildings were for a pump house or served another purpose. In 1952, the reservoir was reroofed, which expanded the structure's height. The reservoir was no longer underground but semi-buried. The earthen roof was replaced with a corrugated galvanized iron roof on a steel skeleton and exterior walls were constructed of concrete (Figure 2). As part of the VID's first phase of integrating a high-pressure flow system into VID lines in 1959, a 30-inch high line was constructed between the Pechstein Reservoir and the E Reservoir. Additionally, the E Reservoir was raised to a greater holding capacity. In 1975, a \$5.9 million bond issue passed to replace the gravity pipeline between Pechstein Reservoir and E Reservoir (SDU 1959, 1974, 1975; VID 1952).

By the early 1980s, the two small buildings to the reservoir's southwest were demolished. The reservoir itself underwent several improvements in 1984. These improvements included paving a small driveway and a cul-de-sac along the structure's west elevation, the addition of a new access hatch, and construction of a new overflow structure. Between 2005 and 2009, a small pressure reducing station building was constructed to the southwest of the reservoir, near the same place as the two earlier buildings. From this point on there are no recorded changes made to the reservoir and pressure reducing station (VID 1984).

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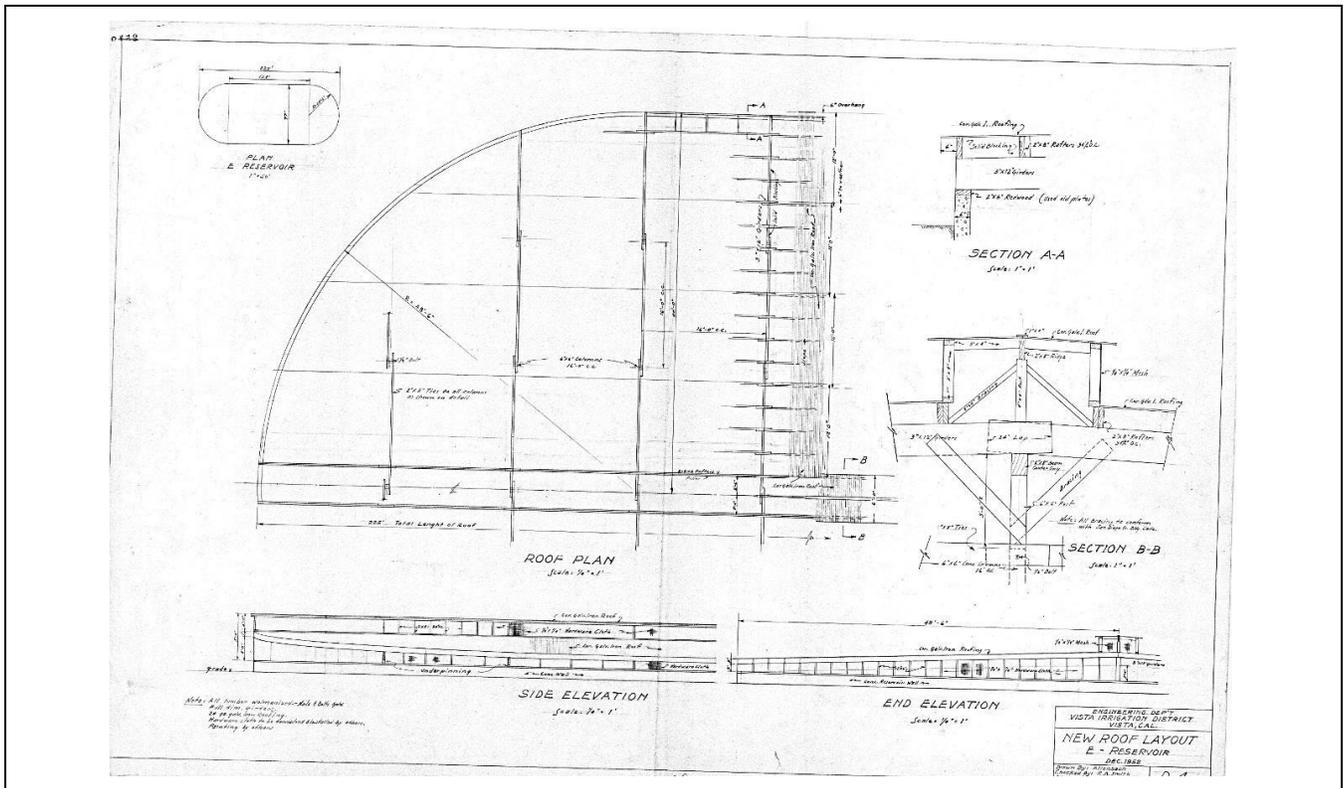


Figure 2 New Roof Layout for the E Reservoir, December 1952 (Vista Irrigation District Archives)

4 HISTORICAL RESOURCES SURVEY

Dudek Architectural Historian Nicole Frank, MSHP, conducted a pedestrian survey of the property on January 24, 2019. The survey entailed walking all accessible portions of the exterior of the property and documenting buildings and structures with notes and photographs, specifically noting character-defining features, spatial relationships, observed alterations, and examining any historic landscape features on the property. Dudek documented the fieldwork using field notes, digital photography, close-scale field maps, and aerial photographs. Photographs of the project site were taken with a Sony Cyber-Shot DSC-W800 digital camera. All field notes, photographs, and records related to the current study are on file at Dudek's Encinitas, California, office.

4.1 Description of Surveyed Resources

The property contains a partially elevated, oval utilitarian reservoir storage tank originally constructed in 1929 that has been subsequently altered. The property also features a small pressure reducing station building at the southwest corner of the property. Upon review of historic aerials, the pressure reducing station appeared to have been constructed between 2005 and 2009. Although the pressure reducing station was examined during the field survey, it was not formally recorded or evaluated for historic significance. The structure is a modern feature (less than 45 years old) with a design common to the VID structures and as such does not qualify as a historical resource.

Reservoir Storage Tank, c. 1929

The water storage reservoir is an industrial structure, oval in plan, initially built c. 1929 and subsequently altered. The most significant change to the structure is the replacement of the roof and the alteration of the exterior concrete (1952).

The reservoir is approached by an asphalt driveway that circles around the western elevations of the structure. The height of the main body of the structure is approximately four feet with a two-foot wide raised section along the center of the reservoir for ventilation measuring six feet in total height. The exterior walls are poured-in-place board-formed concrete with a vertical band of horizontal plywood centered on the concrete running the circumference of the reservoir and along the raised center vent. The main (southeast) and the rear (northwest) elevations mirror each other, displaying sloped corrugated metal roofs with six-inch overhangs on both the structure's main body and the elevated center section (Figure 3). At the center of the southwest elevation is a two-door metal hatch accessed by two CMU steps (Figure 4). On the southwest and northeast elevations running the entire length of the raised center section are twenty-five louvered vents, with two paired vents near the middle of the structure. The northeast elevation mirrors the southeast with the exception of the door hatch.

Alterations include:

- Extension of concrete walls above ground level (1952)
- Replacement of original earthen roof with corrugated metal (1952)
- Replacement of original pump house (2009)
- Addition of horizontal plywood panels over what appears to be mesh screening (date unknown, observed)



Figure 3 Main elevation (southeast), view to north (DSC00820)



Figure 4 **Southwestern elevation, view to south (DSC00833)**

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5 SIGNIFICANCE EVALUATIONS

The following provides an evaluation of the partially underground reservoir located at 2258 Edgehill Road in Vista, California (APN: 174-240-33) in consideration of NRHP, CRHR, and County of San Diego designation criteria and integrity requirements. The full set of DPR forms for the property is provided in Appendix A.

5.1 NRHP and CRHR Statement of Significance

For a property to be listed in or determined eligible for listing in the NRHP, it must be demonstrated to possess integrity and to meet at least one of four criteria. The CRHR was designed to reflect the same criteria and integrity as those identified for the NRHP. Therefore, the NRHP and CRHR significance evaluations are presented together.

In consideration of the project site's history and requisite integrity, Dudek finds the reservoir located on Edgehill Road on unincorporated land in the County of San Diego (APN: 174-240-33) not eligible for listing in the NRHP or CRHR based on the following significance evaluation. The subject property is also not located within an established historic district, nor does it appear eligible as a contributor to a historic district.

NRHP Criterion A: Associated with events that have made a significant contribution to the broad patterns of our history.

CRHR Criterion 1: Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

The reservoir does not appear eligible under NRHP/CRHP Criteria A/1. Despite being directly associated with the VID and its original expansion in the 1920s, the original c. 1929 reservoir has been altered to such a degree that it no longer reads as an early twentieth-century piece of water infrastructure.

Archival research did not find any association with events that made a significant contribution to the broad patterns of local or regional history. Research indicates that the VID constructed the reservoir in 1929 for the purpose of retaining water underground. The E Reservoir was built during a period of expansion in the 1920s when four other reservoirs were built, including the E1 (1925), A (1926), C (1926), and MD (1926). The intention of building these reservoirs was to create a more dependable water supply and to expand their service area. The E Reservoir originally was fully underground, measuring the approximate footprint of the modern reservoir at 225 feet long by 97 feet wide. In 1952, the reservoir was altered to a partially above-ground concrete reservoir with metal roof. The E Reservoir was not the first structure constructed during the 1920s period of the VID's development and also suffers from a lack of integrity. Its association with the VID is retained but it no longer reflects its original context and therefore is not eligible under NRHP/CRHR Criterion A/1.

NRHP Criterion B: Associated with the lives of significant persons in our past.

CRHR Criterion 2: Associated with the lives of persons important in our past.

Archival research did not indicate any associations with persons important to the nation's or state's past. Additionally, the VID was a locally significant company but no specific owner or patron of the company was identified as being significant through archival research. Due to a lack of identified significant associations with important persons in history, the subject property does not appear eligible under NRHP/CRHR Criterion B/2.

NRHP Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

CRHR Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

The E Reservoir site appears ineligible under NRHP/CRHP Criteria C/3. The reservoir does not embody distinctive characteristics of a belowground concrete reservoir through subsequent alterations. The subject property was the last to be constructed during the VID's first formal period of development during the 1920s. The reservoir originally was underground when it was first constructed c. 1929. In 1952, the reservoir was reroofed, which expanded the structure's height such that it was partially above ground level. The earthen roof was replaced with a corrugated galvanized iron roof and concrete exterior walls. The original designer of the E Reservoir is unknown, but is unlikely to be the work of a master architect. Regardless, the integrity of design and materials has been lost. Therefore, the subject property does not appear eligible under NRHP/CRHP Criterion C/3.

NRHP Criterion D: Have yielded, or may be likely to yield, information important in history or prehistory.

CRHR Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

There is no evidence to suggest that this reservoir property has the potential to yield information important to state or local history. Therefore, the property does not appear eligible under NRHP/CRHR Criterion D/4.

5.2 County of San Diego Statement of Significance

The local designation criterion for the County of San Diego mirror that of the NRHP and CRHP criterion A/1, B/2, C/3, and D/4. Based on the significance evaluation above for both NRHP and CRHP, the subject property located on Edgehill Road in Vista (APN: 174-240-33) does not appear to meet any of the County of San Diego designation criteria. The subject property is also not located within an established local historic district, nor does it appear eligible as a contributor to any County of San Diego districts.

5.3 Integrity Discussion

In accordance with the NRHP guidelines, properties that are eligible for listing in the NRHP must be significant under one or more of the criteria and must have sufficient integrity to convey their significance. These rules apply whether the property is considered for individual listing or as a contributing resource within a historic district. In assessing historic integrity, the NRHP recognizes seven aspects or qualities that, in various combinations, define integrity. The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. In order to retain historic integrity “a property will always possess several, and usually most, of the aspects” (NPS 2002).

The CRHR generally follows the integrity guidelines for the NRHP, but it recognizes that it is possible that historical resources that may not retain sufficient integrity to meet the criteria for listing in the NRHP may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

The E Reservoir remains in its original location and orientation on the property, and therefore the reservoir retains integrity of location. Since its construction, the reservoir has undergone several large-scale alterations that changed the original design, including the change from a belowground concrete reservoir to a partially above-ground reservoir with a galvanized metal roof. The original pump house was demolished in the 1980s, further diminishing integrity of design. When the reservoir was initially constructed in 1929, the surrounding land was primarily farms and small residential buildings. Since 1929, the surrounding area has been built up with residential development and industrial buildings, which consequently has eliminated the subject property’s integrity of setting. The E Reservoir has undergone several large alterations. The original concrete reservoir, although still existent, cannot be seen due to the later alterations and non-historic materials added to the subject property. Therefore, the subject property does not retain integrity of materials or workmanship. The reservoir no longer retains integrity of feeling as a 1920s piece of rural water infrastructure. Subsequent alterations to the structure’s appearance with the disruption of its original setting does not allow the reservoir to convey a historic sense of a particular period of time. The E Reservoir retains integrity of association, since the reservoir is still owned by the VID and has continued its use as a water storage tank. Therefore, the property retains integrity of association.

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In summary, the E Reservoir retains integrity of location and association but no longer retains integrity of design, setting, materials, workmanship, and feeling.

The E Reservoir does not meet any criteria for listing, nor does it retain requisite integrity. Therefore, the subject property is recommended as not eligible for the NRHP, CRHR, or County of San Diego Register of Historical Resources.

6 FINDINGS

The project site contains one built environment resource over 45 years of age, the E Reservoir initially constructed in 1929. The building was evaluated for NRHP, CRHR, and County of San Diego designation criteria, and assessed for integrity. As a result of the evaluation, the reservoir was found not eligible under all designation criteria due to a lack of historical associations, architectural merit, and compromised integrity. As such, the subject property is not considered a historical resource under CEQA and no management recommendations are required.

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APPENDIX A

DPR Forms for Vista Irrigation District E Reservoir

State of California & The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
 HRI #
 Trinomial
 NRHP Status Code 6Z

Other Listings
 Review Code

Reviewer

Date

Page 1 of 12 *Resource Name or #: (Assigned by recorder) Vista E Reservoir

P1. Other Identifier: _____

*P2. Location: Not for Publication Unrestricted

*a. County San Diego and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad San Marcos Date 2018 T 11S; R 3W; of of Sec 16; San Bernardino B.M.

c. Address 2258 Edgehill Road City Vista Zip 92084

d. UTM: (Give more than one for large and/or linear resources) Zone 11S, 481260 mE/ 3674829 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

APN: 174-240-33, Latitude and Longitude: 33°12'43.9"N 117°12'03.9"W

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Reservoir Storage Tank is an industrial structure oval in plan, initially built c. 1929 and subsequently altered. The most significant change to the structure is the replacement of the roof and the alteration of the exterior concrete. The Reservoir is approached by an asphalt driveway that circles around the western elevations of the structure. The height of the main body of the structure is approximately four feet with a two-foot wide center raised section measuring six feet in total height. The exterior walls are poured-in-place running the circumference of the reservoir and along the raised center section. **See Continuation Sheet.**

*P3b. Resource Attributes: (List attributes and codes) HP11. Engineering Structure; HP22.

Lake/River/Reservoir

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



*P4. Resources Present: Building
 Structure Object Site District
 Element of District Other (Isolates, etc.)

P5b. Description of Photo: (view, date, accession #) View looking north, 01/24/2019, DSC00820

*P6. Date Constructed/Age and Source: Historic Prehistoric
 Both

1929 (San Diego County Assessor's Office)

*P7. Owner and Address:

Vista Irrigation District
1391 Engineer St
Vista, CA 92081

*P8. Recorded by: (Name, affiliation, and address) Nicole Frank, Dudek
605 Third Street
Encinitas, CA 92024

*P9. Date Recorded: 01/24/2019

*P10. Survey Type: (Describe)
Pedestrian

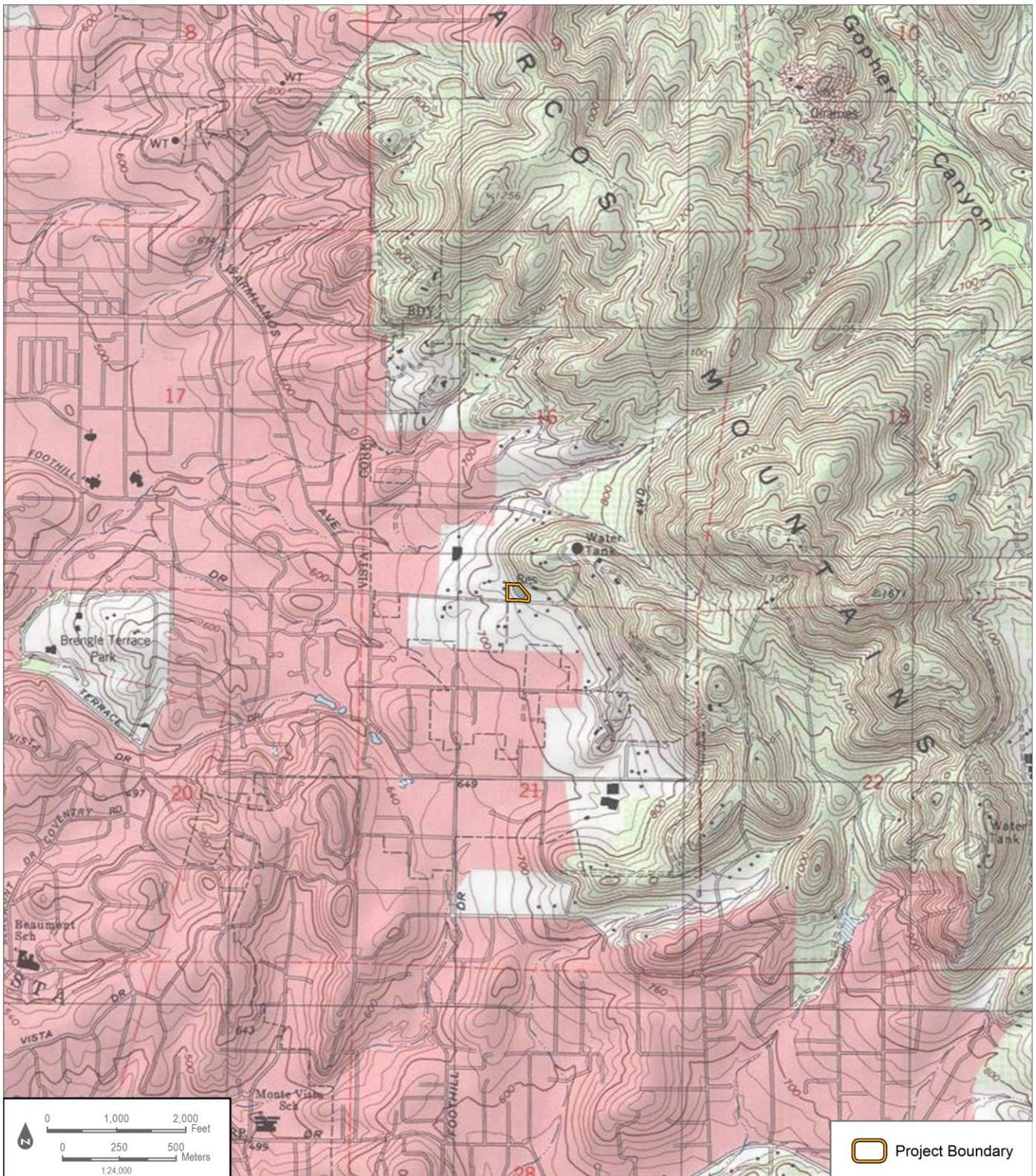
*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

Frank, N. and K.R. Dotter. 2019. Historic Resources Technical Report for E Reservoir Replacement and Pump Station Project, Vista, CA. Prepared for Vista Irrigation District, prepared by Dudek.

*Attachments: NONE Location Map Continuation Sheet Building, Structure, and Object Record

Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record

Artifact Record Photograph Record Other (List): _____



BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by recorder) Vista E Reservoir *NRHP Status Code 6Z

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B1. Historic Name: Vista E Reservoir

B2. Common Name: Vista E Reservoir

B3. Original Use: Reservoir B4. Present Use: Reservoir

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations, and date of alterations)

The E Reservoir was built with two small buildings to its direct southwest in 1929, it is unknown whether these buildings were for a pump house or served another purpose. In 1952, the reservoir was reroofed, which expanded the structure's height, the reservoir was no longer underground but semi-buried. The earthen roof was replaced with a corrugated galvanized iron roof on a steel skeleton and exterior walls were constructed of concrete. As part of the VID's first phase of integrating a high-pressure flow system into district lines in 1959, a 30-inch high line was constructed between the Pechstein Reservoir and the E Reservoir. Additionally, the E Reservoir was raised to a greater holding capacity. In 1975, a \$5.9 million bond issue passed to replace the gravity pipeline between Pechstein Reservoir and E Reservoir (SDU 1959, 1974, 1975; VID 1952). **See Continuation Sheet.**

*B7. Moved? No Yes Unknown Date: _____ Original Location: _____

*B8. Related Features:

B9a. Architect: unknown b. Builder: unknown

*B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

See Continuation Sheet

B11. Additional Resource Attributes: (List attributes and codes) _____

*B12. References: See Continuation Sheet.

B13. Remarks:

*B14. Evaluator: Nicole Frank, MSHP

*Date of Evaluation: 02/11/2019

(This space reserved for official comments.)



CONTINUATION SHEET

Property Name: Vista E Reservoir

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*P3a. Description (Continued):

The main (southeast) and the rear (northwest) elevations mirror each other, displaying sloped corrugated metal roofs with six-inch overhangs on both the structure's main body and the elevated center. At the center of the southwest elevation is a two-door metal hatch accessed by two CMU steps. On the southwest and northeast elevations running the entire length of the center-raised section are twenty-five louvered vents, with two paired vents near the middle of the structure. The northeast elevation mirrors the southeast with the exception of the door hatch.

*B6. Construction History (Continued):

By the early 1980s, the two small buildings to the reservoir's southwest were demolished. The reservoir itself underwent several improvements in 1984. These improvements included paving a small driveway and a cul-de-sac along the structure's west elevation, the addition of a new access hatch, and construction of a new overflow structure. Between 2005 and 2009, a small pump building was constructed to the southwest of the reservoir, near the same place as the two earlier buildings. From this point on there are no recorded changes made to the reservoir and pump house (VID 1984).

*B10. Significance:

Historical Overview of the City of Vista

Francisco Ulloa, exploring the Pacific coast under orders from Hernán Cortes, is reported to have stopped at the San Luis Rey River in 1540, marking the first contact between Europeans and the Luiseño Indians, although the accuracy of his exploration is disputed. Juan Rodriguez Cabrillo, who is widely considered the first European to explore Alta California, sailed the coast through Luiseño territory in 1542, but is not reported to have landed. Father Junípero Serra initiated Spanish colonial settlement in 1769 with the founding of the first mission in San Diego. Father Juan Mariner and Father-Presidente Fermín Lasuén explored what would become northern San Diego County and western Riverside County in 1795 and 1797, respectively, in search of a location for another mission. In 1798, Lasuén founded Mission San Luis Rey de Francia in the San Luis Rey Valley, which was once land inhabited by the Luiseño Indians. Mission San Luis Rey would become one of the largest and most prosperous missions in California (Garrahy and Weber 1971; Brigandi 1998).

Under Spanish control, the missions set out to convert local populations to Christianity and to expand the influence of the Spanish empire. To support the growing mission, numerous asistencias, or sub-missions, and ranchos were established throughout the territory at or adjacent to Luiseño villages. Following Mexican independence from Spain in 1821, secularization of the missions began in 1833 in order to turn over the large land holding to private citizens, including local Indians. Mission San Luis Rey was divided into six ranchos in 1835: Santa Margarita, Las Flores, Guajome, Agua Hedionda, Buena Vista, and Monserrate. Rancho Guajome and Buena Vista became the base of what makes up today's modern Vista (Bibb 1991; Van Horn 1974).

In 1851, a group of Cahuilla and Cupeño Indians attacked American settlers in Warner's Hot Spring, hoping to unite Indian tribes and drive out the Americans (Bibb 1991). Led by Pablo Apis, the Luiseño of Temecula went to Mission San Louis Rey and remained out of the conflict (Bibb 1991). In 1852, the Treaty of Temecula (Treaty of Peace and Friendship) was signed, providing certain lands, horses, cattle, and other supplies to the Luiseño, Cahuilla, and Serrano in exchange for government control of the rest of their lands. The U.S. Senate rejected this treaty, and 17 others in California, later that year (Bibb 1991; Van Horn 1974).

After the secularization of the California missions, Mexican governor Pío Pico awarded 2,219 acres to the Luiseño brothers Andrés and José Manuel. This land grant was known as Rancho Guajome, named after the Luiseño village wakhavumi, meaning "place of the frogs." The brothers

CONTINUATION SHEET

Property Name: Vista E Reservoir

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sold their land to a wealthy Los Angeles merchant, Abel Stearns. Stearns presented the land to his sister-in-law, Ysidora Bandini as a wedding present to Cave Johnson Coutts in 1851. Coutts, an American army officer was appointed as sub-agent for the San Luis Rey Indians, which secured him cheap labor to develop the property into a successful cattle ranch. Rather quickly, Coutts' businesses became successful and he became one of the wealthiest men in Southern California (Christenson and Sweet 2008; Smyth 1907; Cavalier 2008).

The Rancho Buena Vista land grant originally consisted of 1,184 acres issued by Gov. Pio Pico to Felipe Subria, a Luiseño Indian. Mexican law recognized Christianized Native Californians as citizens and therefore able to receive land grants. The property changed hands multiple times before being purchased by Cave Johnson Coutts in 1866 along with the San Marcos and La Jolla ranchos, and government land amounting to 20,000 acres. Coutts continued to develop his land by planting orchards and vineyards. The combined ranchos of Guajome and Buena Vista were celebrated for their hospitality, being the center of social activities for the surrounding ranchers and continued well past Coutts' death in 1874 (Christenson and Sweet 2008; Smyth 1907; Cavalier 2008).

The last rancho that comprised a portion of modern-day Vista, the majority being located in the nearby city of Carlsbad, was Rancho Agua Hedionda. Agua Hedionda was comprised of 13,311 acres and was granted to Juan María Romualdo Marrón in 1842 by Mexican governor Juan Bautista Alvarado. Marrón was granted the land due to his political connections. In 1852, he applied to the Board of Land Commissioners for a clear land title, although he died only a year later. His widow, Felipa Osuna and their four children continued the legal battle, and eventually was issued a patent to ranch on the land in 1872. Although by this time, the California cattle-based economy fell on hard times based on a series of circumstances including drought and a changing market. The passing of the "No-Fence" law was also a victory for farmers over the cattleman and represented a shift in the California economic structure to be based on the cultivation of the soil rather than cattle (Christenson and Sweet 2008; Ludeke 1980; Cavalier 2008).

As the large ranchos began to fade, a growing number of settlers began moving to the area to set up small-scale agricultural holdings. The annexation of California as a state also encouraged a change in the economy. John Frazier, one of these new settlers, attempted to open the first post office in the area eventually setting on the name Vista in 1882. Another pair of influential settlers was Bernard and Jules Jacques Delpy, who came to Vista in 1873 from France. The uncle and nephew built the first successful winery in northern San Diego County 1884, which remained open until the prohibition era. A railroad was completed in 1887 from Oceanside to Escondido, which allowed Vista an economic mode of transportation to ship crops. The Vista Land Company, a quarter-million-dollar corporation organized by Hartley-Martin Real Estate Company of Redlands, purchased a major portion of Rancho Buena Vista in 1912. The company then laid out several streets and constructed the 26-room Vista Inn, which became the center of social and business life in northern San Diego County. Despite the growing number of economic opportunities in the area, Vista remained small through the early 1910s with the population at less than 1,000 people (Cavalier 2008; City of Vista 2019).

The main factor that kept Vista small was its lack of available water. The crops that could be cultivated were dry farmed such as oats and hay. Developers at the time saw the potential in the area with its gently rolling hills, fertile soil, and moderate climate. The Vista Water Company, which was founded in 1911, provided the majority of the water from several wells near the Buena Creek. It was not until 1923 with the formation of the Vista Irrigation District (VID), that water was brought in at a large scale from Lake Henshaw with the capacity of 200,000-acre feet of water. The construction of the new water supply allowed Vista's downtown to grow exponentially and by the 1930s, the population had risen to 10,000. The area was described as being within the "perfect climate belt," with 3,000 acres planted for avocados, oranges, lemons and other fruit trees and an additional 1,500 acres devoted to off-season vegetables, bulbs and flowers. The largest export was tomatoes the amount of train cars being

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Property Name: Vista E Reservoir

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shipped rising from 18 in 1926, to more than 300 in 1929. The area eventually was nicknamed the avocado capitol of the world in 1948 once the orchards planted in the 1930s has fully matured (Cavalier 2008; City of Vista 2019; ET 1930).

Through World War II Vista remained agriculturally based, advertising in newspapers under the name "The Sub-tropic Empire." Despite the area's prime conditions for farming, after the end of WWII agriculture began to decline utilizing that land for housing developments. In 1955, the population had risen to 16,742 and in order to combat possible problems due to this growth, the county Planning Commission put into action the first master plan. Part of this master plan was the implementation of a new sewer system that would cost taxpayers \$175,000, upon the bonds passing residential construction continued to increase. The Vista Irrigation District, the sole water supplier for 11,000 acres in the Vista area also made plans in 1956 to increase water pressure and build a reservoir. With the changes made to Vista and their population growth, the city elected to be incorporated as a city on January 23, 1968. Upon incorporation, the city's popularity and population only continued to increase from the 1970s into the early 2000s, with a population of 33,340 in 1980. Numerous apartment complexes were built to replace farmland and accommodate transplants as well as the development of some light manufacturing businesses into the Business Park area on the south side (Cavalier 2008; The Vista Press 1963; SDU 1956; Scaglione 1980).

Vista Irrigation District

The VID was created in 1923 as an independent special district formed under the Irrigation District Act of 1916 to provide local water service. Considerable time and effort went into convincing the public the advantages of forming a district so that outside water could be utilized for regional land. On August 28, 1923, an election was held that passed the formation of the VID 104 votes in favor, to four votes not in favor. Under the direction of resident engineer and manager, Kenneth Q. Volk the VID forged ahead selling \$1,500,000 of the district's bonds to J.R. Mason & Co. of San Francisco and Alvin H Frank & Co. of Los Angeles bearing interest at 6 per cent and payable from twenty to forty years. With the sales of these bonds, the cash in the district treasury amounted to \$1,300,000 by 1925 (SDU 1925; LAT 1925; VID 2019).

Upon its dedication in 1923, the VID encompassed 17,500 acres of citrus and avocado lands. The area celebrated the arrival of the first water from Lake Henshaw, located on the headwaters of the San Luis Rey River, on February 27, 1926. The then town of Vista occupied the geographical center of the district, and formally began to develop soon after a steady flow of water was brought to the area. Contemporary newspapers advertised such headlines as "Water is King in Southern California and Vista has an Ample Dependable Supply," where the VID would act as an advocate for the town of Vista and the fertile land in which it occupied (LAT 1929). The district sought to expand the population of the town and in doing so expand their service area. In order to create a more dependable water supply they constructed five new reservoirs from 1925 to 1929. These reservoirs included E1 (1925), A (1926), C (1926), MD (1926), and E (1929) (VID 2019; VID 2018).

In June 1946, after several years of negotiations, the VID acquired for approximately \$5,000,000 the San Diego County Water Co., including Henshaw Dam and Reservoir, Lake Henshaw and Warner Ranch comprising some 43,700 acres. The deal involved the purchase of common stock of the water company for \$3,818,000 plus an additional fund, which was used to retire the outstanding 3 $\frac{3}{4}$ per cent bonds of the Water Company and \$500,000 per value of 7 per cent preferred stock. VID since its inception had purchased its water from the water company at a cost of \$210,000 a year for 12,000-acre feet. After the 1946 purchase, the district obtained its water at \$165,000 or \$15 per acre-foot. The nature of this sale was purely economic and ultimately resulted in cheaper water for the District (LAT 1946; VID 2019; Fowler 1953).

Over the next decade, the VID sought to combat drought conditions that began in the early

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Property Name: Vista E Reservoir

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1950s. In 1951, Lake Henshaw from which the district received a majority of its water through a complicated lake, river, and flume system had begun to dry up. As a result of their water accessibility being threatened the district dug 20 wells in the Henshaw Basin to get to subterranean water and had planned for 10 more. Drought conditions continued, forcing the district to become a member of the San Diego County Water Authority to take advantage of water imported from the Colorado River and Northern California in 1954. By 1955, the agricultural economy of Vista had begun to decline, partially due to the consistent droughts. Many avocado and citrus groves were split into parcels and used to build new residences and sub divisions. As continued efforts to conserve water and better serve the area, VID constructed seven more reservoirs including the following, HP (1962), HB (1964), Pechstein (1978), Deodar (1978), San Luis Rey (1978), Lupine Hills (1987), and H (1997). In 2016, the VID served over 28,600 accounts, the majority of which were residential, with nearly 5.6 billion gallons of water distributed and sold within the district. Of that amount, only 6% was for agriculture, the majority 70% being for residential use (SDU 1951; VID 2019).

History of Project Site

The E Reservoir was the last one to be constructed during the district's first formal period of development in the 1920s. An Escondido firm, the Escondido Cement Products Company, was awarded the contract for construction of the reservoir being the lowest bidder at \$11,680.07. The contract included excavation, embankment, concrete pouring, concrete lining of the floor, roofing, and miscellaneous work. The reservoir originally was intended to be fully underground measuring the approximate footprint of the modern reservoir at 225 feet long by 97 feet wide (SDU 1929).

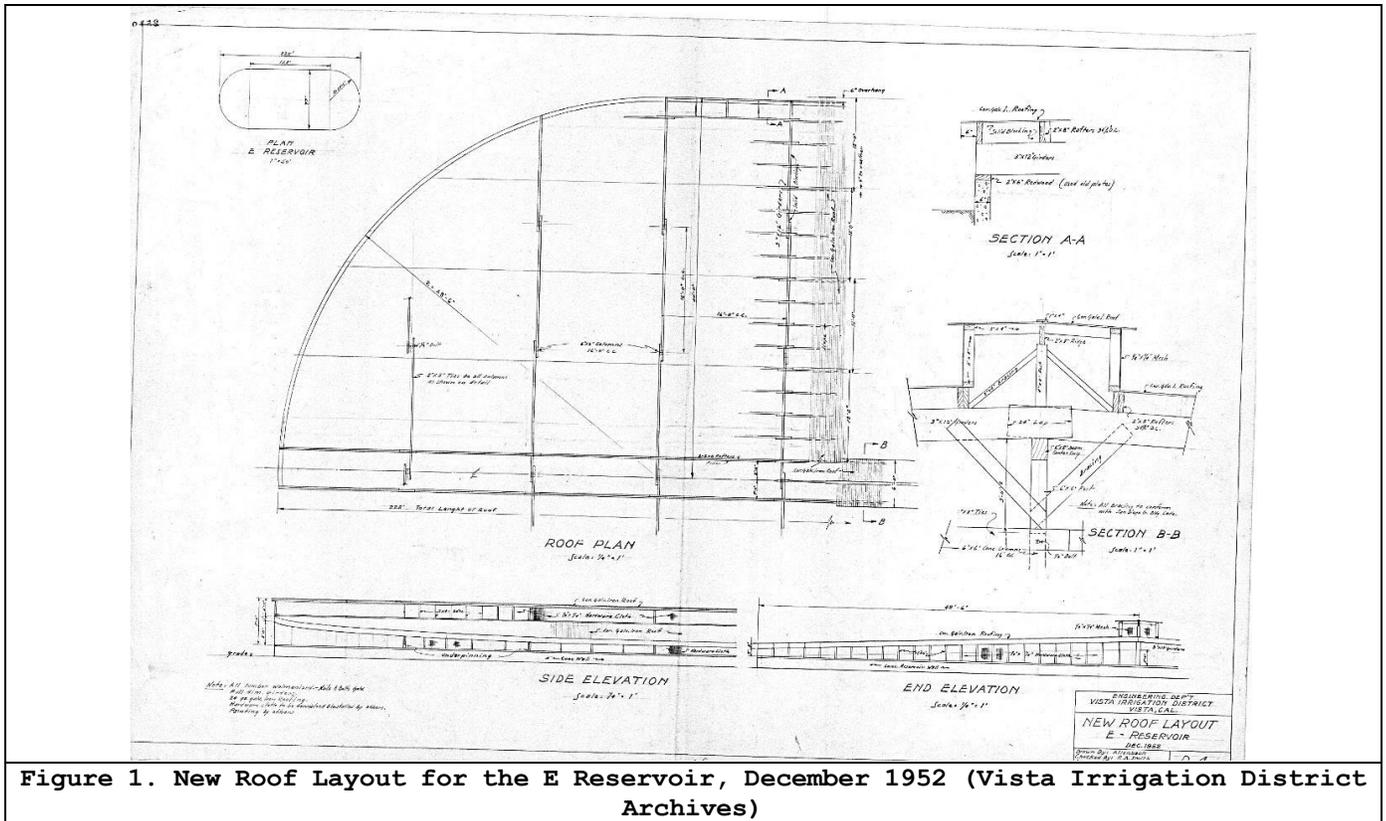
The E Reservoir was built with two small buildings to its direct southwest, it is unknown whether these buildings were for a pump house or served another purpose. In 1952, the reservoir was reroofed, which expanded the structure's height, the reservoir was no longer underground but semi-buried. The earthen roof was replaced with a corrugated galvanized iron roof on a steel skeleton and exterior walls were constructed of concrete (Figure 1). As part of the VID's first phase of integrating a high-pressure flow system into district lines in 1959, a 30-inch high line was constructed between the Pechstein Reservoir and the E Reservoir. Additionally, the E Reservoir was raised to a greater holding capacity. In 1975, a \$5.9 million bond issue passed to replace the gravity pipeline between Pechstein Reservoir and E Reservoir (SDU 1959, 1974, 1975; VID 1952).

By the early 1980s, the two small buildings to the reservoir's southwest were demolished. The reservoir itself underwent several improvements in 1984. These improvements included paving a small driveway and a cul-de-sac along the structure's west elevation, the addition of a new access hatch, and construction of a new overflow structure. Between 2005 and 2009, a small pump building was constructed to the southwest of the reservoir, near the same place as the two earlier buildings. From this point on there are no recorded changes made to the reservoir and pump house (VID 1984).

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Property Name: Vista E Reservoir

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NRHP and CRHR Statement of Significance

NRHP Criterion A: Associated with events that have made a significant contribution to the broad patterns of our history.

CRHR Criterion 1: Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Vista E Reservoir Site does not appear eligible under NRHP/CRHP Criteria A/1. Despite being directly associated with the VID and its original expansion in the 1920s, subsequent alterations to the original reservoir to the point where it no longer reads as an early twentieth-century piece of water infrastructure.

Archival research did not find any association with events that made a significant contribution to the broad patterns of local or regional history. Research indicates that the VID constructed the reservoir in 1929 for the purpose of retaining water underground. The E Reservoir was built during a period of expansion in the 1920s when four other reservoirs were built, including the E1 (1925), A (1926), C (1926), and MD (1926). The intention of building these reservoirs was to create a more dependable water supply and to expand their service area. The E Reservoir originally was fully underground, measuring the approximate footprint of the modern reservoir at 225 feet long by 97 feet wide. Alterations to the site altered it to a partially above-ground concrete reservoir with metal roof. The E Reservoir was not the first structure constructed during the 1920s period of the VID's development, and due to a loss of integrity it is not the one of highest quality. Its association with the VID is retained but it no longer reflects its original context and therefore is not eligible under Criterion A/1.

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Property Name: Vista E Reservoir

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NRHP Criterion B: Associated with the lives of significant persons in our past.
CRHR Criterion 2: Associated with the lives of persons important in our past.

Archival research did not indicate any associations with persons important to the nation's or state's past. Additionally, the VID was a locally significant company but no specific owner or patron of the company was identified as being significant through archival research. Due to a lack of identified significant associations with important persons in history, the subject property does not appear eligible under NRHP/CRHR Criterion B/2.

NRHP Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

CRHR Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

Vista E Reservoir Site appears ineligible under NRHP/CRHP Criteria C/3. The reservoir does not embody distinctive characteristics of a belowground concrete reservoir through subsequent alterations. The subject property was the last to be constructed during the VID's first formal period of development during the 1920s. An Escondido firm, the Escondido Cement Products Company, was awarded the contract for construction of the reservoir by being the lowest bidder at \$11,680.07. The contract included excavation, embankment, concrete pouring, concrete lining of the floor, roofing and miscellaneous work. The reservoir originally was underground. In 1952, the reservoir was reroofed, which expanded the structure's height such that it was partially above ground level. The earthen roof was replaced with a corrugated galvanized iron roof and concrete exterior walls.

Additionally, the original designer of the E Reservoir is unknown although through the utilitarian design it can be interpreted that it was unlikely to be the work of a master architect. No distinctive characteristics that indicate a specific type of reservoir exist and those that may have originally existed have been altered. Therefore, the subject property does not appear eligible under NRHP/CRHP Criterion C/3.

NRHP Criterion D: Have yielded, or may be likely to yield, information important in history or prehistory.

CRHR Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

There is no evidence to suggest that this reservoir property has the potential to yield information important to state or local history. Therefore, the property does not appear eligible under NRHP/CRHR Criterion D/4.

City of Vista Statement of Significance

The local designation criterion for Vista mirror that of the NRHP and CRHP criterion A/1, B/2, C/3 and D/4. Based on the significance evaluation above for both NRHP and CRHP, the subject property located on Edgemoor Road in Vista (APN: 174-240-33) does not appear to meet any of the City of Vista designation criteria. The subject property is also not located within an established local historic district, nor does it appear eligible as a contributor to any City of Vista districts.

Integrity Discussion

Vista E Reservoir remains in its original location and orientation on the property, and

CONTINUATION SHEET

Property Name: Vista E Reservoir

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therefore the reservoir retains integrity of location. Since its construction, the reservoir has undergone several large-scale alterations that changed the original design, including the change from a belowground concrete reservoir to a partially above-ground reservoir with a galvanized metal roof. The original pump house was demolished in the 1980s, further diminishing integrity of design. When the reservoir was initially constructed in 1929, the surrounding land was primarily farms and small residential buildings. Since 1929, the surrounding area has been up built with residential development and industrial buildings, which consequently has eliminated the subject properties integrity of setting. The Vista E Reservoir has undergone several large alterations. The original concrete reservoir, although still existent, cannot be seen due to the later alterations and non-historic materials added to the subject property. Therefore, the subject property does not retain integrity of materials or workmanship. The reservoir no longer retains integrity of feeling as a 1920s piece of rural water infrastructure. Subsequent alterations to the structure's appearance with the disruption of its original setting does not allow the reservoir to convey a historic sense of a particular period of time. The Vista E Reservoir retains integrity of association, since the reservoir is still owned by the VID and has continued its use as a water storage tank. Therefore, the property retains integrity of association.

In summary, the Vista E Reservoir retains integrity of location and association but no longer retains integrity of design, setting, materials, workmanship, and feeling.

The Vista E Reservoir does not meet any criteria for listing, nor does it retain enough integrity. Therefore, the subject property is recommended as not eligible for listing on the NRHP, CRHR, or in the City of Vista Local Register of Historic Resources.

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APPENDIX B

Preparer's Qualifications

Nicole Frank, MSHP

Architectural Historian

Nicole Frank is an architectural historian with 2 years' professional experience as an architectural historian conducting historic research, writing landmark designations, performing conditions assessments and working hands-on in building restoration projects throughout the United States. Ms. Frank also has governmental experience with the City of San Francisco's Planning Department and the City of Chicago's Landmark Designations Department. She meets the Secretary of the Interior's Professional Qualification Standards for Architectural History.

Education

*The School of the Art Institute of Chicago, MS
Historic Preservation, 2018*

*The College of Charleston, BA,
Historic Preservation and Art History, 2016*

Dudek Project Experience

Vista E Reservoir Replacement and Pump Station Project, Vista Irrigation District, Vista, California. 2019. (In Progress)

Acting as architectural historian, Ms. Frank authored a cultural resources technical report evaluating a 1929 reservoir in Vista, California for replacement. Ms. Frank also conducted a site survey of the property to be used in her technical report.

California State University, San Francisco Master Plan Update EIR, San Francisco, California. 2019. (In Progress)

Acting as architectural historian, Ms. Frank participated in a survey of CSU San Francisco's Psychology and Ethnic Studies Building and conducted archival research in order to prepare an appropriate historic context for San Francisco, CSU San Francisco and the Psychology and Ethnic Studies Building. Ms. Frank conducted research on 18 buildings located on the SFSU campus, and wrote historic contexts, descriptions and lists of alterations for each.

Pacific Grand Project, Honolulu, Hawai'i County, Hawai'i, 2019.

Ms. Frank acted as architectural historian, co-authoring of the reconnaissance level survey form for the Pacific Grand in Honolulu, constructed in 1968. Ms. Frank's report included building development descriptions and historical significance evaluations. The project proposed to modify an existing telecommunication equipment tower atop one of the condominium building.

City of Gilroy Historic Resource Inventory Update. Gilroy, California. 2018. (In Progress)

Ms. Frank participated in a City-wide architectural survey of over 3,400 buildings in Gilroy, California. Acting as surveyor, Ms. Frank utilized Dudek's architectural survey application on an iPad and recorded the features, alterations and photographs of historic-era buildings throughout the city.

1605 Industrial Avenue Warehouse Project. Cultural Resources Technical Report. San José, California. 2018

Acting as architectural historian, Ms. Frank co-authored the cultural resources technical report for the 1605 Industrial Avenue Warehouse project for the construction of an approximately 186,000-square foot industrial/warehouse building on an approximately 10.96-gross-acre property located in the northern part of

the City. Preparation of the historical context statement involved archival research, building descriptions, historic context development, and historical significance evaluations.

Caltrans, Keller Road/I-215 Interchange Project, Murrieta and Menifee California, 2018.

Ms. Frank acted as architectural historian, co-authoring historic resource report for the Keller Road/I-215 Interchange project for Caltrans. Preparation of the historic resource report included a site visit, archival research, historic context development of Murrieta and Menifee, building feature descriptions of six historic-era resources, and historical significance evaluations. The project proposed to construct a new full interchange and auxiliary lanes at I-215 and Keller Road in Riverside County, California.

City of San Diego Public Utility Department, Historical Context Report for the Dulzura Conduit, Upper Otay Dam, Murray Dam. City of San Diego, San Diego County, California. 2018. (In Progress)

Ms. Frank served as architectural historian and author of the cultural resources report for the City of San Diego Public Utility Department. Preparation of the historical context statement involved archival research, historic context development, engineering feature development descriptions, and historical significance evaluations. Three resources were evaluated by Ms. Frank, the Dulzura Conduit, Upper Otay Dam, and Murray Dam.

Historic Resource Assessment for 955 Hancock Avenue, West Hollywood, CA. 2018.

Ms. Frank acted as architectural historian and sole author of the historic resource report for the City of West Hollywood. Preparation of the historic resources report involved archival research, historic context development, building feature descriptions, and historical significance evaluation for a single-family craftsman residence.

California State University, Fresno, New Student Union, Fresno, California. 2018.

As architectural historian, Ms. Frank authored the description of the Amphitheatre on the CSU Fresno campus for the historic resource evaluation report. Ms. Frank also prepared DPRs for the two buildings.

330 Cinquapin Avenue Project, Carlsbad, CA. 2018.

Ms. Frank served as architectural historian and co-author of the cultural resources report for the 330 Cinquapin Avenue Project. Ms. Frank contributed a building development description, archival research, historical context development, and a historical significance evaluation for the residence.

California State University, Chico, Cultural Resources Report for the College Park Demolition Project, Chico, CA, 2018.

As architectural historian, Ms. Frank co-authored cultural resources report for the California State University, Chico, writing ten building feature descriptions. The project proposed to demolish ten-detached single-family residences on land owned by the University.

Jefferson La Mesa Project, La Mesa, CA. 2018.

Ms. Frank served as architectural historian and co-author of the historical resources evaluation report for the Jefferson La Mesa Project. Ms. Frank contributed archival research and historical context development for three automotive buildings. The project proposed to demolish three industrial automotive buildings in order to redevelop the property.

Relevant Previous Experience

Edwardian Flats Historic Context Statement, San Francisco Planning Department, San Francisco, California During the summer of 2018 was the sole writer and researcher to complete the Edwardian Flat typology context statement for the City of San Francisco.

- 80 page context statement to aid with citywide survey efforts

Cornice Restoration Project, Restoric LLC, Chicago, Illinois Served as field technician in residential cornice restoration, project approximately 6 weeks long.

- Est. date of building construction 1920

Draft National Register Nomination, The School of the Art Institute of Chicago, Chicago, Illinois Acted as sole researcher and writer for draft NRHP nomination of the Jacques Building on Michigan Ave in Chicago, IL.

Recent Past Cook County Survey Data Clean Up, Landmarks Illinois, Chicago, IL Served as architectural historian. Conducted archival research, documented demolished buildings within survey, and generated a list of missing survey information.

- 3,756 properties in 98 municipalities individually reviewed
- 131 buildings identified as demolished since their survey date
- 25 missing architects and builders added to database

Paint and Finishes Analysis, Frances Willard House Museum and Archive, Evanston, Illinois Served as conservator. Worked with a team to determine original paint colors and finishes that correlate with room's period of significance and co-authored report of findings.

Historic American Building Survey, The School of the Art Institute of Chicago, Illinois Served as teachers assistant and illustrator of measured drawings for several sites including All Saints Episcopal Church, the Havlicek Monument, the Fountain of the Great Lakes, and the Chicago Loop Synagogue.

Publications

Frank, Nicole. 2018. "Mid-Century Glass Block: The Colored Patterned and Textured Era." Graduate Thesis. September 2018.

Presentations

"Mid-Century Glass Block: The Colored Patterned and Textured Era." 2018. Presented at the Association for Preservation Technology (APT) Annual Conference. Buffalo, New York

"Mid-Century Glass Block." 2018. Presented at the APT Western Great Lakes Chapter and DOCOMOMO US/Chicago 2018 Symposium: Preservation Challenges of Modernist Structures. Chicago, Illinois

Kara R. Dotter, MSHP, MS

Senior Historic Preservation Specialist and Architectural Historian

Kara Dotter is a senior historic preservation specialist with more than 15 years experience in historic preservation and architectural conservation. Her historic preservation experience spans all elements of cultural resources management, including project management, intensive- and reconnaissance-level field investigations, architectural history studies, and historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historical Places (CRHR), and local-level designation criteria, in addition to architectural conservation work.

Ms. Dotter's background in geology informs many aspects of her architectural conservation work, including insight into the deterioration of building materials over time, which helps inform preservation strategies for various types of construction materials. She has experience with a variety of materials, in particular stone, brick, mortar, and concrete. Her materials analysis skills include petrographic analysis of stone, mortar, and concrete; paint analysis; wood species identification; and applicable American Society for Testing and Materials standards, as well as proficiency with Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy with energy-dispersive X-ray spectroscopy (SEM-EDS), back-scattered electron imagery (BSE), atomic absorption spectrometry (AAS), differential thermal analysis (DTA), X-ray diffraction (XRD), and ion chromatography techniques.

Ms. Dotter exceeds the Secretary of the Interior's Professional Qualification Standards for Architectural History. She is experienced managing multidisciplinary projects in the lines of land development, state and local government, and the private sector. She has experience preparing environmental compliance documentation in support of projects that fall under the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA). She also prepared numerous Historic Architectural Survey Reports (HASRs) and Findings of Effect (FOE) reports for the California High-Speed Rail Authority.

Project Experience

Development

Environmental Services for the Salt Bay Design District, San Diego and Chula Vista, California (2018). Dudek was retained by Gonzalez, Quintana & Hunter, LLC, to provide Cultural and Historical Resources Inventory in support of preparation of an environmental impact report (EIR) for the Salt Bay Design District Project that involves developing 46.6 acres at the southern end of the San Diego Bay as an industrial development. The work includes

Education

*Queen's University of Belfast
PhD Candidate (ABD)*

University of Texas, Austin

MS, Geological Sciences, 2006

MS, Historic Preservation, 2004

University of Houston

BS, Geology, 1996

Certifications

CEQA Practice Certificate (in progress)

Professional Affiliations

Association for Preservation Technology

Construction History Society of America

American Institute of Conservation

Society of Architectural Historians

California Preservation Foundation

a CHRIS records search; a paleontological resources records search from the San Diego County Museum of Natural History; Native American Coordination; a cultural and historical resources survey; archival research; evaluation of potential historical resources for the NRHP, CRHR, and local eligibility criteria and integrity requirements; documentation on DPR forms; and preparation of both an Archaeological Resources Report and Historical Resources Technical Report. Ms. Dotter is the Cultural Resources project lead, as well as architectural historian and author of the Historical Resources Technical Report. Ms. Dotter's contributions include architectural history field surveys; conducting archival research; recording and evaluating historical resources in consideration of NRHP, CRHR, and local designation criteria and integrity requirements, and in consideration of potential impacts to historical resources under CEQA.

North River Farms Historical Resources Technical Report, Integral Communities, Oceanside, California (2018). Served as architectural historian and author of the Historical Resources Technical Report. The project proposed to develop approximately 175 acres of land east of Oceanside as a small farming community. Contributions included architectural history field surveys; conducting archival research; recording and evaluating historical resources in consideration of NRHP, CRHR, and local designation criteria and integrity requirements, and in consideration of potential impacts to historical resources under CEQA.

Montebello North Historic Evaluation, A.P.T.S. Inc., La Mesa, California (2018). Served as architectural historian and author of the Cultural Resources Technical Report. Conducted research into the history of the area and its relation to the 4.16 acre subject property, documented existing conditions, and liaised with the City of La Mesa Planning Department to bring about a successful result for the client.

HABS Written Documentation for Camp Haan, Riverside County, California (2017). Dudek was retained by the County of Riverside Economic Development Agency (EDA) to prepare HABS documentation for approximately 28 building foundations associated with the Camp Haan property located on March Air Reserve Base. Ms. Dotter conducted the site survey; worked with the HABS photographer; conducted archival research; and prepared the HABS documentation and submittal package.

Village Three Active Recreation Area Constraints Analysis, HomeFed Otay Land II LLC, Chula Vista, California (2017). Ms. Dotter served as Cultural Resources project lead for the Constraints Analysis, as well as architectural historian and author of the Historical Resources Technical Report. The project proposed to develop approximately 100 acres of land south of the Otay River as an active recreation site. Ms. Dotter's contributions include architectural history field surveys; conducting archival research; recording and evaluating historical resources in consideration of NRHP, CRHR, and local designation criteria and integrity requirements, and in consideration of potential impacts to historical resources under CEQA.

The 1431 El Camino Real Project, City of Burlingame, San Mateo County, California (2017). The City of Burlingame proposes to demolish an existing four-unit (two-story) apartment building along with the detached five-car garage structure at the rear and construct a new six-unit (three-story) townhouse complex, totaling 3,858 square feet and a proposed height of 35 feet. The property at 1431-1433 El Camino Real was constructed in 1947 and required evaluation for historical significance. Further, because the property requires a Caltrans encroachment permit, a Caltrans-compliant Historical Resources Compliance Report (HRCR) was prepared. In addition to evaluating the building at 1431 El Camino, Dudek also had to address impacts to an NRHP-listed tree row within the project area. Ms. Dotter co-authored the HRCR and provided QA/QC of the final cultural resources report.

Santa Monica/Orange Grove Mixed-Use Development, 7811 Santa Monica Blvd., West Hollywood, California (2017). Dudek was retained by the City of West Hollywood to prepare an Environmental Impact Report (EIR) for the Santa Monica/Orange Grove Mixed-Use Development Project. In support of the EIR, Dudek conducted a

cultural resources inventory and evaluation of two commercial properties at 7811 Santa Monica Blvd. and 1125-1127 N. Ogden Drive. Both properties were found not eligible for designation under NRHP, CRHR and local designation criteria. Ms. Dotter co-authored of the Historical Resources Technical Report, documenting existing conditions and conducting research into the history of the area and its relation to the three-parcel property in question.

Reliable Pipe Supply Phase II, LLJ Ventures LLC, San Diego, California (2017). Dudek was to complete an Historical Resources Technical Report for the property located at 1430 National Avenue, San Diego, California, which was assessed for the potential of mixed-use redevelopment. Ms. Dotter served a Cultural Resources project manager and was lead author on the HRTR, in addition to performing archival research, conducting an intensive site survey, and recording and evaluating historical resources in consideration of CRHR, and local designation criteria and integrity requirements.

NEC Dinah Shore and Monterey Avenue Development, Palm Desert, California (2016). Ms. Dotter served as architectural historian and co-author of the Cultural Resources Report, conducting research into the history of the area and its relation to the property in question.

Montebello North and South, La Mesa, California (2016). Ms. Dotter served as architectural historian and author of the Cultural Resources Technical Report, conducted research into the history of the area and its relation to the 4.16 acre subject property, documented existing conditions, and liaised with the City of La Mesa Planning Department to bring about a successful result for the client.

Education

Fullerton College Facilities Master Plan Program EIR, North Orange County Community College District, City of Fullerton, Orange County, California (in progress). The North Orange County Community College District (NOCCCD) is undertaking a comprehensive improvement and building program to make upgrades and repairs to existing buildings, as well as to construct new facilities to improve the safety and education experience of those attending Fullerton College. The College proposed to implement the Facilities Master Plan to more effectively meet the space needs of the projected on-campus enrollment through the next decade and beyond, while constructing and renovating facilities to meet the District's instructional needs. Ms. Dotter co-authored the cultural resources study. All buildings and structures on campus over 45 years old and/or proposed for demolition/substantial alteration as part of the proposed project were photographed, researched, and evaluated in consideration of NRHP, CRHR, and local designation criteria and integrity requirements, and in consideration of potential impacts to historical resources under CEQA. As a result of the significance evaluation, three historic districts and one individually eligible building were identified within the project area. The study also entailed conducting extensive archival and building development research, a records search, Native American coordination, detailed impacts assessment, and development of mitigation measures for project conformance with the Secretary of the Interior's Standards for Rehabilitation.

SDSU West Campus Project EIR, San Diego, California (in progress). Dudek was retained by the San Diego State University (SDSU) to conduct an Initial Study and EIR for the proposed West Campus expansion project located in San Diego, California. Part of the work includes evaluating potential impacts to historical resources located on the project site, which include the SDCCU Stadium, originally known as the San Diego Stadium. The historic resources technical memorandum provides the results of that evaluation, as well as an impacts analysis and recommended mitigation measures. Ms. Dotter conducted the site survey and archival research, and authored the memorandum.

Morse High School Historical Resources Technical Report, San Diego Unified School District (SDUSD), San Diego, California (2019). SDUSD is undertaking modernization of the Morse High School campus. Served as architectural historian and lead author of the historical resources technical report. Recorded and evaluated the Morse High

School campus for NRHP, CRHR, and local level criteria and integrity considerations. The study also entailed conducting archival and building development research and a records search.

SDSU Aztec Recreation Center, San Diego State University, San Diego, California (2018). SDSU is embarking on the expansion and rehabilitation of the existing Aztec Recreation Center. The project area is adjacent to two historical resources. Ms. Dotter served as architectural historian and lead author of the historical resources technical report, documented the existing conditions of the two historical resources, conducted a detailed impacts assessment, and developed appropriate mitigation measures. The study also entailed conducting archival and building development research and a records search.

MiraCosta Community College District Oceanside Campus, San Diego County, California (2017). Dudek was retained by the MiraCosta Community College District (MCCCD) to conduct a cultural resources study for the proposed Oceanside Campus Facilities Master Plan. Of the original 11 buildings constructed in the early 1960s, nine are still extant and required evaluation for historical significance. The campus was ultimately found ineligible for designation due to a lack of important historical associations and integrity issues. Ms. Dotter conducted the site survey and archival research; evaluated significance for NRHP, CRHR, and local listing, as well as potential impacts under CEQA; and authored the Historical Resources Technical Report.

SDSU Tula Pavilion and Tenochca Hall Renewal/Refresh, San Diego, California (2017). Dudek was retained by the San Diego State University (SDSU) to evaluate potential impacts to historical resources associated with the proposed Tula Pavilion and Tenochca Hall Renewal/Refresh project located in San Diego, California. The historic resources technical memorandum provides the results of that evaluation. Ms. Dotter conducted the site survey and archival research, and authored the memorandum.

Kings Beach Elementary School Facilities Master Plan Project, Tahoe Truckee Unified School District (TTUSD), Kings Beach, California (2016). Ms. Dotter served as architectural historian and lead author of the cultural resources study. Recorded and evaluated the Kings Beach Elementary School Building for NRHP, CRHR, and local level criteria and integrity considerations. The study also entailed conducting archival and building development research, a records search, and Native American coordination.

Donner Trail Elementary School Modernization Project, Tahoe Truckee Unified School District (TTUSD), Kingvale, California (2016). Ms. Dotter served as architectural historian and lead author of the cultural resources study. Recorded and evaluated the Kings Beach Elementary School Building for NRHP, CRHR, and local level criteria and integrity considerations. The study also entailed conducting archival and building development research, a records search, and Native American coordination.

Energy

Jacumba Valley Solar Project, San Diego County, California (2018). The project proposes a 100 megawatt solar farm that included photovoltaic solar panels, a 1,500-volt DC underground collection system, a 34.5 kilovolt overhead and underground collection system, and a 20 megawatt energy storage facility, among other features. Served as architectural historian and lead author of the historical resources constraints analysis to comply with CEQA and in preparation of technical studies conducted for the Environmental Impact Report. The constraints analysis identified one potential historical resource, what appears to be the remains of a substantial early 20th century cattle operation, and recommended a full Historical Resources Evaluation Report of the property in compliance with CEQA.

Municipal

California National Guard Santa Barbara Armory Historic Evaluation, Department of General Services, California (2018). Served as architectural historian and lead author of the update to state and local designations. The work involved historical resources documentation in order to comply with NEPA and CEQA regulations relating to the potential sale of the property. Contributions included updating documentation relating to the Santa Barbara Armory individual designation, as well as recording and evaluating the Santa Barbara Armory complex as a historic district for NRHP, CRHR, and local level criteria and integrity considerations; completion of DPR forms; and responding to State Historic Preservation Office (SHPO) comments.

LADWP West Los Angeles District Yard Project, City of Los Angeles, Los Angeles County, California (2017). Dudek was retained by Los Angeles Department of Water and Power (LADWP) to complete a cultural resources study for a project that proposes demolition of five LADWP-owned administrative buildings and warehouses at the West Los Angeles District Headquarters located at 12300 West Nebraska Avenue. Dudek evaluated the yard for historical significance in consideration of NRHP, CRHR, and City of Los Angeles HCM criteria and integrity requirements. Ms. Dotter co-authored the resource descriptions and provided QA/QC of the cultural resources report.

Department of General Services Historical Resource Evaluation for the Normal Street Department of Motor Vehicles Site at 3960 Normal Street, San Diego, California (2017). Dudek was retained by the State of California Department of General Services to complete a Historical Resources Technical Report for a project that proposes demolition and replacement of the Department of Motor Vehicles (DMV) building located at 3960 Normal Street in the City of San Diego. To comply with Public Resources Code Section 5024(b), DGS must submit to the State Historic Preservation Officer (SHPO) an inventory of all structures over 50 years of age under DGS's jurisdiction that are listed in or that may be eligible for inclusion in the National Register of Historic Places (NRHP), or that may be eligible for registration as a California Historical Landmark (CHL). The DMV was found not eligible. Ms. Dotter authored the Historical Resources Technical Report, as well as recording and evaluating the Normal Street DMV building for Federal, State, and local level criteria and integrity considerations, completion of DPR forms, and responding to SHPO comments.

State of California

Judicial Council of California Historical Resource Evaluation Report for the Santa Monica Courthouse, City of Santa Monica, Los Angeles County, California (2017). Dudek was retained by the Judicial Council of California (JCC) to prepare an evaluation of the Santa Monica Courthouse building, located at 1725 Main Street in the City of Santa Monica, California. To comply with Public Resources Code Section 5024(b), the JCC must submit to the State Historic Preservation Officer (SHPO) an inventory of all structures over 50 years of age under the JCC's jurisdiction that are listed in or that may be eligible for inclusion in the National Register of Historic Places (NRHP), or registered or that may be eligible for registration as a California Historical Landmark (CHL). The Santa Monica Courthouse was found not eligible for designation under all applicable criteria. Ms. Dotter co-authored the cultural resources report, in addition to conducting the site survey, performing archival research, and evaluating the property for designation under NRHP, CRHR, and local eligibility criteria.

Department of General Services Historical Resource Evaluation for the Santa Barbara Armory Complex, City of Santa Barbara, California (2017). Ms. Dotter served as architectural historian and lead author of the update to state and local designations. The work involved historical resources documentation in order to comply with NEPA and CEQA regulations relating to the potential sale of the property. Ms. Dotter's contributions included updating documentation relating to the Santa Barbara Armory individual designation, as well as recording and evaluating the Santa Barbara Armory complex as a historic district for NRHP, CRHR, and local level criteria and integrity considerations; completion of DPR forms; and responding to SHPO comments.

Transportation

Environmental Preconstruction Services for Construction Package 2 and 3, California High-Speed Rail Authority, Fresno to Bakersfield Section, California (in progress). Ms. Dotter is the project lead for the Built Environment component of the environmental preconstruction services. The work involves conducting cultural resources assessments for a proposed 65-mile-long segment of the Fresno to Bakersfield high-speed rail alignment as directed by the California High-Speed Rail Authority and Federal Transit Administration (FTA) in order to comply with NEPA and CEQA regulations. Ms. Dotter's contributions include architectural history field surveys; documenting and updating the CRHR-designated 7,040-acre Washington Irrigated Colony Rural Historic Landscape; completion of over 150 California Department of Parks and Recreation (DPR) forms for the evaluation of built environment resources; conducting research for and producing HASRs and supplemental Findings of Effect (sFOEs); development of Protection and Stabilization Plans and Response Plans for Unanticipated Effects and Unintended Damage; and managing structural and vibration engineering consultants.

Environmental Compliance Services for the Caltrain Modernization (Calmod) Peninsula Corridor Electrification Project (PCEP) (in progress). Ms. Dotter is the project lead for the Built Environment component of the environmental compliance services. The work involves cultural resources documentation in order to comply with NEPA and CEQA regulations relating to the electrification and increased capacity of the Caltrain Corridor from San Francisco's 4th and King Caltrain Station to approximately the Tamien Caltrain Station. Ms. Dotter's contributions include architectural history field surveys; managing subconsultants; conducting research for and producing documentation to HABS level III standards; and reviewing design plans and equipment placement for conformance with the Secretary of the Interior Standards for Rehabilitation.

Keller Road/I-215 Interchange Project, Jacobs Engineering, Murrieta, California (in progress). The City of Murrieta, in cooperation with Caltrans District 8, the County of Riverside, the City of Menifee, and the FHWA, proposed a new full interchange and auxiliary lanes at I-215 and Keller Road. The project includes construction of northbound (NB) and southbound (SB) on- and off-ramps for accessing I-215 from the existing Keller Road undercrossing, as well as construction of auxiliary lanes in the NB and SB direction of I-215 and removal and/or addition of adjacent surface streets to improve circulation. The project required compliance with NEPA Section 106, NHPA, and CEQA regulations for Cultural Resources, including archaeological, historical, and paleontological resources. Ms. Dotter served as the Cultural Resources project manager, co-authored the HRER and HPSR reports, developed the APE in coordination with Caltrans, conducted archival research, performed an intensive survey of the project area, and provided QA/QC for the HRER, HPSR, and ASR.

Historical Resources Evaluation Report for the Imperial Avenue Bikeway, Kimley-Horn and Associates, Inc., San Diego, California (in progress). The SANDAG project proposed approximately four miles of roadway improvements, including sidewalks and bicycle lanes, along Imperial Avenue roughly between I-5 and I-805. Served as principal architectural historian and lead author on the Historical Resources Evaluation Report, that entailed identification of historic properties/historical resources within and adjacent to the project alignment; intensive site surveys; a records search; identification of existing and potential historical properties/historical resources; updating DPRs; determinations of effect; and management recommendations. The project qualified for a Categorical Exemption under CEQA and was determined to have no effect on historic properties under Section 106.

Historical Resources Assessment for the SFO Residential Sound Insulation Program, Cities of San Bruno and Millbrae, San Mateo County, California (2017). Dudek was retained by San Francisco International Airport (SFO) to evaluate 28 residential properties constructed 50 years ago or more within the cities of San Bruno and Millbrae, in San Mateo County, California. These properties are proposed to receive installation of sound insulation materials as part of SFO's Residential Sound Insulation Program. All 28 properties were recorded and evaluated on State of California Department of Parks and Recreation Series 523 Forms for historical significance in

consideration of NRHP designation criteria and integrity requirements. Ms. Dotter co-authored the technical report and DPR forms for the evaluation of built environment resources.

Water/Wastewater

Historical Resources Evaluation of Public Utilities Department Reservoir Structures, City of San Diego, California (in progress). The project proposes upgrades to ten historic-era dams, an historic-era flume, and various attendant structures, within the San Diego water supply network. Serving as architectural historian and co-author of a multiple-property historical resources evaluation report. Project includes development of a network-wide historical context, as well as contexts for each individual contributor; multiple intensive field surveys; extensive archival research; recordation and evaluation of the properties in consideration of NRHP, CRHR, and local designation criteria and integrity requirements, and in consideration of potential impacts to historical resources under CEQA; proposal of appropriate mitigation measures; and review for conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Municipal Waterways Maintenance Plan, City of San Diego, San Diego County, California (in progress). Dudek was retained by the City of San Diego and the Bureau of Reclamation to initiate the processing of a joint EIR and EIS. The proposed WMP is intended to establish an effective and streamlined program that allows for waterway facilities (channels, ditches, sumps) to be maintained, while minimizing impacts and potential adverse effects of maintenance. The proposed WMP will outline specific activities, maintenance methods, and procedures that will guide future maintenance and repair activities. Ms. Dotter is the lead author of the Historical Resources Inventory and Analysis Report, conducting archival research; identifying potential historical resources; and analyzing the proposed WMP maintenance activities to determine their potential to impact historical resources.

Crowther Sewer Pipeline Project, City of Placentia, Orange County, California (in progress). The City of Placentia proposes to upsize the existing sewer pipeline under Crowther Avenue, Placentia Avenue, and Orangethorpe Avenue by constructing a completely independent pipeline parallel to the existing pipeline, which would be capped and left in place once the new pipeline is completed. Ms. Dotter served as the Cultural Resources project manager, co-authored the HRCR, conducted archival research, and performed a reconnaissance survey of the proposed route.

North County Pure Water Project, City of San Diego, California (2018). Ms. Dotter is the architectural historian and lead author of the Historical Resource Technical Report for the proposed pipeline route as part of the EIR/EIS. Preparation of the report involved conducting extensive building development and archival research on historic-era structures along the proposed 56-mile-long route, development of related historic contexts, historical significance evaluations for each historic-era structure in consideration of local, state, and national designation criteria and integrity requirements, and determining appropriate mitigation measures, in addition to responding to comments on the EIR/EIS from the public.

Historical Resource Evaluation Report for the San Dieguito Dam, Santa Fe irrigation District, Rancho Santa Fe, California (2016). Ms. Dotter served as architectural historian and lead author of the Historical Resource Evaluation Report for the proposed handrail replacement project. Preparation of the report involved conducting extensive engineering development and archival research on dams, development of an historic context, and historical significance evaluation for the historic-era structure in consideration of local, state, and national designation criteria and integrity requirements.

Other Project Experience

Development

Historic Resource Nomination Report for 1445 Granada Avenue, San Diego, California (2016). Conducted archival research, interviews, extensive photo documentation, and forensic analysis of a 1912 Craftsman-style home in support of designation as an historic resource. Ms. Dotter also compiled supporting evidence for proposing a new San Diego Master Architect/Builder. The building was successfully nominated in May 2017.

Historic Resource Technical Report for 1644 University Avenue, San Diego, California (2015). Served as architectural historian and author of the Historical Resource Technical Report. Preparation of the report involved conducting extensive building development and archival research on the commercial building, development of an historic context, and an historical significance evaluation in consideration of local, state, and national designation criteria and integrity requirements. The project proposed to build a new multi-use development with retail space, parking, and luxury condominiums.

Education

Rehabilitation of Lincoln Hall, University of Nevada, Reno (2015). Provided peer review of mortar repair specifications and fire code upgrades for the historic two-and-a-half story Lincoln Hall, constructed of brick in 1895 as a men's residence hall. Recommendations included changing the specified mortar mix to an historically appropriate mix design similar to that used originally and more compatible with existing materials. The suggested fire code upgrades originally called for infilling the intentionally designed wall ventilation space between interior and exterior wythes of brick with Portland cement-based grout, altering the breathability and functioning of the building envelop. Ms. Dotter instead recommended discreet insertion of fire blocks between the wythes at each floor level.

Queen's University Belfast Main Building Materials Analysis, Belfast, Northern Ireland (2010-11). Collected mortar samples and conducted materials analysis to identify components and develop recommendations for repair mortars. The project also entailed mapping exterior walls for areas of deterioration affecting mortar and brick.

Municipal

Paint Analysis for Mohnike Adobe, San Diego County, California (2016). Analyzed selected paint chip samples to develop a stratigraphy of paint layers useful in identifying replacement materials and creating an historically appropriate paint scheme for ongoing renovations to this San Diego County-owned property.

Materials Conservation Assessment and Recommendations for Stone Quoins, Old Antrim Courthouse, Antrim, Northern Ireland (2011). Investigated the existing condition of heavily-painted stone quoins on the Grade A listed 1726 Italianate-style Old Antrim Courthouse, the oldest courthouse in Northern Ireland, during extensive rehabilitation of the structure into a cultural events center. The surface of the original sandstone ashlar blocks was friable due to impermeable paint layers retaining moisture within the stone. Recommendations included gentle removal by hand of existing paint layers, misting of more recalcitrant paint layers, and consolidation or replacement-in-kind of more damaged stone.

Specialized Training

- Macro vs. Micro: Hands-on with Documentation Tools, 2018. California Preservation Foundation (CPF).
- Terra Cotta Restoration Workshop, 2018. Association for Preservation Technology (APT).
- Digital Tools for Documentation and Simulation in Conservation of Historic Buildings, 2017. APT.

- Tips and Tools for Environmental Review: Mastering the CEQA Process for Historic Properties in the Bay Area, 2016. CPF.
- Section 106: An Introduction, 2015. National Preservation Institute (NPI).
- Wood Identification Workshop, 2010. Institute of Conservator-Restorers in Ireland (IPCRA).
- Crafts and Trades Workshop, 2008. APT.
- Salts in Traditional Masonry Buildings, 2008. Scottish Lime Centre, Scotland.
- Introduction to Lime, 2007. Calch Ty-Mawr, Wales.
- Introduction to Microscopical Identification of Conservation Materials, 2006. McCrone Group.

Publications

Selected Technical Reports

- Dotter, Kara R., Samantha Murray, and Matthew DeCarlo. 2017. Historical Resources Technical Report for the North City Project, San Diego County, California. Prepared for the City of San Diego Public Utilities Department.
- Dotter, Kara R., Sarah Corder, and Samantha Murray. 2017. Historic Resources Evaluation for the Normal Street Department of Motor Vehicles Site, 3960 Normal Street, San Diego, California. Prepared for the State of California Department of General Services.
- Dotter, Kara R., Sarah Corder, William Burns, and Adam Giacinto. 2017. Historical Resources Technical Report for Siskiyou Hall, Chico, California. Prepared for California State University, Chico Campus.
- Dotter, Kara R. and Adriane Dorrlor. 2017. Historical Resources Technical Report for 1430 National Avenue. Prepared for LLJ Ventures, LLC.
- Dotter, Kara R. and Samantha Murray. 2017. Cultural Resources Technical Report for Santa Monica/Orange Grove Mixed-Use Development, 7811 Santa Monica Boulevard. Prepared for the City of West Hollywood.
- Dotter, Kara R. 2016. Historical Resources Evaluation Report for 7664 El Cajon Blvd., La Mesa, California. Prepared for A.P.T.S., Inc.
- Dotter, Kara R. and Samantha Murray. 2016. Cultural Resources Study for Kings Beach Elementary School Facilities Master Plan Project, Kings Beach, Placer County, California. Prepared for the TTUSD.
- Dotter, Kara R., Ione Stiegler, Vonn Marie May, Katie Debiase. 2016. District Update for the Washington Irrigated Colony Rural Historic Landscape, Fresno County, California. Prepared for the California High-Speed Rail Authority and California State Historic Preservation Officer.
- Dotter, Kara R., Ione Stiegler, Rick Tavares, and Mel Green. 2016. Plan for Protection and Stabilization and Response Plan for Unanticipated Effects and Inadvertent Damage: Lakeside Cemetery, Hanford, California. Prepared for the California High-Speed Rail Authority.
- Dotter, Kara R., Ione Stiegler, Rick Tavares, and Mel Green. 2016. Findings of Effect for the Fresno to Bakersfield Project Section Primary Re-examination Area for Construction Package 2-3: Addendum to the Findings of Effect. Prepared for the California High-Speed Rail Authority.

Dotter, Kara R. and Ione Stiegler. 2016. Historic Architectural Survey Report Addendum No. 5 (Primary Re-examination Area), Fresno to Bakersfield Project Section. Prepared for the California High-Speed Rail Authority.

Dotter, Kara R. and Ione Stiegler. 2015. Historic Resource Nomination Report for 1445 Granada Ave., San Diego, California. Prepared for private client.

Dotter, Kara R. and Ione Stiegler. 2015. Historic Resource Technical Report for 1644 University Ave., San Diego, California. Prepared for private client.

Other Publications

Dotter, K. R. 2010. "Historic Lime Mortars: Potential Effects of Local Climate on the Evolution of Binder Morphology and Composition." *Limestone in the Built Environment: Present Day Challenge for Preservation of the Past*. Geological Society of London. Special Publication 331.

Dotter, K. R., Smith, B. J., McAlister, J., and Curran, J. 2009. "Sacrifice and Rebirth: The History of Lime Mortar in the North of Ireland." *Proceedings of the 3rd International Congress on Construction History*. Brandenburg University of Technology. May 2009.

Dotter, K. R., Smith, B. J., McAlister, J., and Curran, J. 2008. "Effects of Weathering Processes on Conservation Mortars and the Surrounding Stone Substrate." *Proceedings of the 11th International Congress on Deterioration and Conservation of Stone*. Nicolaus Copernicus University Press. September 2008.

Dotter, K. R. 2007. "Symbolism of Stone Use in Traditional Chinese Gardens." *STONE: Newsletter on Stone Decay*. No. 3.

Conference Presentations

"The Weathering of Conservation Mortars, and Implications for Historic Preservation." 2011. Presented at the Association for Preservation Technology (APT) Annual Conference. Victoria, British Columbia, Canada.

"40 Years of Conservation Mortars: Evolution and Effects." 2008. Presented at the APT Annual Conference. Montréal, Québec, Canada.

"Historical and Current Analysis Methodologies for the Characterization of Historic Lime Mortars." 2006. Presented at the American Institute for Conservation of Historic and Artistic Works (AIC) Annual Conference. Providence, Rhode Island.

"Characterization and Comparison of Modern and Historic Lime Mortars." 2005. Presented at the APT Annual Conference, 21–26 September 2005, Halifax, Nova Scotia, Canada.

"Air Pollution Interaction with Consolidated Stone." 2005. Joint project presented by Tye Botting at the AIC Annual Conference. Minneapolis, Minnesota.

"Early 20th Century Prison Technology." 2004. Presented at the APT Annual Conference. Galveston, Texas.

Appendix D

Geotechnical Investigation



GEOTECHNICAL INVESTIGATION

VISTA IRRIGATION DISTRICT - E RESERVOIR AND PUMP STATION

2330 Edgehill Road
Vista, California

Prepared By:
SCST, LLC
6280 Riverdale Street
San Diego, California 92120

Prepared For:
Neil Harper
Dudek
750 Second Street
Encinitas, California 92024

Providing Professional Engineering Services Since 1959





GEOTECHNICAL INVESTIGATION



May 23, 2019

SCST No. 180433P4
Report No. 1R3

Neil Harper
Dudek
750 Second Street
Encinitas, CA 92024

Subject: GEOTECHNICAL INVESTIGATION
VISTA IRRIGATION DISTRICT
E RESERVOIR AND PUMP STATION
2330 EDGEHILL ROAD
VISTA, CALIFORNIA

Dear Mr. Harper:

SCST, LLC (SCST) is pleased to present our report describing the geotechnical investigation performed for the E Reservoir and Pump Station. We conducted the geotechnical investigation in general conformance with the scope of work presented in our proposal dated August 7, 2018. Based on the results of our investigation, we consider the planned development feasible from a geotechnical standpoint, provided the recommendations of this report are followed. If you have any questions, please call us at (619) 280-4321.

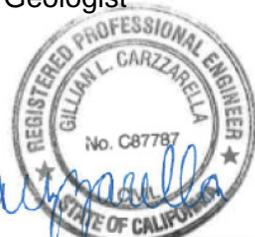
Respectfully submitted,
SCST, LLC



Andrew Neuhaus, CEG 2591
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- (1) Addressee via email: nharper@dudek.com
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EXECUTIVE SUMMARY

This report presents the results of the geotechnical investigation SCST, LLC (SCST) performed for the Vista Irrigation District (VID) E Reservoir Replacement and Pump Station project. The purpose of our work is to provide conclusions and recommendations regarding the geotechnical aspects of the project.

We explored the subsurface conditions by drilling five borings to depths between about 9½ and 25½ feet below the existing ground surface using a truck-mounted drill rig equipped with a hollow-stem auger. An SCST geologist logged the borings and collected samples of the materials encountered for laboratory testing. SCST tested selected samples to evaluate pertinent soil classification and engineering properties to assist in developing geotechnical conclusions and recommendations. Additionally, we performed four seismic refraction traverses to evaluate rippability characteristics of the bedrock underlying the site.

The materials encountered in the borings consist of fill, colluvium, and igneous rock. The fill consists of loose to medium dense, silty and clayey sand with varying amounts of gravel and cobble and soft to medium stiff sandy clay. The colluvium consists of loose to medium dense clayey sand with varying amounts of gravel and cobble. The colluvium is underlain by igneous rock consisting of moderately soft to hard, weathered gabbro. Groundwater was not encountered in our borings.

The bottom of the planned reservoir may transition between fill and gabbro. The main geotechnical considerations affecting the planned structure and improvements are the presence of compressible fills and colluvium as well as difficult excavation conditions in gabbro. The contractor should expect to encounter hard gabbro. Special site preparation or foundation systems will be needed to reduce the potential for differential settlement.

1. INTRODUCTION

This report presents the results of the geotechnical investigation SCST, LLC (SCST) performed for the Vista Irrigation District (VID) E Reservoir Replacement and Pump Station project. The purpose of our work is to provide conclusions and recommendations regarding the geotechnical aspects of the project. Figure 1 presents the site vicinity map.

2. SCOPE OF WORK

2.1 FIELD INVESTIGATION

We explored the subsurface conditions by drilling five borings to depths between about 9½ and 25½ feet below the existing ground surface using a truck-mounted drill rig equipped with a hollow-stem auger. Figure 2 shows the approximate locations of the borings. An SCST geologist logged the borings and collected samples of the materials encountered for laboratory testing. Logs of the borings are presented in Appendix I. Soils are classified according to the Unified Soil Classification System illustrated on Figure I-1.

Additionally, we performed four seismic refraction traverses to evaluate rippability characteristics of the bedrock underlying the site. Figure 2 presents the general locations of the seismic traverses. Appendix III presents the detailed results of the seismic refraction survey.

2.2 LABORATORY TESTING

Selected samples were tested to evaluate pertinent soil classification and engineering properties and to enable the development of geotechnical conclusions and recommendations. The laboratory tests consisted of in situ moisture and density, particle-size distribution, Atterberg limits, expansion index, corrosivity, R-value, and direct shear. The results of the laboratory tests and brief explanations of the test procedures are presented in Appendix II.

2.3 ANALYSIS AND REPORT

The results of the field and laboratory tests were evaluated to develop conclusions and recommendations regarding:

- Subsurface conditions beneath the site
- Potential geologic hazards
- Criteria for seismic design in accordance with the 2016 California Building Code (CBC)
- Site preparation and grading
- Excavation characteristics
- Appropriate alternatives for foundation support along with geotechnical engineering criteria for design of the foundations



- Retaining wall design
- Resistance to lateral loads
- Estimated foundation settlements
- Support for concrete slabs-on-grade
- Lateral pressures for the design of retaining walls
- Soil corrosivity

3. SITE DESCRIPTION

The site is located at 2330 Edgehill Road in Vista, California. The site is bounded by undeveloped land to the north, residential properties to the east and west, and Edgehill Road to the south. Improvements at the site consist of an existing 1.5-million-gallon reservoir, a pressure regulating station, and paved asphalt concrete (AC) roads with concrete curbs. Figure 1 presents a site vicinity map.

Topographically, the site slopes towards the southwest. Elevations vary between approximately 770 feet above mean sea level (MSL) on the unnamed access road located northeast of the reservoir to approximately 735 feet MSL near the existing pressure regulating station. Vegetation consists of trees, shrubs, and native plants.

4. PROPOSED DEVELOPMENT

A new reservoir will be constructed with the capacity of up to 4 million gallons depending on the site area, space planning, and space allowance for a new pump station. It is our understanding that the reservoir improvements will consist of asphalt pavement, steel security fence, and lighting. Minor grading of the existing slopes around the proposed reservoir may be recommended.

5. GEOLOGY AND SUBSURFACE CONDITIONS

Based on published geologic mapping (Kennedy and Tan, 2007), the geologic materials underlying the project site consist of undivided gabbro. Figure 2 presents a subsurface exploration map in the vicinity of the site. Per geologic mapping, the site is characterized by fill and colluvium underlain by weathered igneous rock. Descriptions of the materials as encountered in our borings are presented below. Figure 3 presents a regional geology map. Figure 4 presents a geologic cross-section of the site.



Fill (Qf): Fill was encountered in borings B-1, B-2, B-3, and B-5. The fill consists of loose to medium dense, silty and clayey sand with varying amounts of gravel and cobble and soft to medium stiff sandy clay. The fill extends to depths between ½ foot up to about 13 feet below the existing ground surface.

Colluvium (Qcol): Colluvium was encountered below the fill in borings B-1, B-2, B-3, and B-5 and at the surface in boring B-4. The colluvium consists of medium stiff sandy clay with trace gravel and loose to medium dense clayey sand with varying amounts of gravel and cobble. These materials were encountered to depths between about 2 to 5 feet and 13 to 19 feet below the existing ground surface.

Igneous Rock - Gabbro (Kgb): Generally, the igneous rock encountered is moderately weathered, moderately soft to hard, gabbro. Zones of hard rock and auger refusal were encountered in borings B-4 and B-5 at depths of about 9½ feet and 15½ feet, respectively.

Groundwater: Groundwater was not encountered during our investigation. Groundwater is anticipated to exist at a depth of greater than 10 feet below the existing ground surface. Groundwater levels may fluctuate in the future due to rainfall, irrigation, broken pipes, or changes in site drainage. Because groundwater rise or seepage is difficult to predict, such conditions are typically mitigated if and when they occur.

6. GEOLOGIC HAZARDS

6.1 FAULTING AND SURFACE RUPTURE

The closest known active fault is the Newport-Inglewood-Rose Canyon Fault Zone located about 13.4 miles (21.6 kilometers) southwest of the site. The site is not located in an Alquist-Priolo Earthquake Fault Zone. No active faults are known to underlie or project toward the site. Therefore, the probability of fault rupture is considered low.

6.2 CBC SEISMIC DESIGN PARAMETERS

A geologic hazard likely to affect the project is ground shaking as a result of movement along an active fault zone in the vicinity of the subject site. The site coefficients and adjusted maximum considered earthquake spectral response accelerations in accordance with the 2016 California Building Code are presented below:



2016 California Building Code Seismic Design Parameters

Site Coordinates	
Latitude	Longitude
33.2121° (N)	-117.2011° (W)
Site Coefficients and Spectral Response Acceleration Parameters	
Values	
Site Class	D
Site Coefficients, F_a	1.136
Site Coefficients, F_v	1.748
Mapped Spectral Response Acceleration at Short Period, S_s	1.910g
Mapped Spectral Response Acceleration at 1-Second Period, S_1	0.326g
Design Spectral Acceleration at Short Period, S_{DS}	0.689g
Design Spectral Acceleration at 1-Second Period, S_{D1}	0.380g
Design Peak Ground Acceleration, PGA_M	0.437g

6.3 LIQUEFACTION AND DYNAMIC SETTLEMENT

Liquefaction occurs when loose, saturated, generally fine sands and silts are subjected to strong ground shaking. The soils lose shear strength and become liquid, potentially resulting in large total and differential ground surface settlements as well as possible lateral spreading during an earthquake. Due to the lack of shallow groundwater and given the relatively dense nature of the materials beneath the site, the potential for liquefaction and dynamic settlement to occur is considered negligible.

6.4 LANDSLIDES AND SLOPE STABILITY

Evidence of landslides or slope instabilities was not observed. The potential for landslides or slope instabilities to occur at the site is considered low.

6.5 TSUNAMIS, SEICHES, AND FLOODING

The site is not located within areas mapped as susceptible to tsunamis (California Emergency Management Agency, 2009). Therefore, damage due to tsunamis is considered negligible. Seiches are periodic oscillations in large bodies of water such as lakes, harbors, bays, or reservoirs. The site is not located adjacent to any confined bodies of water; therefore, the potential for a seiche to affect the site is low. The site is not located within a flood zone or dam inundation area (FIRM, 2012).



6.6 SUBSIDENCE

The site is not located in an area of known subsidence associated with fluid withdrawal (groundwater or petroleum); therefore, the potential for subsidence due to the extraction of fluids is considered low.

6.7 HYDRO-CONSOLIDATION

Hydro-consolidation can occur in recently deposited (less than 10,000 years old) sediments that were deposited in a semi-arid environment. Examples of such sediments are aeolian sands, alluvial fan deposits, and mudflow sediments deposited during flash floods. The pore space between particle grains can re-adjust when inundated by groundwater, causing the material to consolidate. The relatively loose nature of the materials underlying the site may be susceptible to hydro-consolidation.

7. GEOPHYSICAL SURVEY SUMMARY

Four seismic refraction traverses were conducted along the proposed reservoir. Appendix III presents the results of the survey. Based on the results, it appears the study areas are underlain by low-velocity materials (e.g. fill and colluvium-low failure PSI) in the near surface and high-velocity igneous bedrock at depth (high failure PSI). Distinct vertical and lateral velocity variations are evident in the tomography models. Moreover, the degree of bedrock weathering and the depth to bedrock appears to be highly variable across the site. In addition, remnant boulder core stones appear to be present in the subsurface in some areas.

Based on the refraction results, variability in the excavatability (including depth of rippability) of the subsurface materials should be expected across the project area. Furthermore, blasting may be recommended depending on the excavation depth, location, equipment used, and desired rate of production. In addition, oversized materials should be expected in excavated materials.

In general, the seismic P-wave velocity of a material can be correlated to rippability (see Table 1 below), or to some degree “hardness”. Table 1 is based on published information from the Caterpillar Performance Handbook (Caterpillar, 2011), as well as our experience with similar materials, and assumes that a Caterpillar D-9 dozer ripping with a single shank is used. We emphasize that the cutoffs in this classification scheme are approximate, and that rock characteristics such as fracture spacing and orientation play a significant role in evaluating rock quality or rippability. The rippability of a mass is also dependent on the excavation equipment used and the skill and experience of the equipment operator. A contractor with excavation experience in similarly difficult conditions should be consulted for expert advice on excavation methodology, equipment, and production rate.



For trenching operations, the rippability values should be scaled downward. For example, velocities as low as 3,500 feet/second may indicate difficult ripping during trenching operations. In addition, the presence of boulders, which can be troublesome in a narrow trench, should be anticipated.

TABLE 1 – RIPPABILITY CLASSIFICATION

Seismic P-wave Velocity	Rippability
0 to 2,000 feet/second	Easy
2,000 to 4,000 feet/second	Moderate
4,000 to 5,500 feet/second	Difficult, Probably Blasting
5,500 to 7,000 feet/second	Very Difficult, Probable Blasting
Greater than 7,000 feet/second	Blasting Generally Required

It should be noted that the rippability cutoffs presented in Table 1 are slightly more conservative than those published in the Caterpillar Performance Handbook. Accordingly, the above classification scheme should be used with discretion, and contractors should not be relieved of making their own independent evaluation of the rippability of the on-site materials prior to submitting their bids. Figures 5 through 8 present tomography profiles showing the relationship of elevation in regard to the depth of hard gabbro.

8. CONCLUSIONS

The bottom of the planned reservoir is likely to transition between gabbro and fill. The main geotechnical consideration affecting the planned structure and improvements are the presence of compressible fills and colluvium as well as difficult excavation conditions in gabbro. The contractor should expect to encounter hard gabbro. Special site preparation or foundation systems will be needed to reduce the potential for differential settlement.

9. RECOMMENDATIONS

9.1 SITE PREPARATION AND GRADING

9.1.1 Site Preparation

Site preparation should begin with the removal of existing improvements, vegetation, and debris. Subsurface improvements that are to be abandoned should be removed, and the resulting excavations should be backfilled and compacted in accordance with the recommendations of this report. Pipeline abandonment can consist of capping or rerouting at the project perimeter and removal within the project perimeter. If appropriate, abandoned pipelines can be filled with grout or slurry as recommended by and observed by the geotechnical consultant.



9.1.2 Remedial Grading

The existing fill and colluvium are not considered suitable for support of the proposed improvements or reservoir. The existing fill and colluvium should be excavated to competent gabbro beneath the proposed foundations for the reservoir. Where necessary, concrete or a 2-sack sand/cement slurry mix can be placed between the formation and design bottom of footings to accommodate bearing on gabbro. Remedial grading beneath the pump station, as well as site improvements such as retaining walls, miscellaneous flatwork and walkways should consist of excavating to a minimum depth of 2 feet below the bottom of the lowest planned footing elevation or planned subgrade and replacing with suitable compacted fill materials. Horizontally, the excavations should extend at least 2 feet outside the planned hardscape and pavements, up to existing improvements, or to the limits of grading, whichever is less.

An SCST representative should observe conditions exposed in the bottom of the excavations to assess whether additional excavation is recommended.

9.1.3 Compacted Fill

Fill should be moisture conditioned to near optimum moisture content and compacted to at least 95% relative compaction. Prior to placing fill, the surface exposed at the bottom of excavations should be scarified to a depth of 12 inches, moisture conditioned to near optimum moisture content, and compacted to at least 95% relative compaction.

Fill should be placed in horizontal lifts at a thickness appropriate for the equipment spreading, mixing, and compacting the material, but generally should not exceed 8 inches in loose thickness. The maximum dry density and optimum moisture content for evaluating relative compaction should be evaluated in accordance with ASTM D1557. Utility trench backfill beneath structures, pavements, and hardscape should be compacted to at least 95% relative compaction. The top 12 inches of subgrade beneath pavements should be compacted to at least 95%.

9.1.4 Expansive Soil

To reduce the potential for expansive heave, soils with an expansion index greater than 50 should be sub-excavated 2 feet below the planned flatwork subgrade elevations. Granular, free-draining material with a sand equivalent of 20 or more that meets the gradation requirements from the Greenbook Specifications for Structural Backfill, with an expansion index of 50 or less, should be used as replacement fill. Based on our



investigation, the on-site materials near the surface will meet this expansion index criteria. Clays and silts, when encountered, should not be used as fill materials.

9.1.5 Excavation Characteristics

It is anticipated that excavations in fill and colluvium can be achieved with conventional earthwork equipment in good working order. For anticipated excavation characteristics of gabbro, refer to the geophysical survey summary section of this report. Excavations in fill and colluvium may be locally unstable and may contain construction debris. Difficult drilling and excavation should be anticipated in zones of gabbro. Non-rippable gabbro exists on-site, and difficult excavation should be anticipated. Rock breakers, carbide/diamond-tipped equipment and/or blasting may be recommended to excavate less weathered rock. Localized “core stones” or large boulder inclusions may also be encountered. Excavations in rock may generate oversized material that will require extra effort to crush or haul off-site. Special handling may be recommended to excavate zones of hard rock, as auger refusal was encountered. Contract documents should specify that the contractor mobilize equipment capable of excavating and compacting the igneous rock.

9.1.6 Oversized Material

Excavations may generate oversized material. Oversized material is defined as rocks or cemented clasts greater than 3 inches in largest dimension. Oversized material should be broken down to no greater than 3 inches in largest dimension for use in fill, used as landscape material, or disposed of off-site.

9.1.7 Temporary Excavations

Temporary slopes greater than 4 feet in the fill and colluvium should not be steeper than 1½:1 (horizontal: vertical) per Cal/OSHA type C soil classification and in the weathered gabbro should not be steeper than ¾:1 (horizontal: vertical) per Cal/OSHA type A soil classification. The faces of temporary slopes should be inspected daily by the contractor’s Competent Person before personnel are allowed to enter the excavation. Zones of potential instability, sloughing, or raveling should be brought to the attention of the Engineer and corrective action implemented before personnel begin working in the trench. Shoring is recommended for slopes steeper than those described above.

9.1.8 Temporary Shoring

For design of cantilevered shoring with level backfill, an active earth pressure equal to a fluid weighing 40 pounds per cubic foot (pcf) can be used. The surcharge loads from traffic



and construction equipment adjacent to the shored excavation can be modeled by assuming an additional 2 feet of soil behind the shoring.

For design of soldier piles, an allowable passive pressure of 375 psf per foot of embedment over 2.5 times the pile diameter or the spacing of the piles, whichever is less, up to a maximum of 4,000 psf, can be used for soil above the groundwater level. An allowable passive pressure of 150 psf per foot of embedment over 2.5 times the pile diameter or the spacing of the piles, whichever is less, up to a maximum of 2,000 psf, can be used for soil below the groundwater level. Hydrostatic pressure should be applied below the groundwater level.

Soldier piles should be spaced at least three pile diameters, center to center. Continuous lagging will be recommended throughout. The soldier piles should be designed for the full-anticipated lateral pressure; however, the pressure on the lagging will be less due to arching in the soils. For design of lagging, the earth pressure but can be limited to a maximum value of 400 psf.

Installation of soldier piles below groundwater (or dewatered soil) is recommended to have special construction techniques and equipment, such as temporary casing and/or drilling slurry to cope with groundwater and potential heavy caving. Other installation methods may be available. Contract documents should specify that the contractor mobilize equipment capable of installing piles below groundwater (or dewatered soil) to reduce the potential that claims for delays or extra work will arise.

Piles should be filled with concrete immediately after drilling. The concrete should be pumped to the bottom of the drilled holes using the tremie method. If casing is used, the casing should be removed as the concrete is placed, keeping the level of the concrete at least 5 feet above the bottom of the casing.

9.1.9 Temporary Dewatering

Temporary dewatering may be recommended to construct the proposed structure with a subterranean level. A specialty contractor should be retained to design and perform the dewatering. The design should incorporate measures to ensure the dewatering does not induce settlement of adjacent improvements. Generally, groundwater should be 3 feet or more below the planned temporary excavation bottom to provide a working surface.

9.1.10 Imported Soil

Imported soil should consist of predominately granular soil, free-draining material, free of organic matter and rocks greater than 3 inches. The imported soil should have a sand



equivalent of 20 or more, an expansion index of 50 or less, and meet the gradation requirements from the Greenbook Specifications for Structural Backfill. If appropriate, imported soil should be inspected and tested by SCST prior to transport to the site.

9.1.11 Slopes

All permanent slopes should be constructed no steeper than 2:1 (horizontal:vertical). Faces of fill slopes should be compacted either by rolling with a sheepsfoot roller or other suitable equipment or by overfilling and cutting back to design grade. Fills should be benched into sloping ground inclined steeper than 5:1 (horizontal:vertical). It is our opinion that cut slopes constructed no steeper than 2:1 (horizontal:vertical) will possess an adequate factor of safety. An engineering geologist should observe cut slopes during grading to ascertain that no unforeseen adverse geologic conditions are encountered that require revised recommendations. Slopes are susceptible to surficial slope failure and erosion. Water should not be allowed to flow over the top of slope. Additionally, slopes should be planted with vegetation that will reduce the potential for erosion.

9.1.12 Surface Drainage

Final surface grades around structures should be designed to collect and direct surface water away from the structure and toward appropriate drainage facilities. The ground around the structure should be graded so that surface water flows rapidly away from the structure without ponding. In general, we recommend that the ground adjacent to the structure slope away at a gradient of at least 2%. Densely vegetated areas where runoff can be impaired should have a minimum gradient of at least 5% within the first 5 feet from the structure. Roof gutters with downspouts that discharge directly into a closed drainage system are recommended on structures. Drainage patterns established at the time of fine grading should be maintained throughout the life of the proposed structures. Site irrigation should be limited to the minimum necessary to sustain landscape growth. Should excessive irrigation, impaired drainage, or unusually high rainfall occur, saturated zones of perched groundwater can develop.

9.1.13 Grading Plan Review

SCST should review the grading plans and earthwork specifications to ascertain whether the intent of the recommendations contained in this report have been implemented and that no revised recommendations are needed due to changes in the development scheme.



9.2 FOUNDATIONS

9.2.1 Shallow Spread Footings

The planned tank can be supported on spread footings with bottom levels on competent gabbro. The fills beneath the proposed footings, as encountered, should be completely removed to gabbro. To accommodate bearing on gabbro, concrete or 2-sack sand/cement slurry can be placed between the formation and design bottom of footings. The planned pump station can be supported on spread footings with bottom levels on compacted fill.

Footings should extend at least 24 inches below the lowest adjacent finished grade. A minimum width of 24 inches is recommended for continuous footings. Isolated footings should be at least 24 inches wide. A bearing capacity of 2,500 psf can be used for footings bearing on compacted fill. For footings bearing on gabbro, 8,000 psf can be used. The bearing capacity can be increased by 500 psf for each foot of depth below the minimum and 250 psf for each foot of width beyond the minimum up to maximums of 5,000 psf for footings bearing on compacted fill and 10,000 psf for footings bearing on gabbro. Footings located adjacent to or within slopes should be extended to a depth such that a minimum horizontal distance of 7 feet exists between the lower outside footing edge and the face of the slope.

Lateral loads will be resisted by friction between the bottoms of footings and passive pressure on the faces of footings and other structural elements below grade. A friction factor of 0.35 can be used. Passive pressures can be computed using lateral pressure values of 375 and 425 psf per foot of depth, respectively for compacted fill and gabbro, below the ground surface for level ground conditions. Reductions for sloping ground should be made. The passive pressure can be increased by 1/3 when considering the total of loads, including wind or seismic forces. The upper 1 foot of soil should not be relied on for passive support unless the ground is covered with pavements or slabs.

9.2.2 Mat Foundations

Mat foundations with bottom levels on gabbro may also be used to support the proposed tank. If this option is selected, the fills beneath the proposed mats, as encountered, should be completely removed to gabbro. To accommodate bearing on gabbro, concrete or 2-sack sand/cement slurry can be placed between the formation and design bottom of mats.

Mat foundations should have a minimum thickness of 12 inches with steel reinforcement top and bottom, both ways, and should have turned down edges embedded 6 inches below ground surface.



A modulus of subgrade reaction (k) of 250 pounds per cubic inch (pci) and an allowable bearing capacity of 8,000 pounds per square foot (psf) can be used. Above the groundwater level, the bearing value can be increased by $\frac{1}{3}$ when considering the total of loads, including wind or seismic forces. Mats located adjacent to or within slopes should be extended to a depth such that a minimum horizontal distance of 7 feet exists between the lower outside footing edge and the face of the slope. Groundwater seepage should be anticipated.

9.2.3 Settlement Characteristics

Total foundation static settlements for conventional foundations are estimated to be less than 1 inch. Differential settlements are estimated to be less than $\frac{3}{4}$ inch over a distance of 50 feet. Static settlements should be completed shortly after structural loads are applied.

9.2.4 Foundation Excavation Observations

A representative from SCST should observe the foundation excavations prior to forming or placing reinforcing steel.

9.2.5 Foundation Plan Review

SCST should review the foundation plans to ascertain that the intent of the recommendations in this report has been implemented and that revised recommendations are not necessary as a result of changes after this report was completed.

9.3 EXTERIOR FLATWORK

Exterior slabs not subjected to vehicular loads should be at least 5 inches thick and reinforced with at least No. 3 bars at 18 inches on center each way. Slabs should be provided with weakened plane joints. Joints should be placed in accordance with the American Concrete Institute (ACI) guidelines. The design engineer should select the final joint patterns. A 1-inch maximum size aggregate mix is recommended for concrete for exterior slabs. The corrosion potential of on-site soils with respect to reinforced concrete will need to be taken into account in concrete mix design. Coarse and fine aggregate in concrete should conform to the "Greenbook" Standard Specifications for Public Works Construction.



9.4 CONVENTIONAL RETAINING WALLS

9.4.1 Foundations

The recommendations provided in the foundation section of this report are also applicable to conventional retaining walls.

9.4.2 Lateral Earth Pressures

The active earth pressure for the design of unrestrained retaining walls with level backfill can be taken as equivalent to the pressure of a fluid weighing 40 pcf. The at-rest earth pressure for the design of restrained retaining walls with level backfills can be taken as equivalent to the pressure of a fluid weighing 60 pcf. These values assume a granular and drained backfill condition. Higher lateral earth pressures would apply if walls retain expansive clay soils. An additional 20 pcf should be added to these values for walls with a 2:1 (horizontal:vertical) sloping backfill. An increase in earth pressure equivalent to an additional 2 feet of retained soil can be used to account for surcharge loads from light traffic. The above values do not include a factor of safety. Appropriate factors of safety should be incorporated into the design. If any other surcharge loads are anticipated, SCST should be contacted for the necessary increase in soil pressure.

For any portion of the wall below the groundwater level, the active earth pressure for the design of unrestrained earth retaining structures with level backfills can be taken as equivalent to the pressure of a fluid weighing 20 pounds per cubic foot (pcf) plus full hydrostatic pressure. The at-rest earth pressure for the design of restrained earth retaining structures with level backfills can be taken as equivalent to the pressure of a fluid weighing 30 pcf plus full hydrostatic pressure. An additional 20 pcf should be added to these values for walls with a 2:1 (horizontal: vertical) sloping backfill. An increase in earth pressure equivalent to an additional 2 feet of retained soil can be used to account for surcharge loads from light traffic. The above values do not include a factor of safety. Appropriate factors of safety should be incorporated into the design.

Retaining walls should be designed to resist hydrostatic pressures or be provided with a backdrain to reduce the accumulation of hydrostatic pressures. Backdrains may consist of a 2-foot-wide zone of $\frac{3}{4}$ -inch crushed rock. The backdrain should be separated from the adjacent soils using a non-woven filter fabric, such as Mirafi 140N or equivalent. Weep holes should be provided, or a perforated pipe should be installed at the base of the backdrain and sloped to discharge to a suitable storm drain facility. As an alternative, a geocomposite drainage system such as Miradrain 6000 or equivalent placed behind the wall and connected to a suitable storm drain facility can be used. The project engineer



should provide waterproofing specifications and details. Figure 9 presents typical conventional retaining wall backdrain details.

9.4.3 Seismic Earth Pressure

If recommended, the seismic earth pressure can be taken as equivalent to the pressure of a fluid weighing 20 pcf. This value is for level backfill and does not include a factor of safety. Appropriate factors of safety should be incorporated into the design. This pressure is in addition to the un-factored, static active earth pressure. The passive pressure and bearing capacity can be increased by $\frac{1}{3}$ in evaluating the seismic stability of the wall.

9.4.4 Backfill

Wall backfill should consist of granular, free-draining material, with a sand equivalent of 20 or more, with an expansion index of 50 or less, that meets the gradation requirements from the Greenbook Specifications for Structural Backfill. Expansive or clayey soil should not be used. Additionally, fill within 3 feet from the back of the wall should not contain rocks greater than 3 inches in dimension. We anticipate that a portion of the on-site soils will be suitable for wall backfill. Backfill should be compacted to at least 90% relative compaction. Backfill should not be placed until walls have achieved adequate structural strength. Compaction of wall backfill will be necessary to minimize settlement of the backfill and overlying settlement sensitive improvements. However, some settlement should still be anticipated. Provisions should be made for some settlement of concrete slabs and pavements supported on backfill. Additionally, any utilities supported on backfill should be designed to tolerate differential settlement.

9.5 PIPELINES

9.5.1 Thrust Blocks

For level ground conditions, a passive earth pressure of 375 psf per foot of depth below the lowest adjacent final grade can be used to compute allowable thrust block resistance. A value of 150 psf per foot should be used below groundwater level, if encountered.

9.5.2 Modulus of Soil Reaction

A modulus of soil reaction (E') of 2,000 psi can be used to evaluate the deflection of buried flexible pipelines. This value assumes that granular bedding material is placed adjacent to the pipe and is compacted to at least 90% relative compaction.



9.5.3 Pipe Bedding

Pipe bedding as specified in the “Greenbook” Standard Specifications for Public Works Construction can be used. Bedding material should consist of clean sand having a sand equivalent not less than 30 and should extend to at least 12 inches above the top of pipe. Alternative materials meeting the intent of the bedding specifications are also acceptable. Samples of materials proposed for use as bedding should be provided to the engineer for inspection and testing before the material is imported for use on the project. The on-site materials are not expected to meet “Greenbook” bedding specifications. The pipe bedding material should be placed over the full width of the trench. After placement of the pipe, the bedding should be brought up uniformly on both sides of the pipe to reduce the potential for unbalanced loads. No voids or uncompacted areas should be left beneath the pipe haunches. Ponding or jetting the pipe bedding should not be allowed.

9.5.4 Cutoff Walls

Where pipeline inclinations exceed 15 percent, cutoff walls are recommended in trench excavations. Additionally, we do not recommend that open graded rock be used for pipe bedding or backfill because of the potential for piping erosion. The recommended bedding is clean sand having a sand equivalent not less than 30. Alternatively, 2-sack sand-cement slurry can be used for the pipe bedding. If sand-cement slurry is used for pipe bedding to at least 1 foot over the top of the pipe, cutoff walls are not considered necessary. The need for cutoff walls should be further evaluated by the project civil engineer designing the pipeline.

9.5.5 Backfill

Excavated material that meets the conditions of the 2018 Greenbook Specifications and is free of organic debris and rocks greater than 3 inches in any dimension are generally expected to be suitable for use as backfill. Imported material should not contain rocks greater than 3 inches in any dimension or organic debris. Imported material should have an expansion index of 50 or less. SCST should observe and, if appropriate, test proposed imported materials before they are delivered to the site. Backfill should be placed in lifts 8 inches or less in loose thickness, moisture conditioned to optimum moisture content or slightly above, and compacted to at least 90% relative compaction. The top 12 inches of soil beneath pavement subgrade should be compacted to at least 95% relative compaction.



9.6 PAVEMENT SECTION RECOMMENDATIONS

The pavement support characteristics of the soils encountered during our investigation are considered low. An R-value of 33 was used for design of preliminary pavement sections. The actual R-value of the subgrade soils should be verified after grading and final pavement sections are provided. Based on an R-value of 33, the following pavement structural sections are recommended for the assumed Traffic Indexes.

Flexible Pavement Sections

Traffic Type	Traffic Index	Asphalt Concrete (inches)	Aggregate Base (inches)
Parking / Bicycle Trail	4.5	3	7
Drive Lanes	6.0	4	9
Fire Lanes	7.5	5	12

The top 12 inches of subgrade should be scarified, moisture conditioned to near optimum moisture content, and compacted to at least 95% relative compaction. Soft or yielding areas should be removed and replaced with compacted fill or aggregate base. Aggregate base and asphalt concrete should conform to the Caltrans Standard Specifications or the “Greenbook” and should be compacted to at least 95% relative compaction. Aggregate base should have an R-value of not less than 78. Materials and methods of construction should conform to good engineering practices.

9.7 SOIL CORROSIVITY

Representative samples of the on-site soils were tested to evaluate corrosion potential. The test results are presented in Appendix II. Based on the results of our laboratory testing, the on-site soils are not considered to be corrosive. According to the Caltrans Corrosion Guidelines (2018), a site is considered to be corrosive if the chloride concentration is 0.05 percent (500 ppm) or greater, sulfate concentration is 0.15 percent (1500 ppm) or greater, the pH is 5.5 or less, or the resistivity is less than 1,100 ohm-cm.

The project design engineer can use the sulfate results in conjunction with ACI 318 to specify the water/cement ratio, compressive strength, and cementitious material types for concrete exposed to soil. A corrosion engineer should be contacted to provide specific corrosion control recommendations.



10. GEOTECHNICAL ENGINEERING DURING CONSTRUCTION

The geotechnical engineer should review project plans and specifications prior to bidding and construction to check that the intent of the recommendations in this report has been incorporated. Observations and tests should be performed during construction. If the conditions encountered during construction differ from those anticipated based on the subsurface exploration program, the presence of the geotechnical engineer during construction will enable an evaluation of the exposed conditions and modifications of the recommendations in this report or development of additional recommendations in a timely manner.

11. CLOSURE

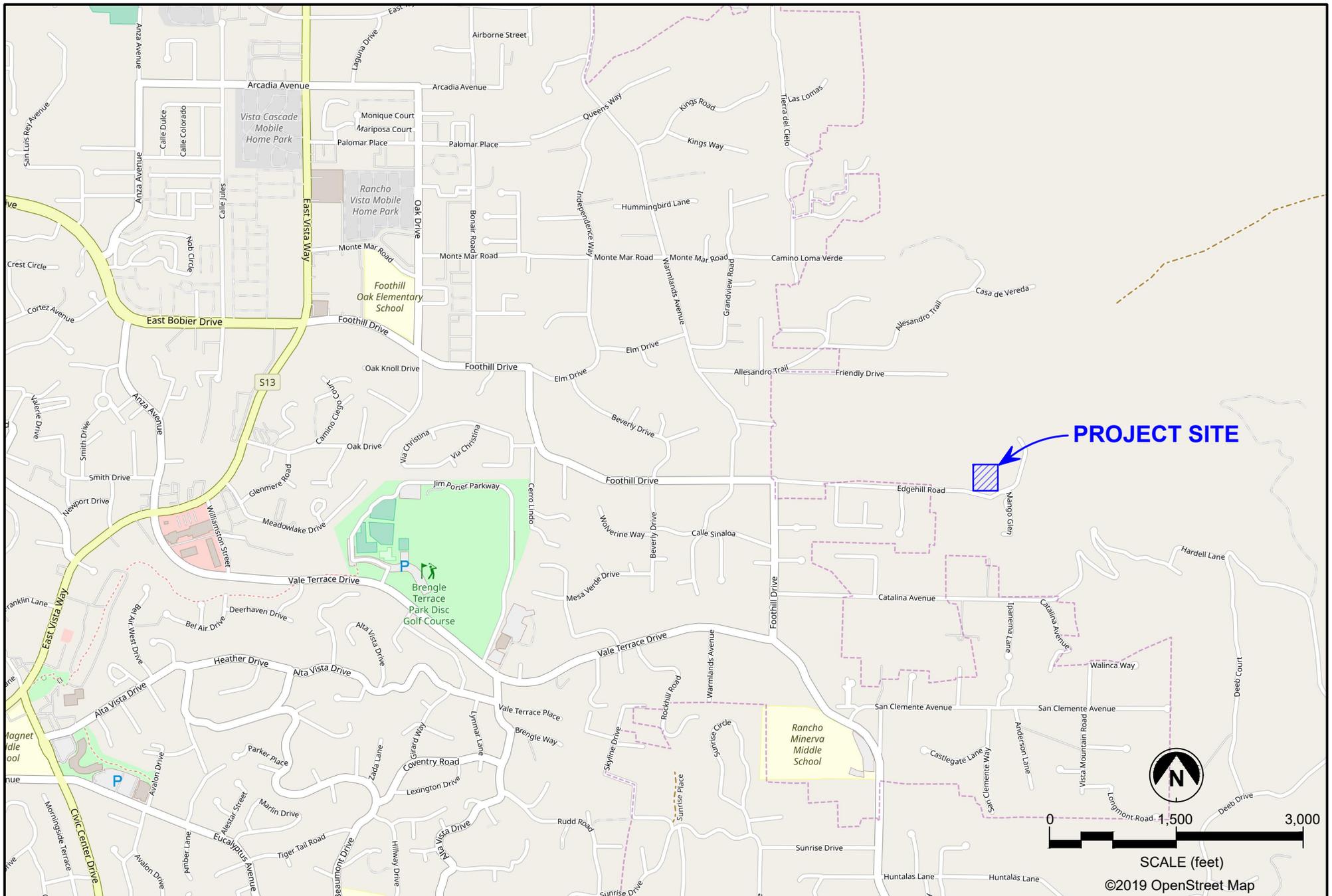
SCST should be advised of any changes in the project scope so that the recommendations contained in this report can be evaluated with respect to the revised plans. Changes in recommendations will be verified in writing. The findings in this report are valid as of the date of this report. Changes in the condition of the site can, however, occur with the passage of time, whether they are due to natural processes or work on this or adjacent areas. In addition, changes in the standards of practice and government regulations can occur. Thus, the findings in this report may be invalidated wholly or in part by changes beyond our control. This report should not be relied upon after a period of two years without a review by us verifying the suitability of the conclusions and recommendations to site conditions at that time.

In the performance of our professional services, we comply with that level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions and in the same locality. The client recognizes that subsurface conditions may vary from those encountered at the boring locations and that our data, interpretations, and recommendations are based solely on the information obtained by us. We will be responsible for those data, interpretations, and recommendations, but shall not be responsible for interpretations by others of the information developed. Our services consist of professional consultation and observation only, and no warranty of any kind whatsoever, express or implied, is made or intended in connection with the work performed or to be performed by us, or by our proposal for consulting or other services, or by our furnishing of oral or written reports or findings.



12. REFERENCES

- American Concrete Institute (ACI) (2011), Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary, August.
- California Building Standards Commission (2016), 2016 California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2, Based on the 2015 International Building Code, Effective Date: January 1, 2016.
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- California Geological Survey (2002), Simplified Fault Activity Map of California”, compiled by Jennings, C.W. and Saucedo, G. J., 1999, revised Topozada, T. and Branum, D., 1999.
- Caltrans (2015), Standard Specifications.
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- Jennings, C.W. and Bryant, W.A. (2010), Fault Activity Map of California, California Geologic Survey, Geologic Data Map No. 6.
- Kennedy and Tan (2007), Geologic Map of the Oceanside 30’x60’ Quadrangle, California.
- Public Works Standards, Inc. (2018), “Greenbook” Standard Specifications for Public Works Construction, 2018 Edition.
- Vista Irrigation District (2018), Standard Specifications, revised May.

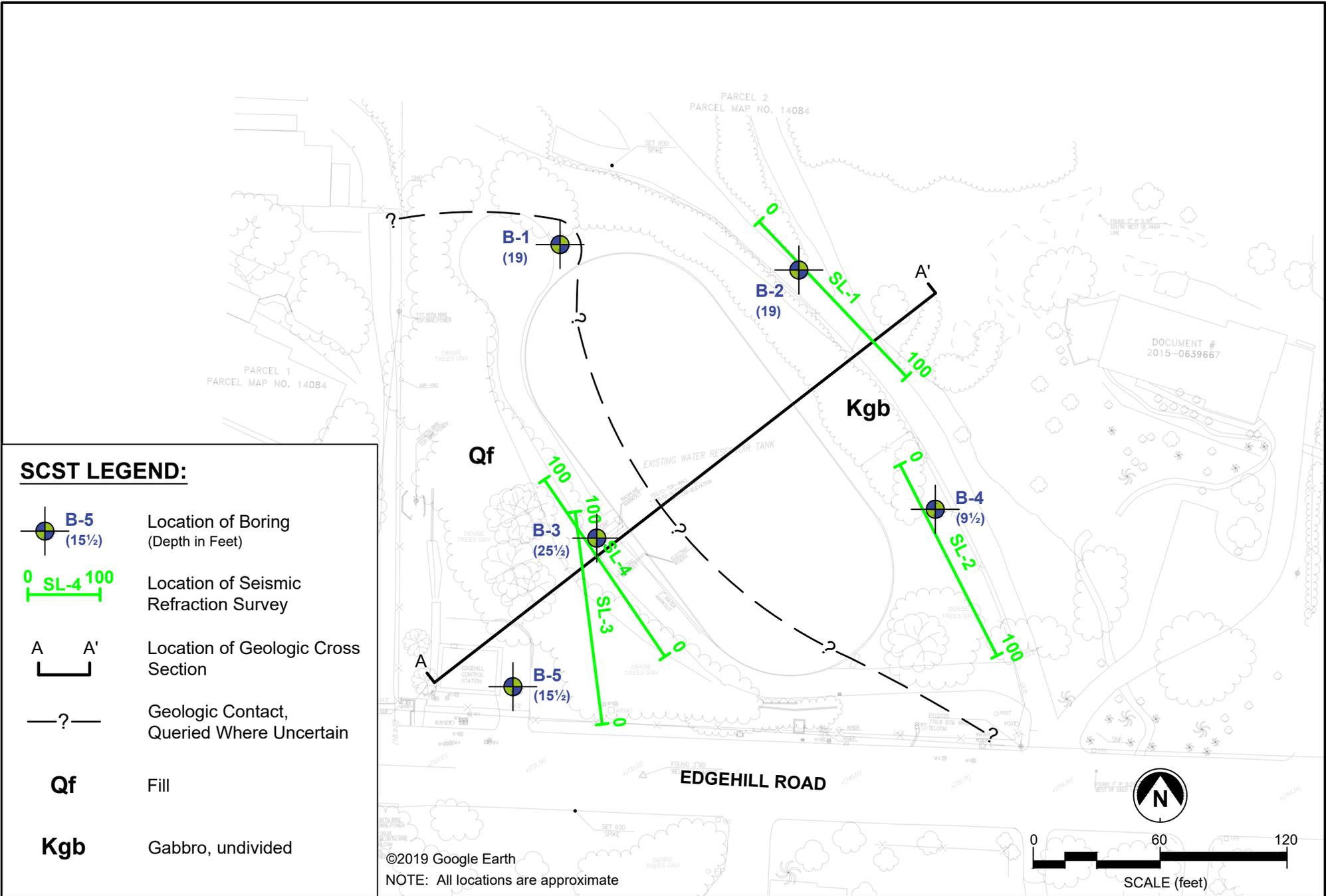


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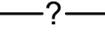
SITE VICINITY MAP
 VID, E Reservoir Replacement and Pump Station
 Vista, California

Date: May, 2019
 By: NNW/DTC
 Job No.: 180433P4-1R3

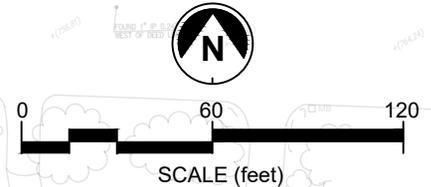
Figure:
1



SCST LEGEND:

-  **B-5 (15½)** Location of Boring (Depth in Feet)
-  **SL-4** Location of Seismic Refraction Survey
-  **A A'** Location of Geologic Cross Section
-  **—?** Geologic Contact, Queried Where Uncertain
- Qf** Fill
- Kgb** Gabbro, undivided

©2019 Google Earth
 NOTE: All locations are approximate

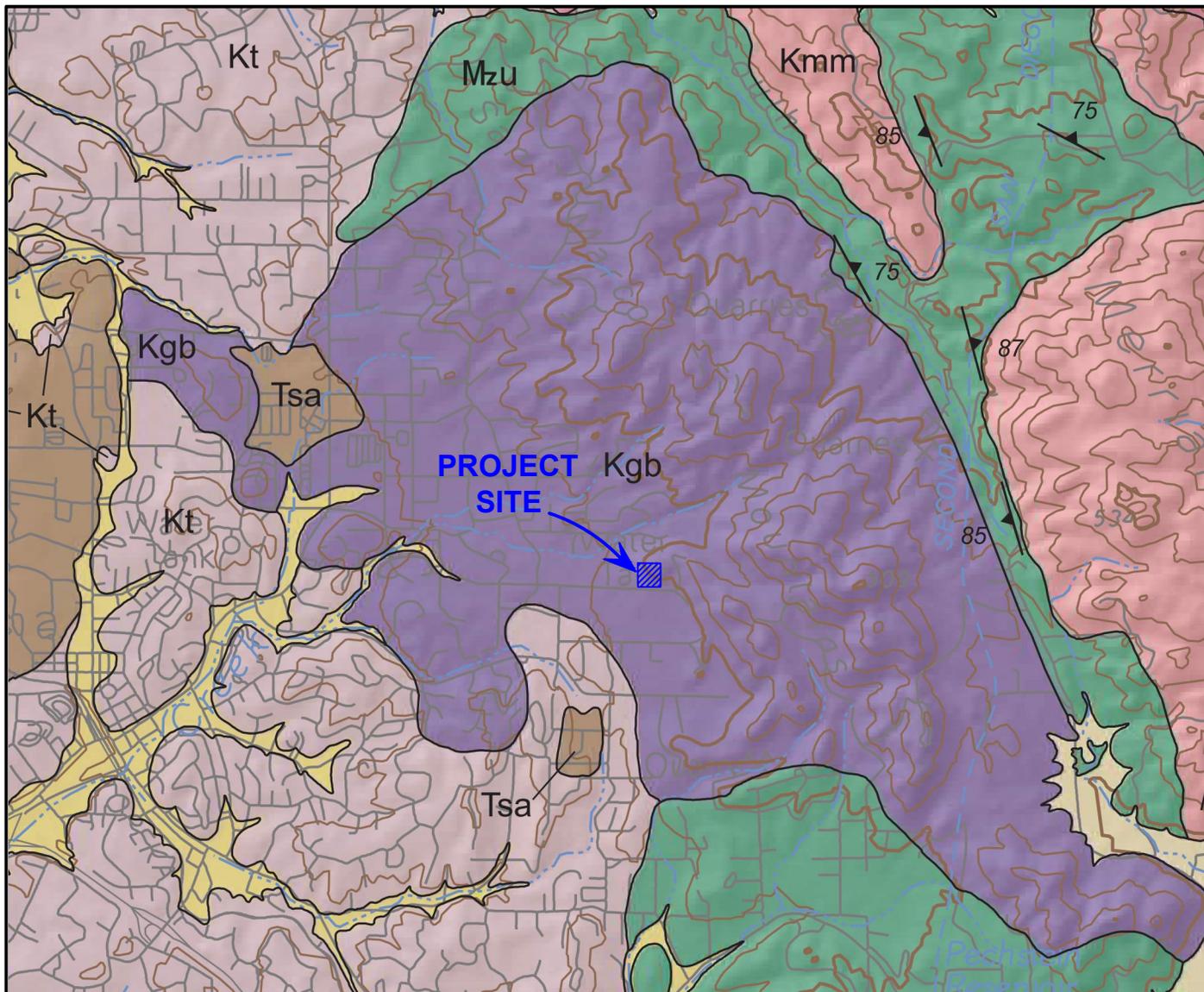


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SUBSURFACE EXPLORATION MAP
 VID, E Reservoir Replacement and Pump Station
 Vista, California

Date: May, 2019
 By: NNW/DTC
 Job No.: 180433P4-1R3

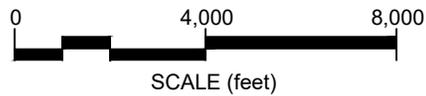
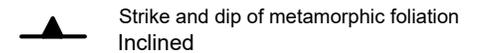
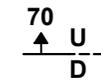
Figure:
2



EXPLANATION:

- Qa** Alluvial flood-plain deposits
- Qya** Young alluvial flood-plain deposits
- Tsa** Santiago Formation
- Kt** Tonalite, undivided
- Kgb** Gabbro, undivided
- Kmm** Monzogranite of Merriam Mountain
- Mzu** Metasedimentary and metavolcanic rocks, undivided

Fault - Solid where accurately located; dashed where approximately located; dotted where concealed. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.



Reference:
Kennedy, M.P. and Tan, S.S. (2007), Geologic Map of the Oceanside 30' x 60' Quadrangle, California, California Geological Survey, Scale 1:100,000



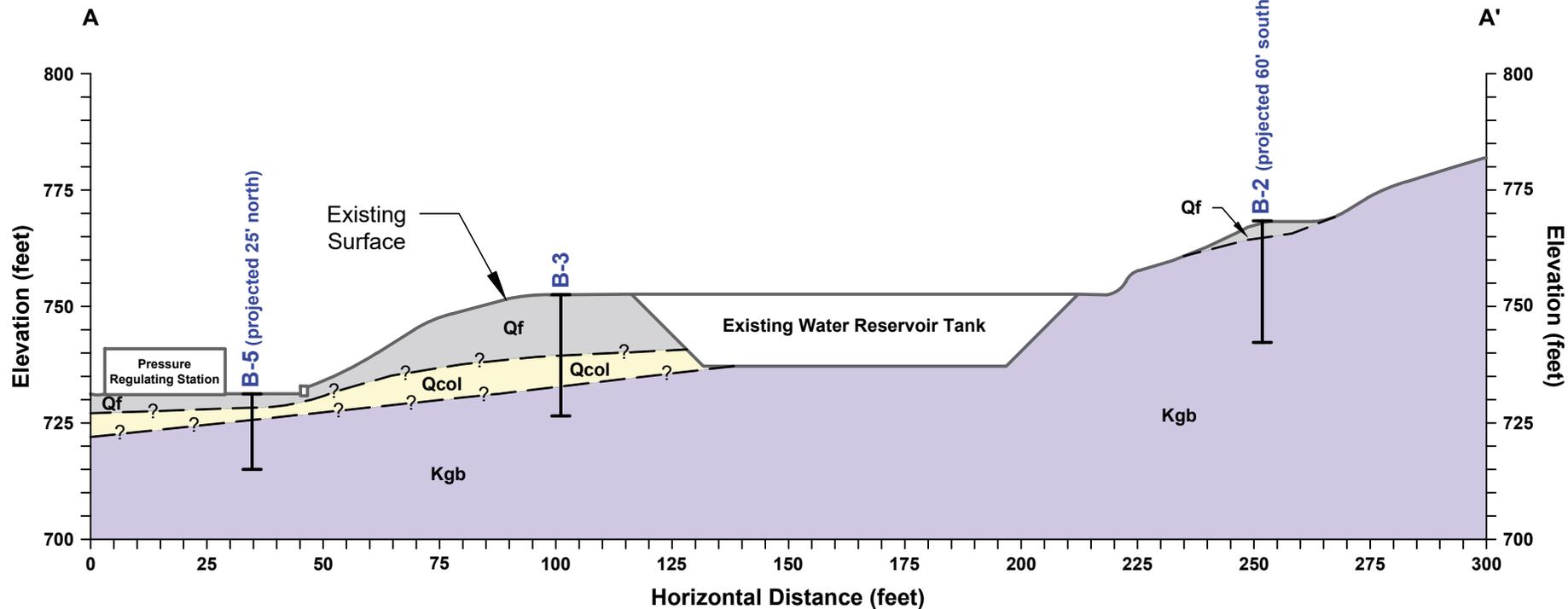
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REGIONAL GEOLOGY MAP

VID, E Reservoir Replacement and Pump Station
Vista, California

Date: May, 2019
By: NNW/DTC
Job No.: 180433P4-1R3

Figure:
3



SCST LEGEND:

- B-5
Approximate Location of Boring
- Approximate Geologic Contact, Queried Where Uncertain
- Qf
Fill
- Qcol
Colluvium
- Kgb
Gabbro, undivided

SCALE

1" = 35'

NOTE: All Locations are Approximate



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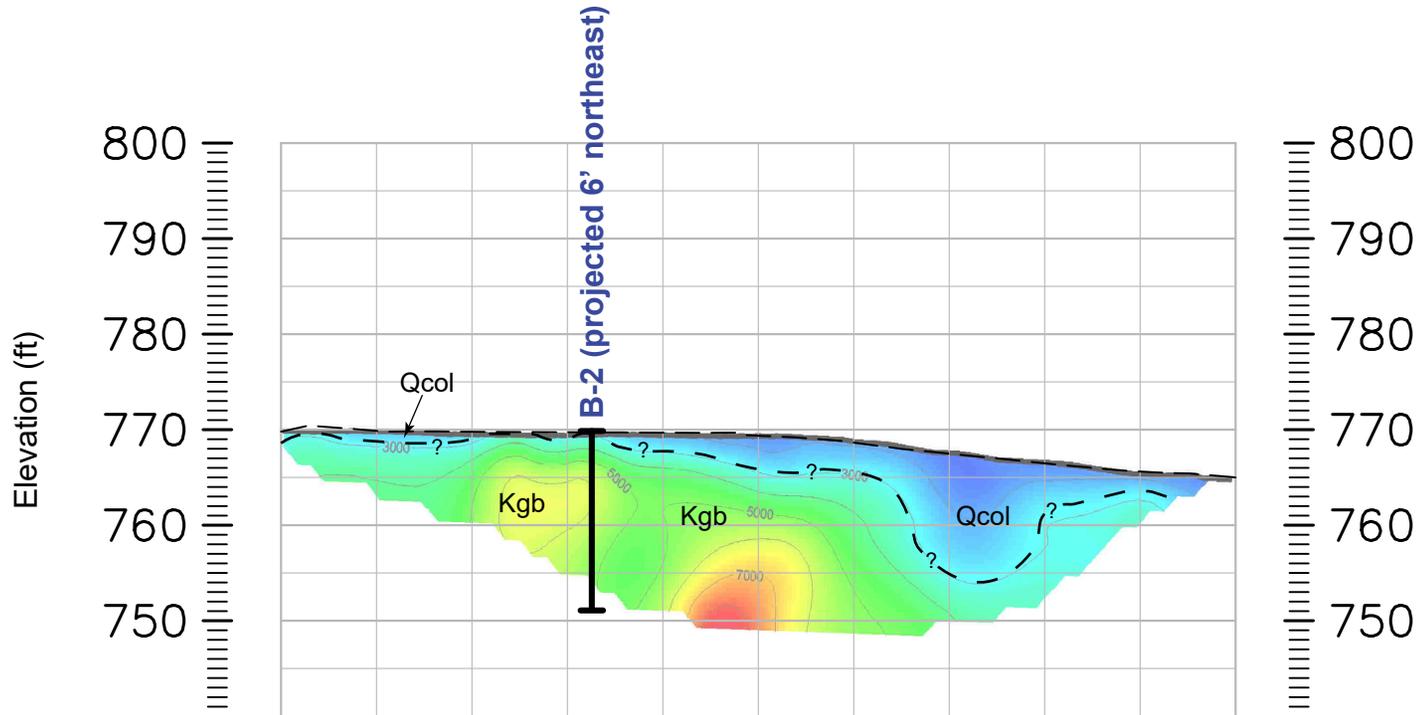
GEOLOGIC CROSS-SECTION
 VID, E Reservoir Replacement and Pump Station
 Vista, California

Date: May, 2019
 By: NNW/DTC
 Job No.: 180433P4-1R3

Figure:
4

Northwest

Southeast



SCST LEGEND:



Approximate Location of Boring



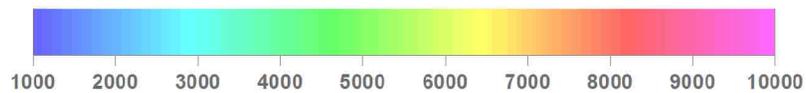
Approximate Geologic Contact,
Queried Where Uncertain

Qcol Colluvium

Kgb Gabbro, undivided



Distance (ft)



Velocity (ft/s)



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TOMOGRAPHY PROFILE SL-1

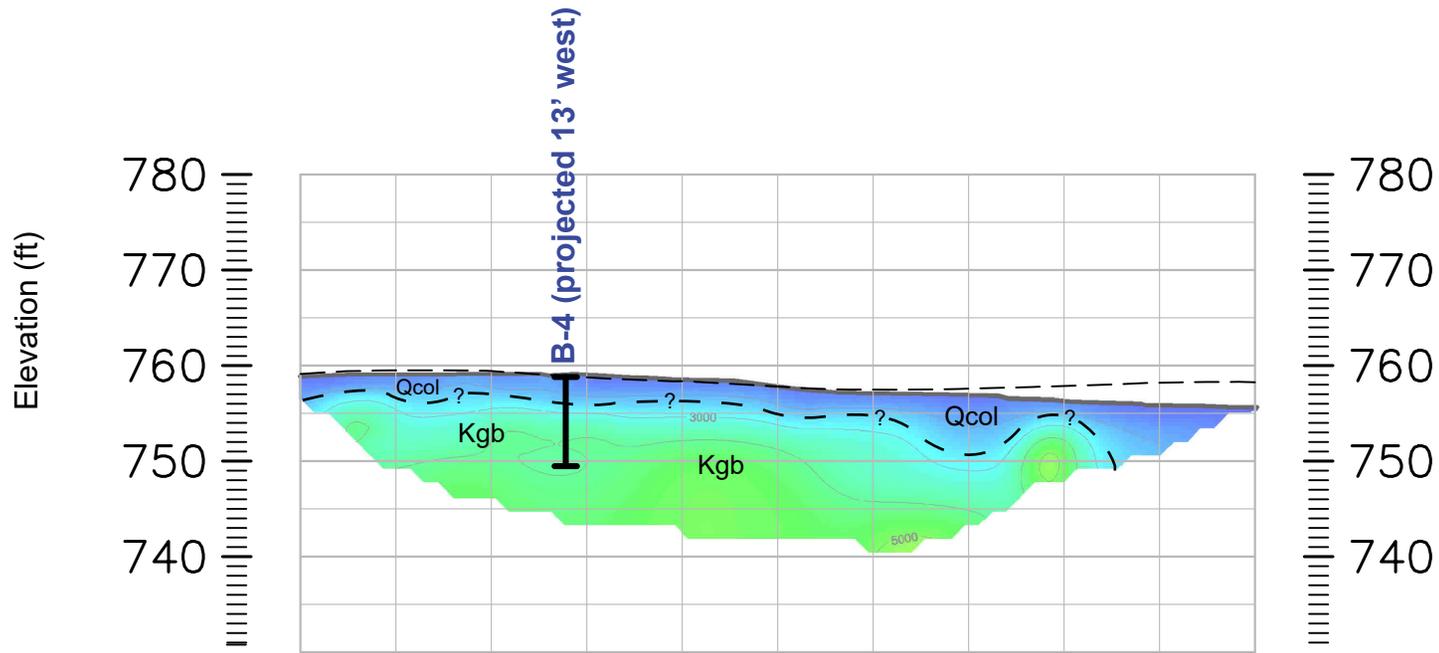
VID, E Reservoir Replacement and Pump Station
Vista, California

Date: May, 2019
By: EMW
Job No.: 180433P4-1R3

Figure:
5

Northwest

Southeast



SCST LEGEND:



Approximate Location of Boring



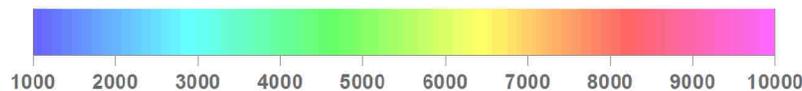
Approximate Geologic Contact,
Queried Where Uncertain

Qcol

Colluvium

Kgb

Gabbro, undivided



Velocity (ft/s)



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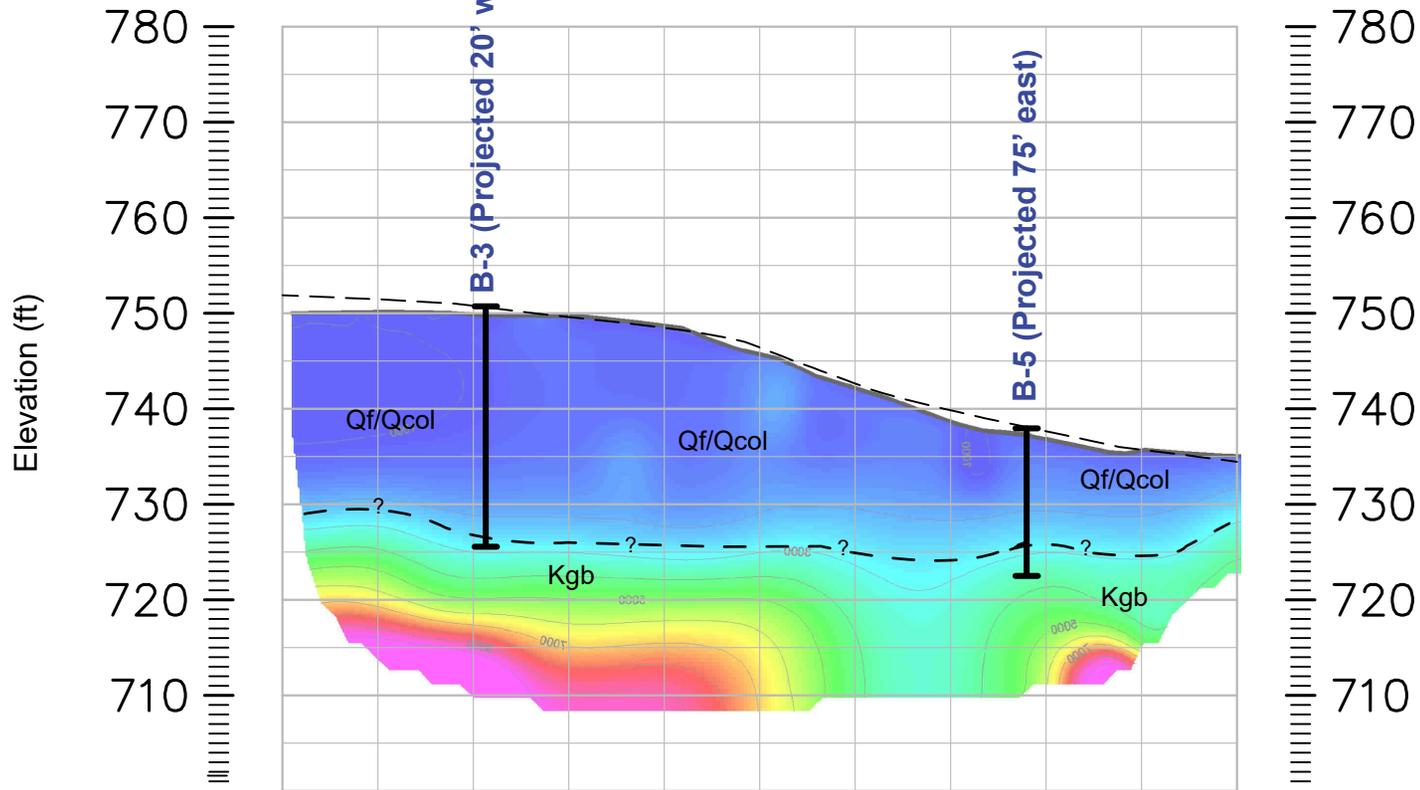
TOMOGRAPHY PROFILE SL-2
VID, E Reservoir Replacement and Pump Station
Vista, California

Date: May, 2019
By: EMW
Job No.: 180433P4-1R3

Figure:
6

Northwest

Southeast



SCST LEGEND:



Approximate Location of Boring



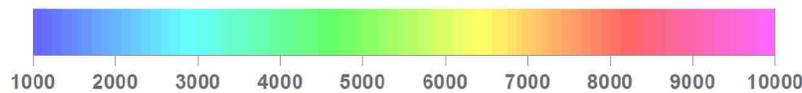
Approximate Geologic Contact,
Queried Where Uncertain

Qcol

Colluvium

Kgb

Gabbro, undivided



SCST, LLC

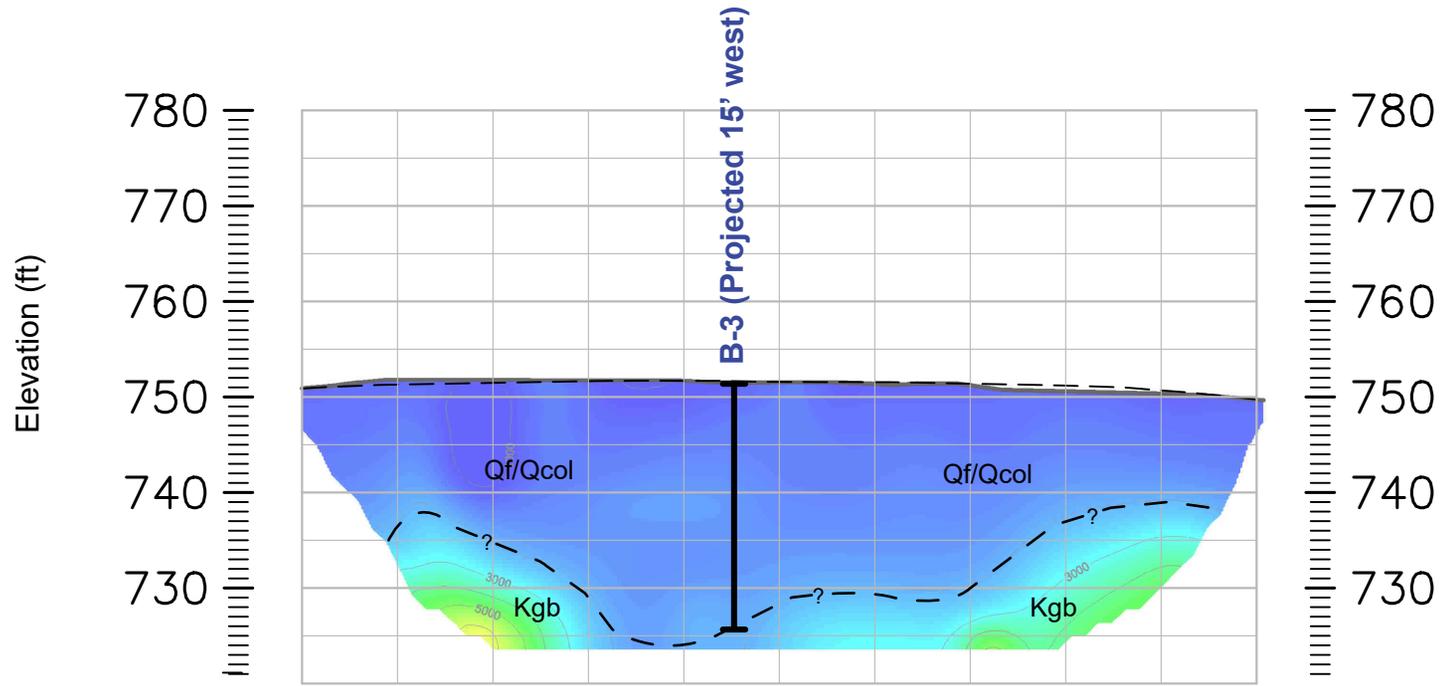
TOMOGRAPHY PROFILE SL-3
VID, E Reservoir Replacement and Pump Station
Vista, California

Date: May, 2019
By: EMW
Job No.: 180433P4-1R3

Figure:
7

Northwest

Southeast



SCST LEGEND:



Approximate Location of Boring



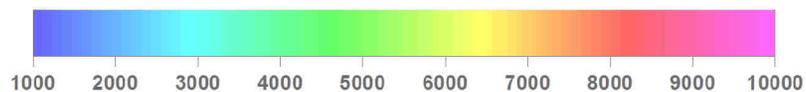
Approximate Geologic Contact,
Queried Where Uncertain

Qcol

Colluvium

Kgb

Gabbro, undivided



Velocity (ft/s)

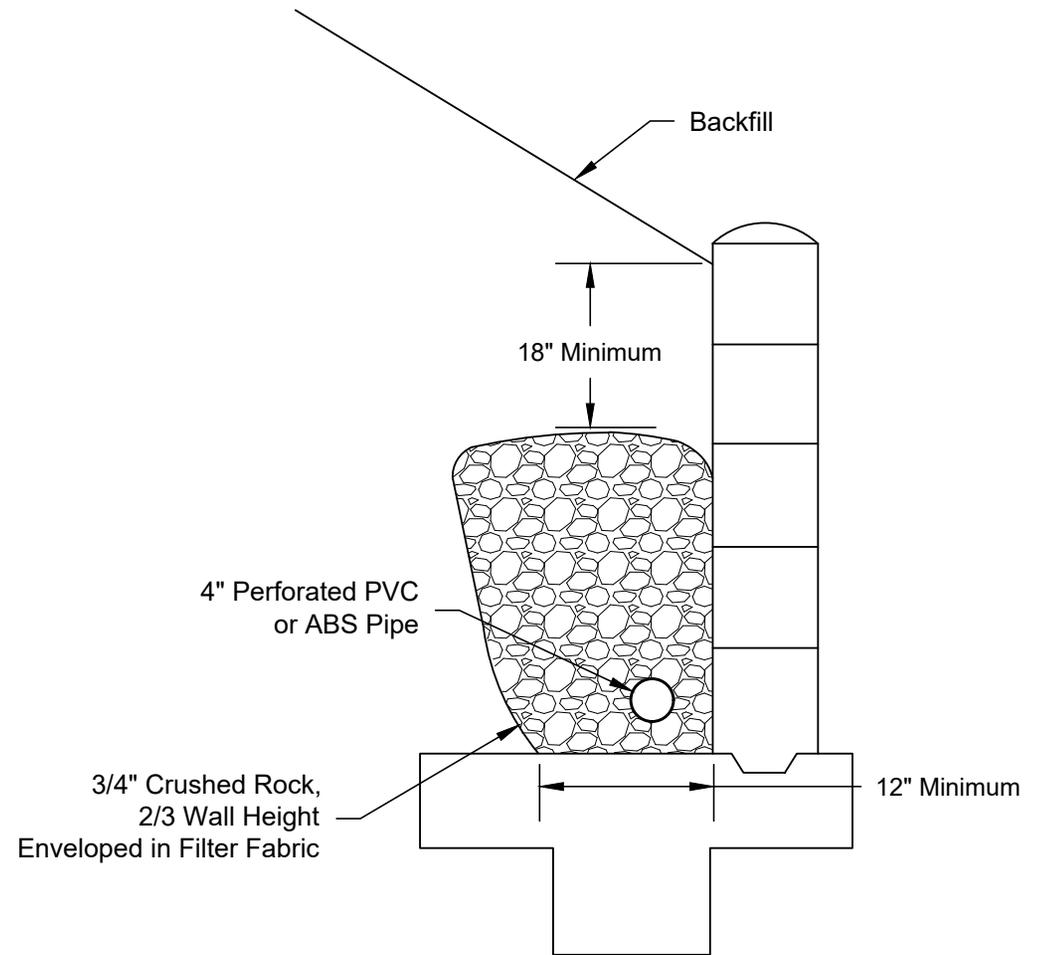
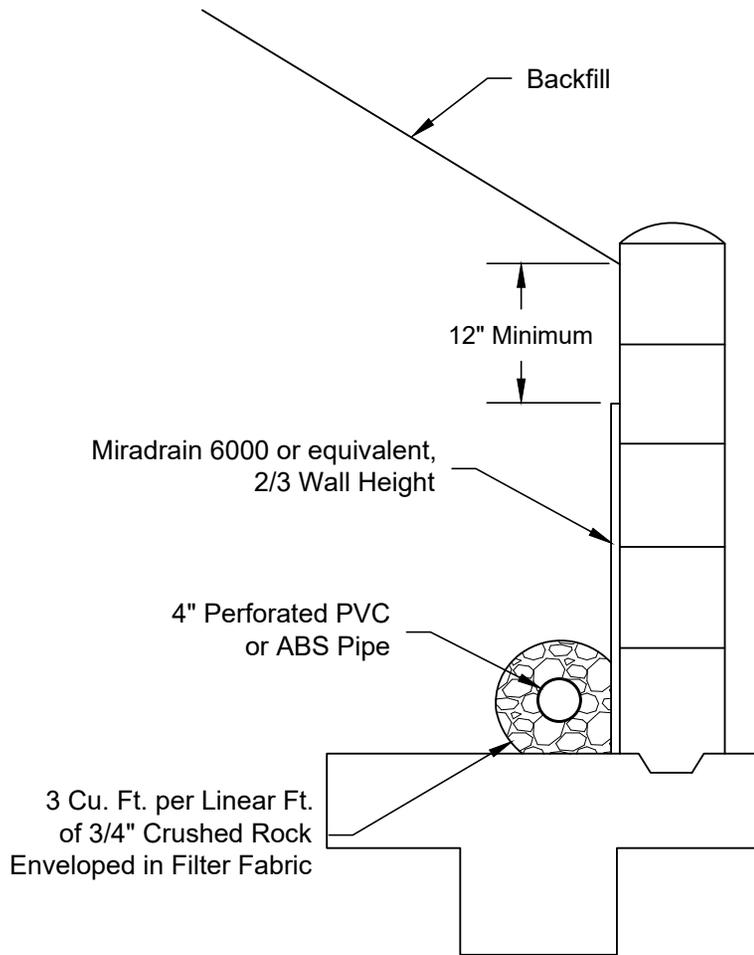


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TOMOGRAPHY PROFILE SL-4
VID, E Reservoir Replacement and Pump Station
Vista, California

Date: May, 2019
By: EMW
Job No.: 180433P4-1R3

Figure:
8



NOT TO SCALE

NOTES:

- 1) Dampproof or waterproof back of wall following architect's specifications.
- 2) 4" minimum perforated pipe, SDR35 or equivalent, holes down, 1% fall to outlet. Provide solid outlet pipe at suitable locations.
- 3) Drain installation and outlet connection should be observed by the geotechnical consultant.



SCST, LLC

TYPICAL RETAINING WALL BACKDRAIN DETAILS
 VID, E Reservoir Replacement and Pump Station
 Vista, California

Date: May, 2019
 By: NNW/DTC
 Job No.: 180433P4-1R3

Figure:
9

APPENDIX I FIELD INVESTIGATION

Our field investigation consisted of drilling five borings to depths between about 9½ and 25½ feet below the existing ground surface using a truck-mounted drill rig equipped with a hollow-stem auger and hand tools. An SCST geologist logged the borings and collected samples of the materials encountered in the borings for laboratory testing. SCST tested selected samples from the borings to evaluate pertinent soil classification and engineering properties to assist in developing geotechnical conclusions and recommendations. Figure 2 presents the approximate locations of the borings. The field investigation was performed under the observation of an SCST geologist who also logged the borings and obtained samples of the materials encountered in the borings.

The soils are classified in accordance with the Unified Soil Classification System as illustrated on Figure I-1. Logs of the borings are presented on Figures I-2 through I-7.

SUBSURFACE EXPLORATION LEGEND

UNIFIED SOIL CLASSIFICATION CHART

SOIL DESCRIPTION	GROUP SYMBOL	TYPICAL NAMES
I. COARSE GRAINED, more than 50% of material is larger than No. 200 sieve size.		
<u>GRAVELS</u> More than half of coarse fraction is larger than No. 4 sieve size but smaller than 3".	CLEAN GRAVELS	GW Well graded gravels, gravel-sand mixtures, little or no fines
		GP Poorly graded gravels, gravel sand mixtures, little or no fines.
	GRAVELS WITH FINES (Appreciable amount of fines)	GM Silty gravels, poorly graded gravel-sand-silt mixtures.
		GC Clayey gravels, poorly graded gravel-sand, clay mixtures.
<u>SANDS</u> More than half of coarse fraction is smaller than No. 4 sieve size.	CLEAN SANDS	SW Well graded sand, gravelly sands, little or no fines.
		SP Poorly graded sands, gravelly sands, little or no fines.
		SM Silty sands, poorly graded sand and silty mixtures.
		SC Clayey sands, poorly graded sand and clay mixtures.
II. FINE GRAINED, more than 50% of material is smaller than No. 200 sieve size.		
SILTS AND CLAYS (Liquid Limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, sandy silt or clayey-silt-sand mixtures with slight plasticity.
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
	OL	Organic silts and organic silty clays or low plasticity.
SILTS AND CLAYS (Liquid Limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
	CH	Inorganic clays of high plasticity, fat clays.
	OH	Organic clays of medium to high plasticity.
III. HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils.

SAMPLE SYMBOLS

	- Bulk Sample
	- Modified California Sampler
	- Undisturbed Chunk sample
	- Maximum Size of Particle
	- Shelby Tube
	- Standard Penetration Test sampler

GROUNDWATER SYMBOLS

	- Water level at time of excavation or as indicated
	- Water seepage at time of excavation or as indicated

LABORATORY TEST SYMBOLS

AL	- Atterberg Limits
CON	- Consolidation
COR	- Corrosivity Tests (Resistivity, pH, Chloride, Sulfate)
DS	- Direct Shear
EI	- Expansion Index
MAX	- Maximum Density
RV	- R-Value
SA	- Sieve Analysis



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By:	EMW	Date:	May, 2019
Job Number:	180433P4-1R3	Figure:	I-1

LOG OF BORING B-1

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 756

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
1	SC	FILL (Qf): CLAYEY SAND, loose, brown, moist, fine to coarse grained, trace gravel, trace cobble.		X					SA AL COR
2	SC	COLLUVIUM (Qcol): CLAYEY SAND, medium dense, red brown, moist, fine to coarse grained.		X					
3		GABBRO (Kgb): Light brown, moist, weathered, moderately hard.							
4		Light brown to reddish brown, moderately hard to hard.							
5			CAL		50/3"	>50			
6									
7									
8									
9		Light brown.							
10			CAL		50/2"	>50	7.4	107.9	
11									
12									
13		Light brown and gray.							
14									
15			CAL		50/1"	>50			
16									
17									
18									
19		BORING TERMINATED AT 19 FEET	CAL		50/2"	>50			
20									



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By: EMW	Date: May, 2019
Job Number: 180433P4-1R3	Figure: I-2

LOG OF BORING B-2

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 771

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
1	SC	FILL (Qf) : CLAYEY SAND, loose, brown, moist, fine to coarse grained, trace gravel.							
2	SC	COLLUVIUM (Qcol) : CLAYEY SAND with GRAVEL, medium dense, reddish brown to red, moist, fine to coarse grained, trace cobble.							SA
3									
4		GABBRO (Kgb) : Light reddish brown to reddish brown, moist, weathered, moderately soft to moderately hard.							
5		Light orange brown and gray, moderately hard to hard.	CAL		50/5"	>50			
6									
7									
8									
9									
10		Light brown to grayish brown.							
11			CAL		50/2"	>50	11.2	92.6	
12									
13									
14									
15									
16			CAL		50/3"	>50			
17									
18									
19		BORING TERMINATED AT 19 FEET	CAL		50/2"	>50			
20									



SCST, LLC

VID, E Reservoir Replacement and Pump Station

Vista, California

By: EMW

Date: May, 2019

Job Number: 180433P4-1R3

Figure: I-3

LOG OF BORING B-3

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 754

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
1		3 inches of Asphalt Concrete							
2	SM	FILL (Qf): SILTY SAND, loose to medium dense, brown, moist, fine to medium grained, trace gravel.							
3		Trace cobble.							
4		Some gravel, some cobble.							
5		Variously colored (light brown to brown, to red), dense, fine to coarse grained.							
6			CAL		35	30			
7									
8									
9									
10									
11			CAL		21	18			
12	SC	CLAYEY SAND, medium dense, brown, moist, fine to coarse grained, trace gravel.							
13									
14	CL	COLLUVIUM (Qcol): SANDY CLAY, medium stiff, red brown, moist, fine to medium grained SAND, trace gravel.							
15									
16			CAL		8	7			
17									
18									
19		GABBRO (Kgb): Light brown, moist, weathered, hard.	CAL		50/2"	>50			DS
20									

BORING CONTINUED ON I-5



SCST, LLC

VID, E Reservoir Replacement and Pump Station

Vista, California

By: EMW

Date: May, 2019

Job Number: 180433P4-1R3

Figure: I-4

LOG OF BORING B-3 (continued)

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 754

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
21		GABBRO (Kgb): Light brown, moist, weathered, hard.							
22									
23									
24									
25		Light brown to gray.	CAL		50/5"	>50			
26		BORING TERMINATED AT 25½ FEET							
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By: EMW	Date: May, 2019
Job Number: 180433P4-1R3	Figure: I-5

LOG OF BORING B-4

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 761

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
		2 to 3 inches of vegetation and associated top soil							
1	SC	COLLUVIUM (Qcol): CLAYEY SAND, loose to medium dense, reddish brown to red, moist, fine to medium grained, trace gravel, trace cobble.							
2									
3		GABBRO (Kgb): Light brown to gray, moist, weathered, moderately soft to moderately hard.							
4									
5		Hard.	CAL		50/2"	>50	5.0	106.6	DS
6									
7									
8									
9		Very hard.	SPT		50/1"	>50			
10		AUGER REFUSAL AT 9½ FEET ON GABBRO ROCK							
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									



SCST, LLC

VID, E Reservoir Replacement and Pump Station

Vista, California

By: EMW

Date: May, 2019

Job Number: 180433P4-1R3

Figure: I-6

LOG OF BORING B-5

Date Drilled: 1/24/2019

Equipment: CME-95 with 8-inch Hollow Stem Auger

Elevation (ft): Approximately 736

Logged by:

Reviewed by:

Depth to Groundwater (ft):

EMW

AKN

Not Encountered

DEPTH (ft)	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		DRIVING RESISTANCE (blows/ft of drive)	N ₆₀	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LABORATORY TESTS
			DRIVEN	BULK					
1	CL	3 inches of Asphalt Concrete FILL (Qf): SANDY CLAY, soft, red brown, moist, fine to coarse grained SAND.	X	X					SA AL EI COR
2		Fine to coarse grained, trace gravel, trace cobble.							
3	SC	COLLUVIUM (Qcol): CLAYEY SAND, medium dense, light reddish brown, moist, fine to medium grained.							
4									
5		GABBRO (Kgb): Light brown to gray, moist, weathered, moderately hard.	CAL		50/4"	>50			
6									
7									
8									
9									
10			CAL		50/2"	>50			
11									
12									
13									
14									
15			CAL		50/1"	>50			
16		AUGER REFUSAL AT 15½ FEET ON GABBRO ROCK							
17									
18									
19									
20									



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

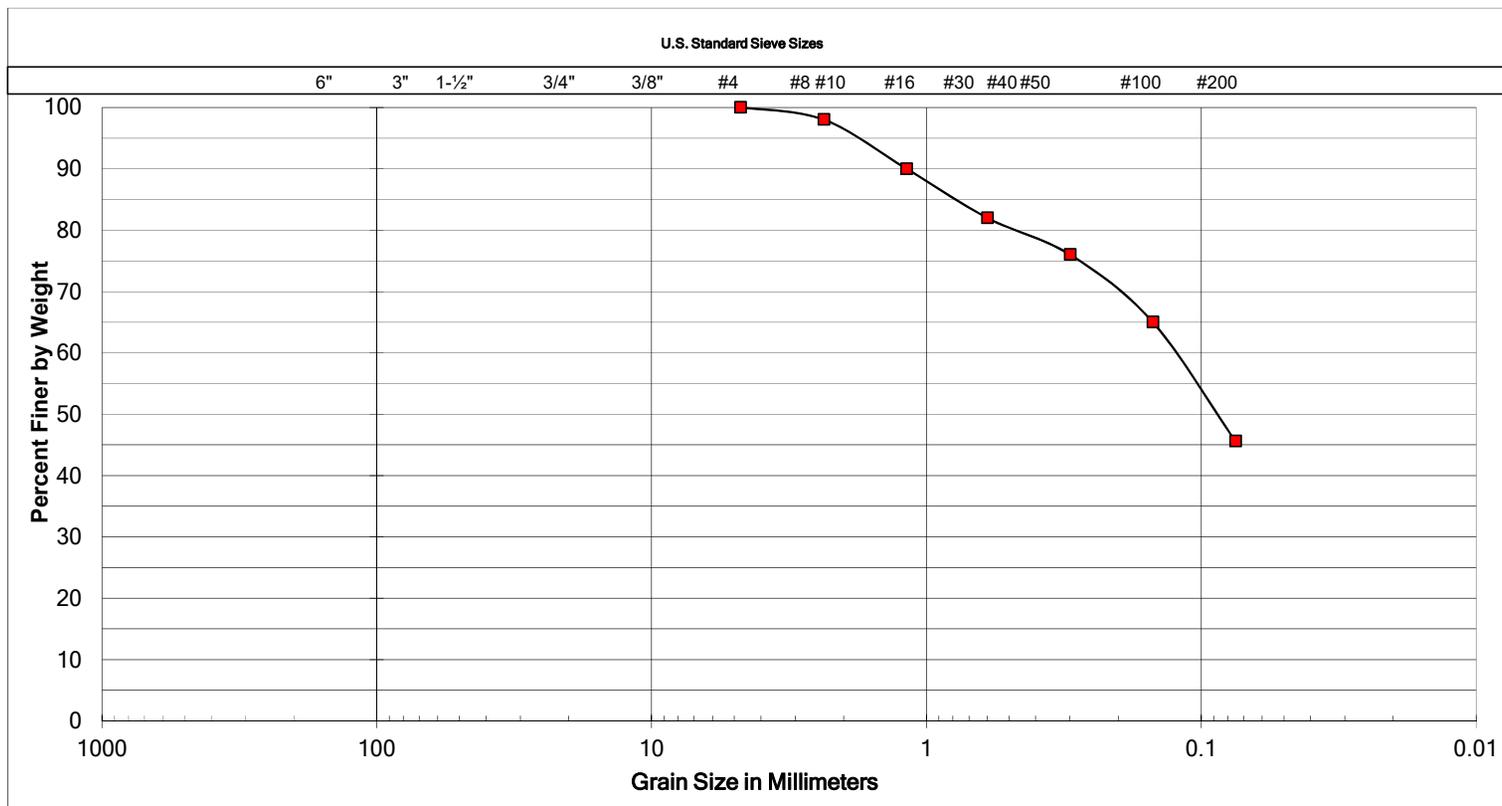
By: EMW	Date: May, 2019
Job Number: 180433P4-1R3	Figure: I-7

APPENDIX II LABORATORY TESTING

Laboratory tests were performed to provide geotechnical parameters for engineering analyses. The following tests were performed:

- **CLASSIFICATION:** Field classifications were verified in the laboratory by visual examination. The final soil classifications are in accordance with the Unified Soil Classification System.
- **PARTICLE-SIZE DISTRIBUTION:** The particle-size distribution was evaluated on selected soil samples in accordance with ASTM D422.
- **R-VALUE:** R-value tests were performed on selected soil samples in accordance with California Test Method 301.
- **EXPANSION INDEX:** The expansion index was evaluated on selected soil samples in accordance with ASTM D4829.
- **CORROSIVITY:** Corrosivity tests were performed on selected soil samples. The pH and minimum resistivity were evaluated in accordance with California Test 643. The total chloride ion content was evaluated in accordance with California Test 422. The soluble sulfate content was evaluated in accordance with California Test 417.
- **DIRECT SHEAR:** The direct shear was evaluated on selected soil samples in accordance with ASTM D3080.

Soil samples not tested are now stored in our laboratory for future reference and analysis, if needed. Unless notified to the contrary, samples will be disposed of 30 days from the date of this report.



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

SAMPLE LOCATION
B-1 at 2 to 3 feet
SAMPLE NUMBER
37333

UNIFIED SOIL CLASSIFICATION:	SC
DESCRIPTION	CLAYEY SAND

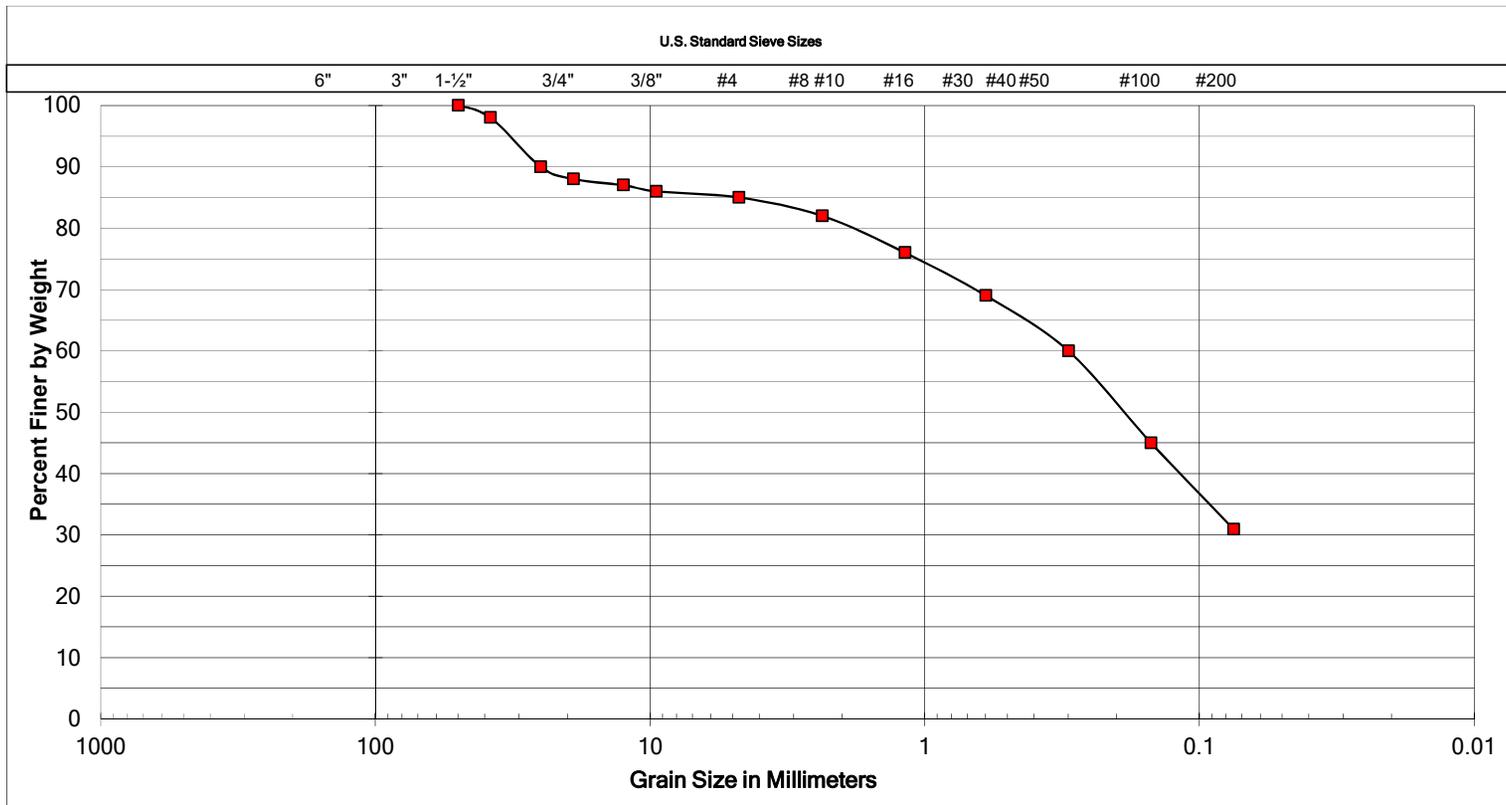
ATTERBERG LIMITS	
LIQUID LIMIT	30
PLASTIC LIMIT	19
PLASTICITY INDEX	11



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By:	EMW	Date:	May, 2019
Job Number:	180433P4-1R3	Figure:	II-1



Cobbles	Gravel	Sand	Silt or Clay
	Coarse Fine	Coarse Medium Fine	

SAMPLE LOCATION
B-2 at 1/2 to 3 feet
SAMPLE NUMBER
37336

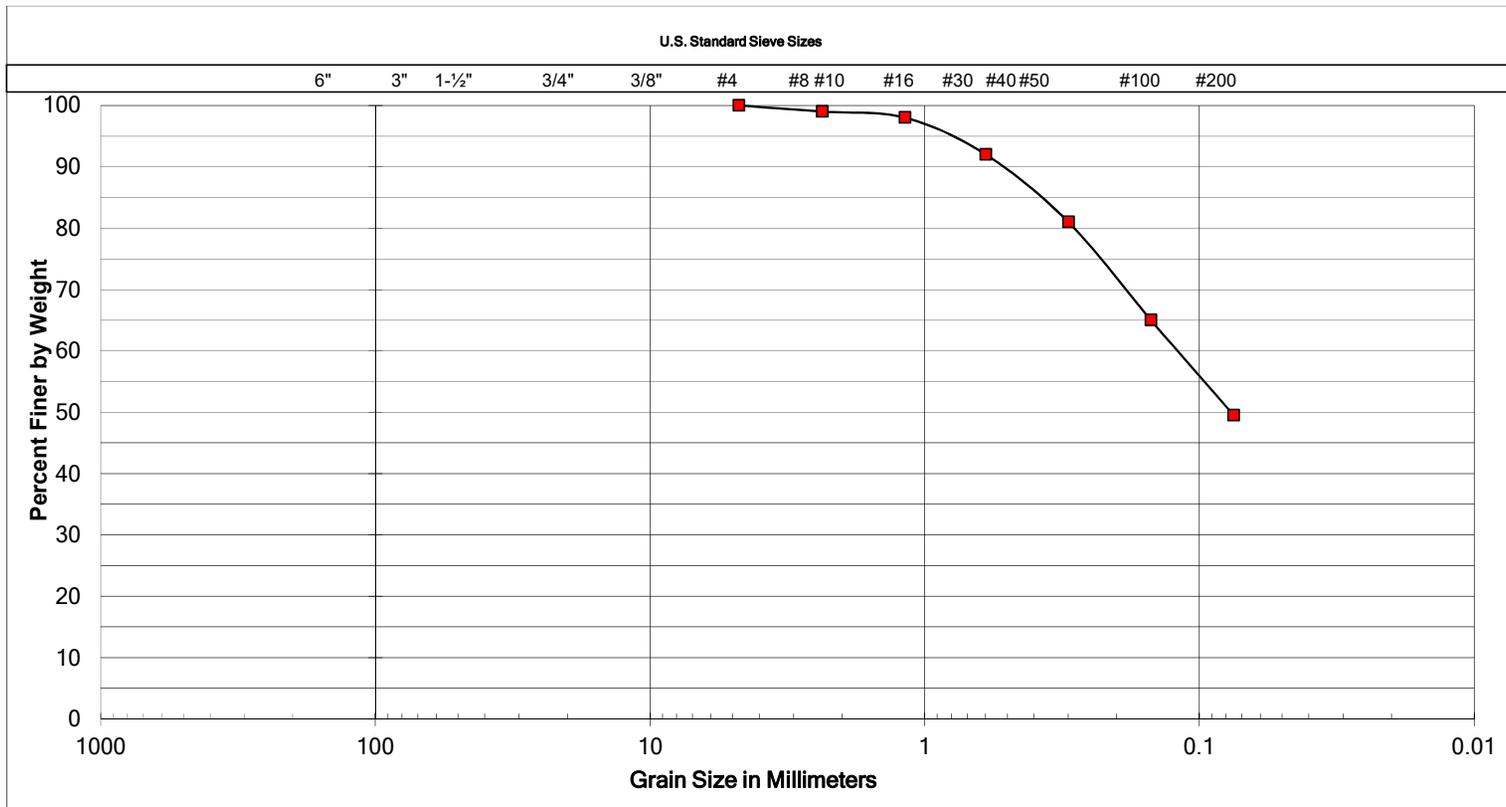
UNIFIED SOIL CLASSIFICATION:	SC
DESCRIPTION	CLAYEY SAND with GRAVEL

ATTERBERG LIMITS	
LIQUID LIMIT	--
PLASTIC LIMIT	--
PLASTICITY INDEX	--



SCST, LLC

VID, E Reservoir Replacement and Pump Station Vista, California	
By: EMW	Date: May, 2019
Job Number: 180433P4-1R3	Figure: II-2



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

SAMPLE LOCATION
B-5 at 0 to 3 feet
SAMPLE NUMBER
37342

UNIFIED SOIL CLASSIFICATION:	CL
DESCRIPTION	SANDY CLAY

ATTERBERG LIMITS	
LIQUID LIMIT	32
PLASTIC LIMIT	21
PLASTICITY INDEX	11



SCST, LLC

VID, E Reservoir Replacement and Pump Station Vista, California			
By:	EMW	Date:	May, 2019
Job Number:	180433P4-1R3	Figure:	II-3

EXPANSION INDEX

ASTM D2489

SAMPLE	DESCRIPTION	EI
B-5 at 0 to 3 feet	CLAYEY SAND	33

Classification of Expansive Soil¹

EXPANSIVE INDEX	POTENTIAL EXPANSION
1-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High

1. ASTM - D4829

R-VALUE

CALIFORNIA TEST 301

SAMPLE	DESCRIPTION	R-VALUE
B-1 at 0 to 2 feet	CLAYEY SAND	33

RESISTIVITY, pH, SOLUBLE CHLORIDE and SOLUBLE SULFATE

pH & Resistivity (Cal 643, ASTM G51)

Soluble Chlorides (Cal 422)

Soluble Sulfate (Cal 417)

SAMPLE	RESISTIVITY (Ω -cm)	pH	CHLORIDE (%)	SULFATE (%)
B-1 at 2 to 3 feet	2130	7.02	0.002	0.004
B-5 at 0 to 3 feet	1160	7.25	0.006	0.016

WATER-SOLUBLE SULFATE (SO_4^{2-}) EXPOSURE

Modified from ACI 318-14 Table 19.3.1.1 and Table 19.3.2.1

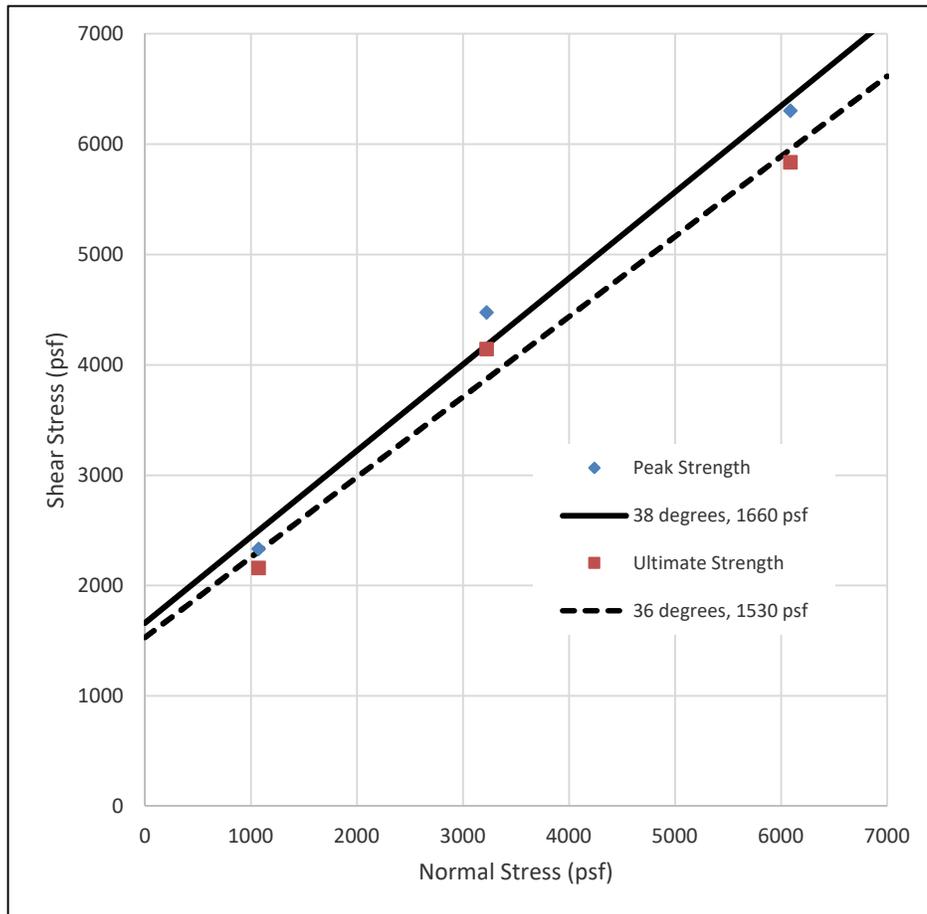
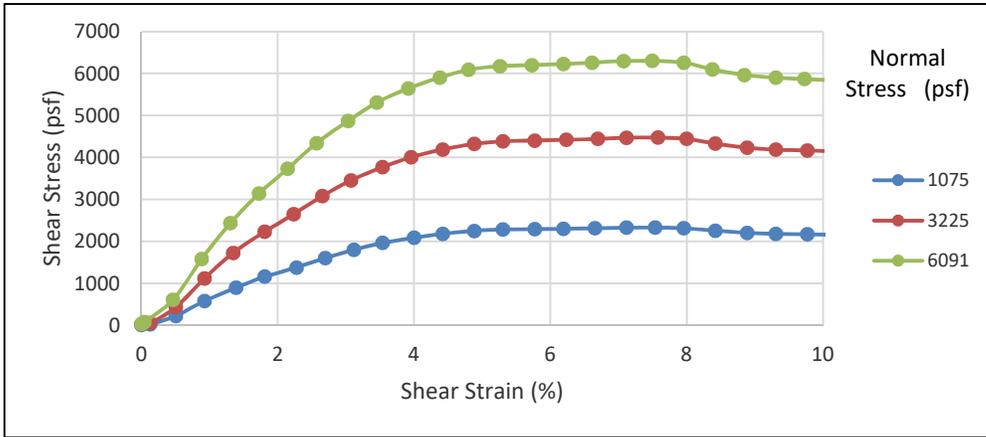
Water-soluble sulfate (SO_4^{2-}) in soil, percent by weight	Exposure Severity	Exposure Class	Cement Type (ASTM C150)	Max. w/cm	Min. f_c'
$\text{SO}_4^{2-} < 0.10$	Not applicable	S0	No type restriction	N/A	2,500
$0.10 \leq \text{SO}_4^{2-} < 0.20$	Moderate	S1	II	0.50	4,000
$0.20 \leq \text{SO}_4^{2-} < 2.00$	Severe	S2	V	0.45	4,500
$\text{SO}_4^{2-} > 2.00$	Very Severe	S3	V plus pozzolan or slag cement	0.45	4,500



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By:	EMW	Date:	May, 2019
Job Number:	180433P4-1R3	Figure:	II-4



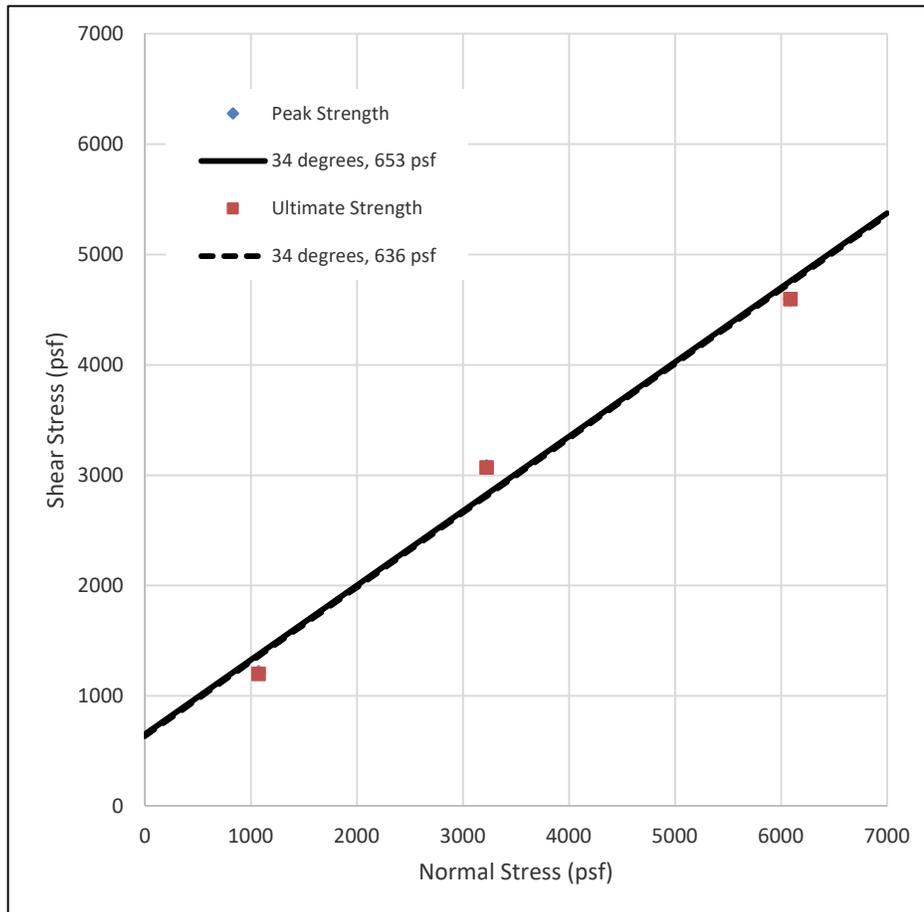
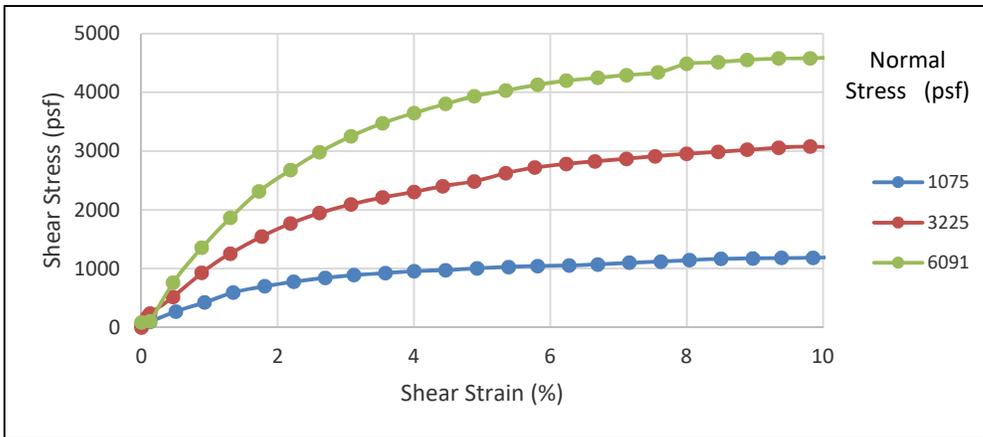
SAMPLE ID: B-3 at 19½ to 20 feet	Φ	Peak	Ultimate
		38 °	36 °
GABBRO (CLAYEY SAND)	c	1660 psf	1530 psf
NOTES: In Situ	γ _d	Initial	Final
		117.5 pcf	117.5 pcf
Strain Rate: 0.003 in/min	w _c	17.0 %	18.2 %
Sample was consolidated and drained	Saturation	100 %	100 %



SCST, LLC

VID, E Reservoir Replacement and Pump Station
Vista, California

By: DRB	Date: May, 2019
Job Number: 180433P4-1R3	Figure: II-5



SAMPLE ID: B-4 at 5½ to 6 feet	Φ	Peak	Ultimate
		34 °	34 °
GABBRO (CLAYEY SAND)	c	653 psf	636 psf
NOTES: In Situ	γ _d	Initial	Final
Strain Rate: 0.003 in/min	w _c	120.8 pcf	120.8 pcf
Sample was consolidated and drained	Saturation	3.5 %	15.3 %
		24 %	100 %

**APPENDIX III
SEISMIC REFRACTION SURVEY**

**SEISMIC REFRACTION SURVEY
EDGEHILL ROAD
VISTA, CALIFORNIA**

PREPARED FOR:
SCST, LLC
6280 Riverdale Street
San Diego, CA 92120

PREPARED BY:
Southwest Geophysics, LLC
6280 Riverdale Street Suite 200
San Diego, CA 92120

February 26, 2019
Project No. 119042b

February 26, 2019
Project No. 119042b

Mr. Andrew K. Neuhaus, C.E.G.
SCST, LLC
6280 Riverdale Street
San Diego, CA 92120

Subject: Seismic Refraction Survey
Edgehill Road
Vista, California

Dear Mr. Neuhaus:

In accordance with your authorization, we have performed a seismic refraction survey pertaining to the Edgehill Road project located in Vista, California. Specifically, our survey consisted of performing four seismic refraction traverses at the project site. The purpose of our study was to develop subsurface velocity profiles of the areas surveyed, and to assess the apparent rippability of the subsurface materials. Our field services were conducted on February 1, 2019. This data report presents our survey methodology, equipment used, analysis, and results.

We appreciate the opportunity to be of service on this project. Should you have any questions please contact the undersigned at your convenience.

Sincerely,

SOUTHWEST GEOPHYSICS, LLC



Eric R. Carlson
Project Geologist/Geophysicist



Hans van de Vrugt, C.E.G., P.Gp.
Principal Geologist/Geophysicist

HV/ERC/hv

Distribution: Addressee (electronic)



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- Figure 4b – P-Wave Profile, SL-2
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- Figure 4d – P-Wave Profile, SL-4

1. INTRODUCTION

In accordance with your authorization, we have performed a seismic refraction survey pertaining to the Edgehill Road project located in Vista, California (Figure 1). Specifically, our survey consisted of performing four seismic refraction traverses at the project site. The purpose of our study was to develop subsurface velocity profiles of the areas surveyed, and to assess the apparent ripability of the subsurface materials. Our field services were conducted on February 1, 2019. This data report presents our survey methodology, equipment used, analysis, and results.

2. SCOPE OF SERVICES

Our scope of services included:

- Performance of four seismic P-wave refraction lines at the project site.
- Compilation and analysis of the data collected.
- Preparation of this data report presenting our results and conclusions.

3. SITE DESCRIPTION

The project site is located just northeast of the intersection of Edgehill Road and Audrey Place in Vista, California. Vegetation in the area consists of scattered brush and small trees, and cacti. Several remnant granitic rock boulders were observed in the study area. Figures 2 and 3 depict the general site conditions in the areas of the seismic traverses.

4. SURVEY METHODOLOGY AND ANALYSIS

As previously indicated, the primary purpose of our services was to characterize the subsurface conditions at preselected locations through the collection of seismic P-wave refraction data. The seismic refraction method uses first-arrival times of refracted seismic waves to estimate the thicknesses and seismic velocities of subsurface layers. Seismic P-waves (compression waves) generated at the surface are refracted at boundaries separating materials of contrasting velocities. These refracted seismic waves are then detected by a series of surface vertical component 14-Hz geophones and recorded with a 24-channel Geometrics Geode seismograph. The travel times of the seismic P-waves are used in conjunction with the shot-to-geophone distances to obtain thickness and velocity information on the subsurface materials. In general, the effective depth of

evaluation for a seismic refraction traverse is approximately one-third to one-fifth the length of the traverse. The refraction method requires that subsurface velocities increase with depth. A layer having a velocity lower than that of the layer above will not generally be detectable by the seismic refraction method and, therefore, could lead to errors in the depth calculations of subsequent layers. In addition, lateral variations in velocity, such as those caused by buried boulders, fractures, dikes, etc. can result in the misinterpretation of the subsurface conditions.

Four seismic P-wave traverses, SL-1 through SL-4, were conducted at the site. The location of the profiles, which were generally selected by your office, and the line lengths are depicted on Figure 2. Multiple shot points (signal generator locations) were conducted at the ends, midpoint, and intermediate points along the lines. The P-wave signal (shot) was generated using a 20-pound hammer and an aluminum plate.

In general, the seismic P-wave velocity of a material can be correlated to rippability (see Table 1 below), or to some degree “hardness.” Table 1 is based on published information from the Caterpillar Performance Handbook (Caterpillar, 2011) as well as our experience with similar materials, and assumes that a Caterpillar D-9 dozer ripping with a single shank is used. We emphasize the cutoffs in this classification scheme are approximate and that rock characteristics, such as fracture spacing and orientation, play a significant role in determining rock quality or rippability.

The collected data were processed using SIPwin (Rimrock Geophysics, 2003), a seismic interpretation program, and analyzed using SeisOpt Pro (Optim, 2008). SeisOpt Pro uses first arrival picks and elevation data to produce subsurface velocity models through a nonlinear optimization technique called adaptive simulated annealing. The resulting velocity model provides a tomography image of the estimated geologic conditions. Both vertical and lateral velocity information is contained in the tomography model. Changes in layer velocity are revealed as gradients rather than discrete contacts, which typically are more representative of actual conditions.

For trenching operations, the rippability values should be scaled downward. For example, velocities as low as 3,500 feet/second may indicate difficult ripping during trenching operations. In addition, the presence of boulders, which can be troublesome in narrow trenching operations, should be anticipated.

Seismic P-wave Velocity	Rippability
0 to 2,000 feet/second	Easy
2,000 to 4,000 feet/second	Moderate
4,000 to 5,500 feet/second	Difficult, Possible Blasting
5,500 to 7,000 feet/second	Very Difficult, Probable Blasting
Greater than 7,000 feet/second	Blasting Generally Required

5. RESULTS

Figures 4a through 4d present the results from the P-wave refraction survey. Based on the velocity models generated from our P-wave analysis, it appears the study areas are underlain by low velocity materials (e.g., colluvium and topsoil) in the near surface and granitic rock with varying degrees of weathering at depth. Distinct vertical and lateral velocity variations are evident in the models. Moreover, the degree of bedrock weathering and the depth to bedrock appears to be highly variable across the study areas. In addition, pockets or zones of relatively “hard” rock appear to be present in the subsurface.

Based on the P-wave refraction results, variability in the excavatability (including depth of rippability) of the subsurface materials should be expected across the project area. Furthermore, blasting may be required depending on the excavation depth, location, equipment used, and desired rate of production. A contractor with excavation experience in similar conditions should be consulted for expert advice on excavation methodology, equipment and production rate.

6. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants per-

forming similar tasks in the project area. No warranty, express or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface surveying will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Southwest Geophysics should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

7. SELECTED REFERENCES

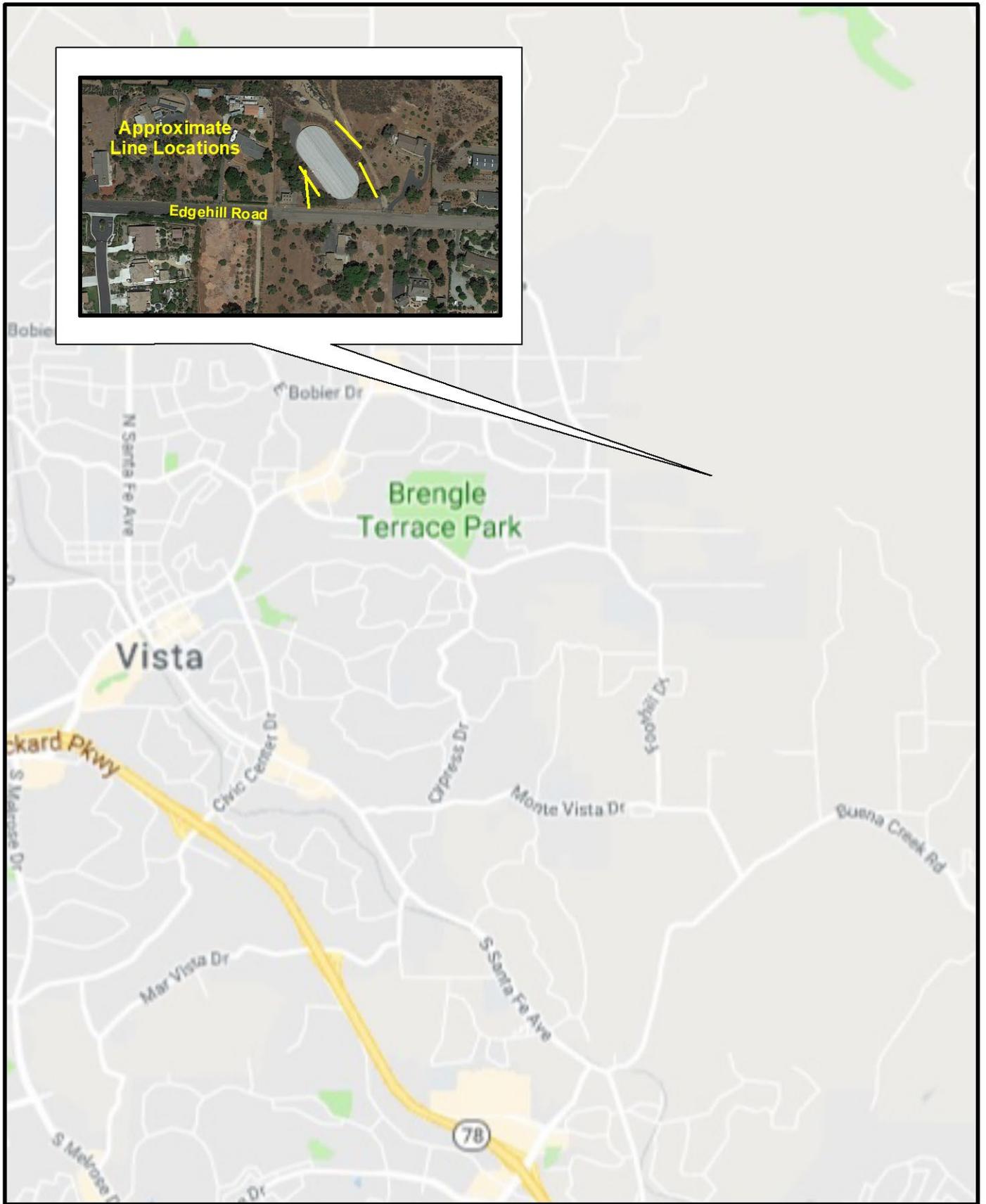
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Telford, W.M., Geldart, L.P., Sheriff, R.E., and Keys, D.A., 1976, Applied Geophysics, Cambridge University Press.



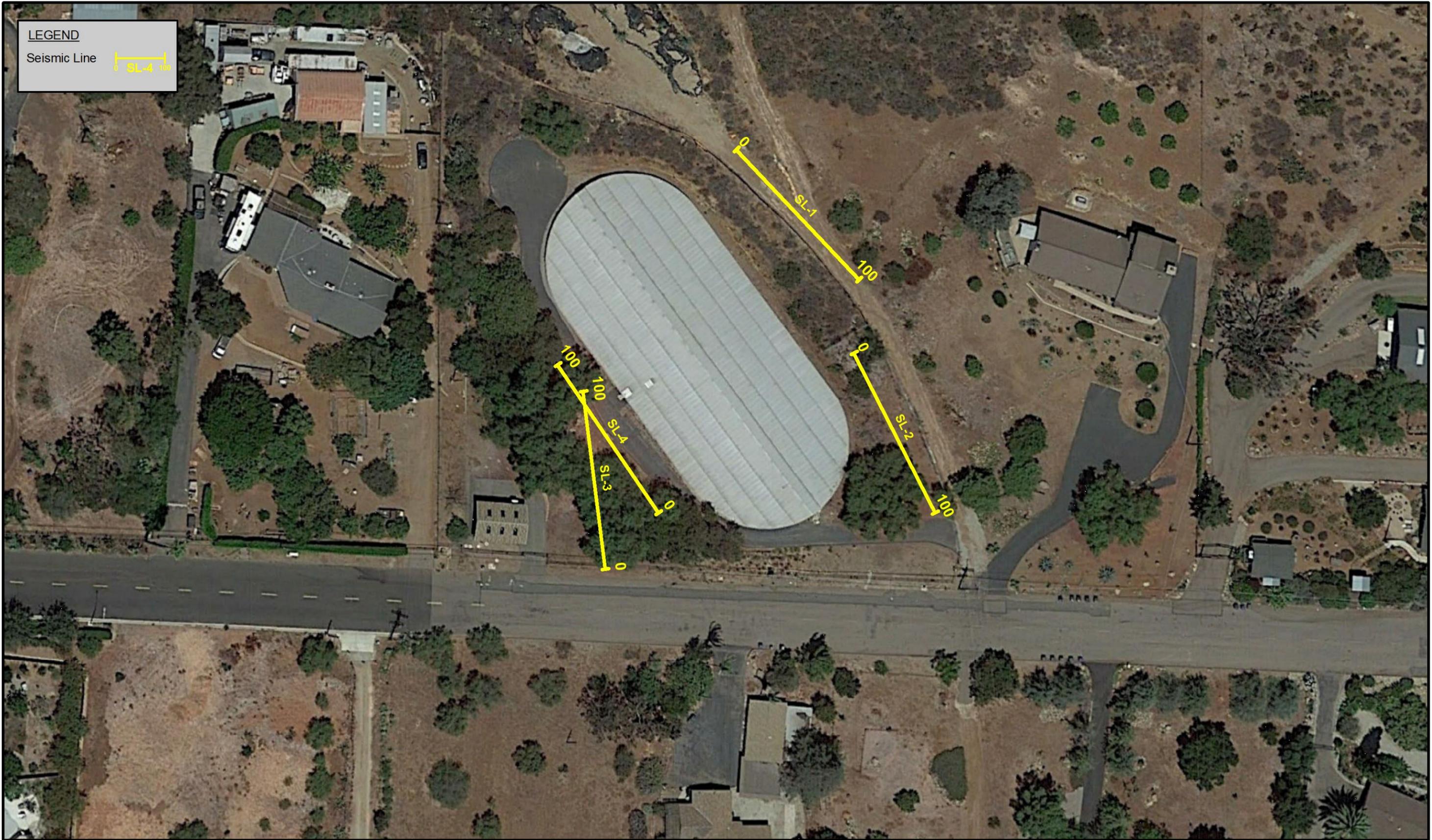
SITE LOCATION MAP



Edgehill Road
Vista, California

Project No.: 119042b

Date: 02/19



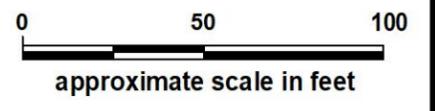
LEGEND
 Seismic Line 

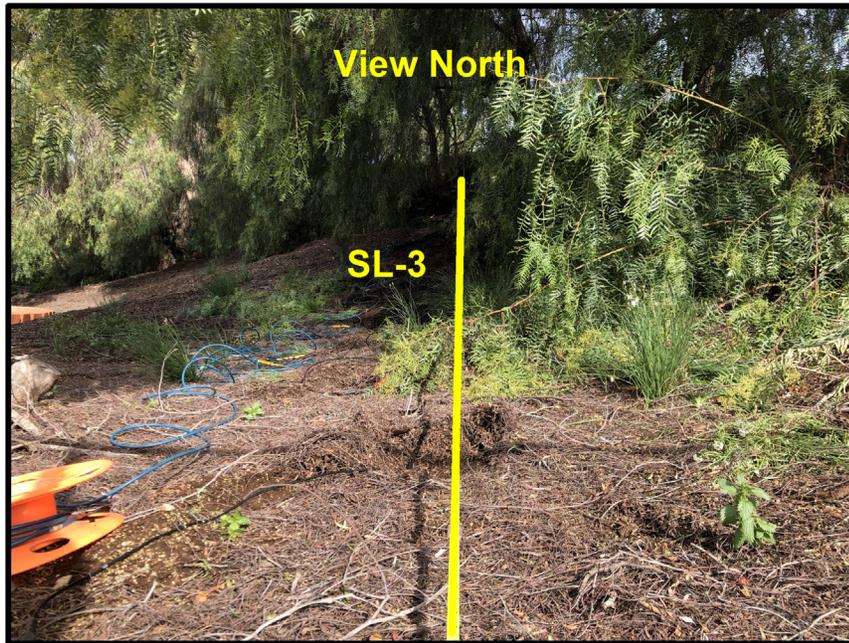
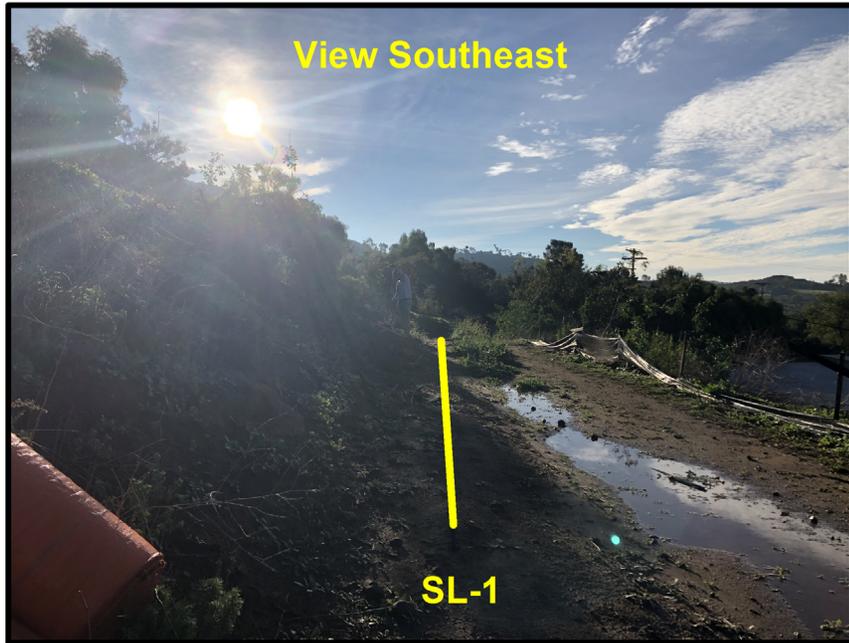
**LINE LOCATION
 MAP**



Edgehill Road
 Vista, California
 Project No.: 19042b Date: 02/19

 **SOUTHWEST**
 GEOPHYSICS INC.
 Figure 2





SITE PHOTOGRAPHS

Edgehill Road
Vista, California

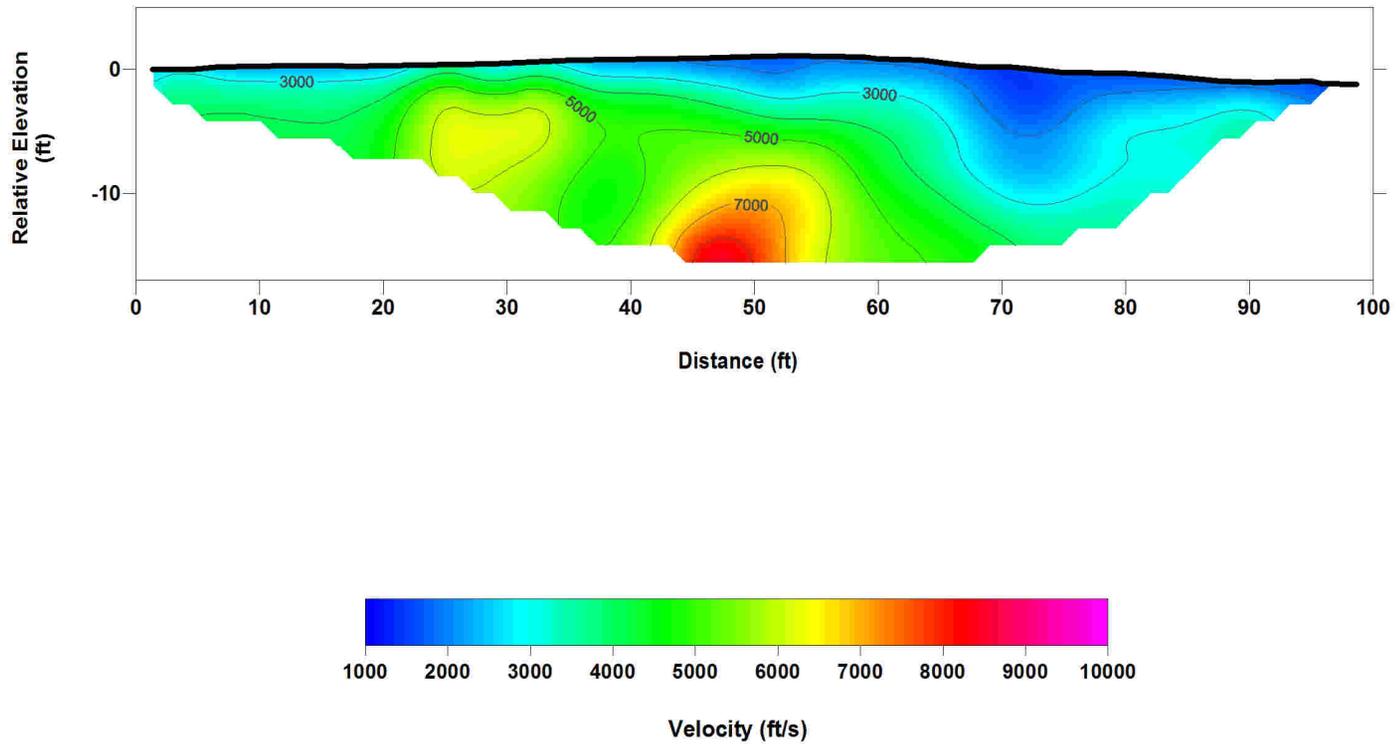
Project No.: 119042b

Date: 02/19



**SOUTHWEST
GEOPHYSICS**
Figure 3

TOMOGRAPHY MODEL



**P-WAVE PROFILE
SL-1**

Edgehill Road
Vista, California

Project No.: 119042b

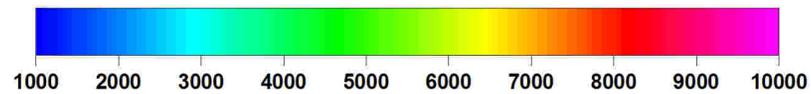
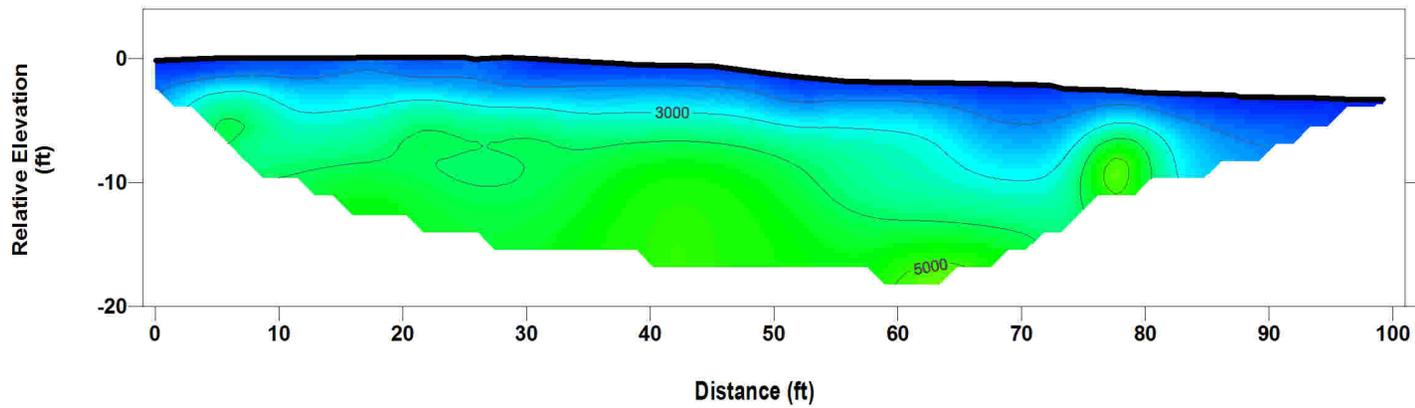
Date: 02/19



Figure 4a

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



Velocity (ft/s)

**P-WAVE PROFILE
SL-2**

Edgehill Road
Vista, California

Project No.: 119042b

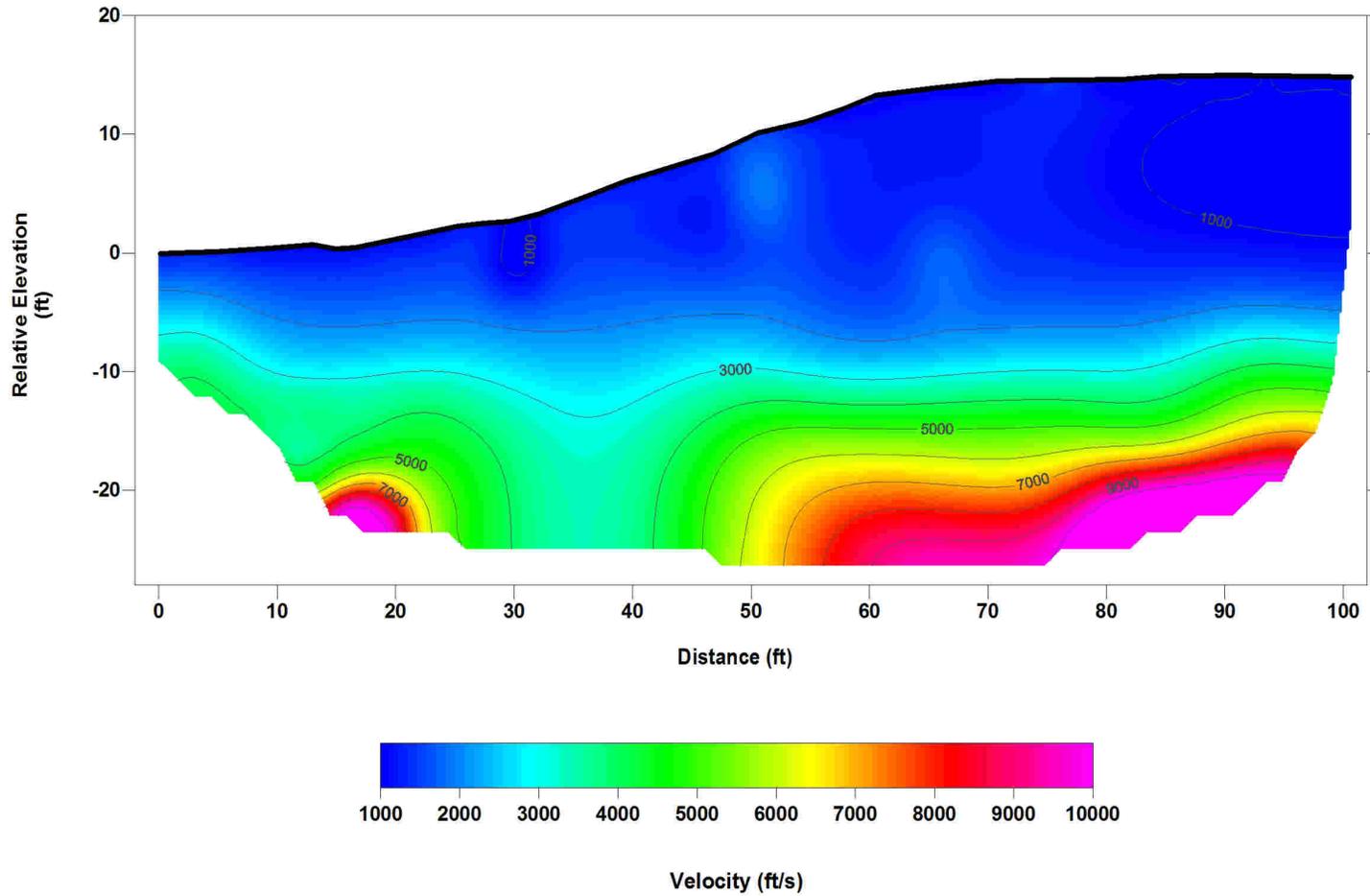
Date: 02/19



Figure 4b

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



**P-WAVE PROFILE
SL-3**

Edgehill Road
Vista, California

Project No.: 119042b

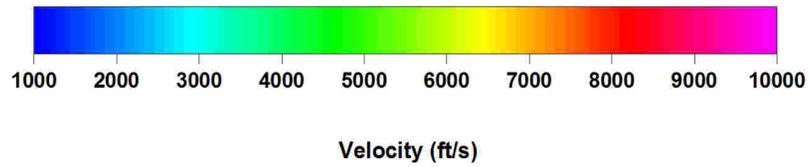
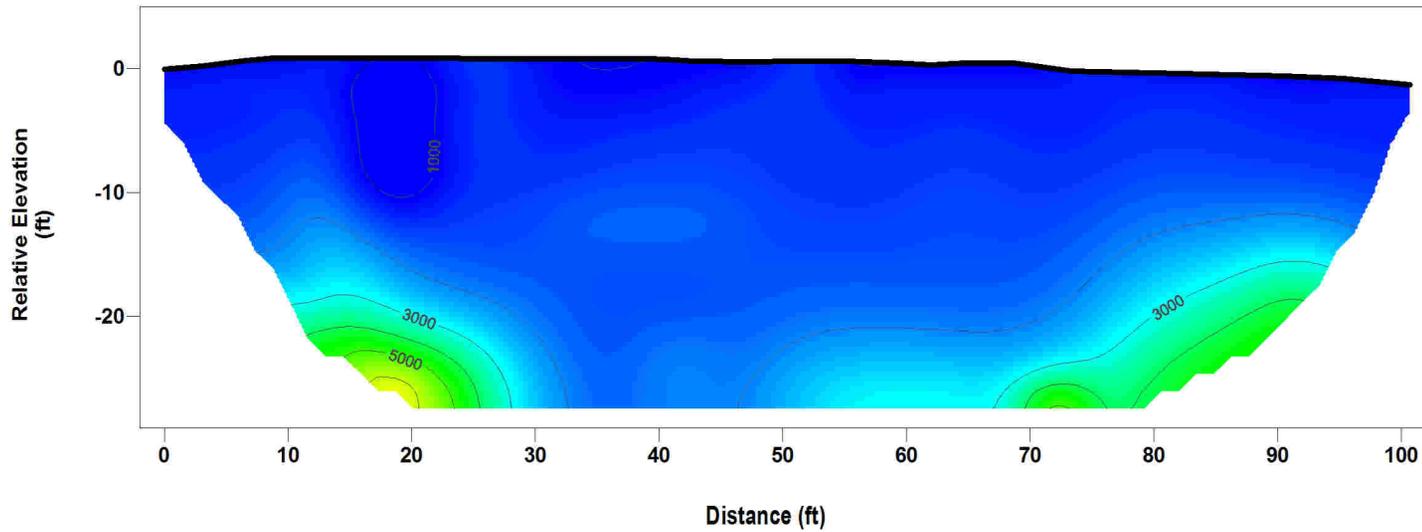
Date: 02/19



Figure 4c

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



**P-WAVE PROFILE
SL-4**

Edgehill Road
Vista, California

Project No.: 119042b

Date: 02/19



Figure 4d

Note: Contour Interval = 1,000 feet per second

Appendix E1

Preliminary Environmental Site Assessment

MEMORANDUM

To: Andrew Talbert, CEQA
From: Glenna McMahon, Audrey Herschberger, Hydrogeology/HazWaste
Subject: Preliminary Environmental Site Assessment for the Vista Irrigation District E Reservoir Replacement and Pump Station Project
Date: May 8, 2019
Attachments: Figure 1: Project Site
Attachment A – EDR Report
Attachment B – Historic Aerial Photographs
Attachment C – Sanborn Map Report

This Preliminary Environmental Site Assessment (ESA) was conducted for the proposed Vista Irrigation District (District) E Reservoir Replacement and Pump Station Project (proposed project), located on the north side of Edgehill Road in San Diego County, California¹. The proposed project includes replacement of the existing oval-shaped, partially buried reservoir and construction of a new pump station. The existing 1.5 million gallon (MG) partially buried reservoir will be demolished and replaced with a 2 MG to 4 MG partially buried reservoir. The new pump station will be constructed to convey approximately 3,000 gallons per minute (gpm), and will connect to the existing 16-inch subterranean pipeline within Edgehill Road to the south. The project site is approximately 1.88 acres and consists of assessor parcel number (APN) 174-240-33 and a portion of Edgehill Road right-of-way to the south (Figure 1: Project Site).

The objective of this Preliminary ESA is to determine if there are any potential environmental concerns to the proposed project. This Preliminary ESA consists of a review and summary of regulatory agency records and historical aerial photographs. This Preliminary ESA is not a complete Phase I ESA as described in ASTM 1527-13.

PHYSICAL SETTING

Geological information was obtained from the GeoCheck® section of the Environmental Data Resources (EDR) Report, unless otherwise cited. The project site is at an elevation of

¹ The project site lies immediately northeast of the City of Vista incorporation boundary. The address still reflects the City of Vista.

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

approximately 750 feet above mean sea level (amsl). The topography of the area slopes generally westward and slightly southward towards the Pacific Ocean, the closest point of which is approximately 9.5 miles west-southwest of the project site. The project site is underlain by Las Posas fine sandy loams, which are well drained with slow infiltration rates. No water wells were identified within a one mile radius of the project site.

Dudek consulted the USGS National Water Information System Mapper online (USGS 2019). No water wells or groundwater information was identified within a one mile radius of the project site.

APN 174240330, which encompasses the majority of the project site, including the existing reservoir, is zoned “transportation, communications, utilities.” The parcels to the north, east, and west are zoned “spaced rural residential.” The parcels south of the Edgehill Road right-of-way, are zoned “general single family or SF detached” (SanGIS 2019).

REGULATORY RECORDS

A search of regulatory records was conducted by EDR on March 7, 2019 (EDR report, Attachment A). The search was conducted for the project site, and includes a quarter mile, half mile, and one mile search radius as defined in the records review requirements of the ASTM 1527-13 standard. The EDR report gives a listing of sites within the defined search radii that are identified on one or more environmental regulatory databases. Information in these listings includes the site name, location of the site relative to the project site, regulatory database listing, and the status of the listed site.

Two listings were identified in the EDR report. The nearest listing is 0.551 miles south-southwest of the project site. Dudek reviewed the listings, the distance from the project site, and known environmental conditions, and determined if these listings are considered potential environmental concerns to the proposed project. Table 1 summarizes the listings identified in the EDR Report.

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

**Table 1
Project Site Regulatory Database Listings**

Business Name, Address	Location Relative to Project Site	Database(s)	Details	Identified Environmental Concern
Huntalas School Site 2317/2355 Foothill Drive	0.551 miles SSW	EnviroStor SCH	The site was a former ranch and orchard. Due to historical agricultural use and desired future use as a school, an environmental investigation was required prior to development. No adverse environmental conditions were identified, and in the year 2000, the regulatory agency confirmed no further action was required. The site is now the Vista Historical Society.	No
Camino Largo Elementary School North Santa Fe Ave/Osborne Street	0.770 miles NNW	EnviroStor SCH	The site was historically an orchard. Due to historical agricultural use and desired future use as school, an environmental investigation was required prior to development. The school district later withdrew from the environmental program, as the proposed site use changed.	No

ONLINE REGULATORY DATABASES

Dudek consulted available online databases that provide environmental information on facilities and sites in the State of California. Table 2 provides a summary of the databases, which were searched by Dudek on March 6 and 7, 2019.

**Table 2
Online Database Listings**

Database	Details
CalEPA https://siteportal.calepa.ca.gov/nsite/	The CalEPA Regulated Site Portal is a website that combines data about environmentally regulated sites and facilities in California into a single, searchable database and interactive map. Data sources include California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxics Release Inventory (TRI).
Department of Toxic Substance Control (DTSC) EnviroStor https://www.envirostor.dtsc.ca.gov/	The DTSC's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons for further investigation.

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

Table 2
Online Database Listings

Database	Details
Regional Water Quality Control Board (RWQCB) GeoTracker http://geotracker.waterboards.ca.gov/	The California RWQCB's data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. GeoTracker contains records for sites that require cleanup, various unregulated projects, and permitted facilities. Sites include LUST, Department of Defense, Cleanup Program, Irrigated Lands, Oil and Gas Production, Permitted USTs, and Land Disposal Sites.
National Pipeline Mapping System https://www.npms.phmsa.dot.gov/	The National Pipeline Mapping System (NPMS) Public Map Viewer is a web-based application designed to assist the general public with displaying and querying data related to gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks under Department of Transportation Pipeline and Hazardous Material Safety Administration jurisdiction.

Twelve sites were identified in the CalEPA database within one mile of the project site. Dudek reviewed these listings and determined most of the sites are listed for permitting, inventory, and regulatory compliance purposes, and do not indicate a release of hazardous substances or petroleum products to the environment. Exceptions are as follows:

- One site is adjacent to the project site to the south. The AT&T Mobility – Vista location at 2374 Edgehill Road is permitted to store diesel fuel and lead-acid batteries. There are no reported violations or releases associated with this site.
- Two cleanup sites were identified 0.58 and 0.87 miles west-northwest respectively of the project site, both of which had petroleum contamination in soil, and both of which were closed by the regulatory agency (San Diego RWQCB) in 1992. They are also listed in the RWQCB database.

Based on the information provided, it is unlikely these sites have impacted the environmental conditions of the project site. No additional sites were identified in the DTSC database beyond those identified in Table 1. No sites were identified in the NPMS database within one mile of the project site.

AERIAL PHOTOGRAPHS AND SANBORN MAPS

Historical aerial photographs (Attachment B) were reviewed to determine if there was evidence of recognized environmental conditions on the project site. Historical aerial photographs from 1939,

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

1946, 1953, 1964, 1967, 1970, 1979, 1985, 1989, 1994, 2005, 2009, 2012, and 2016 were reviewed. Observations are presented in Table 3.

Table 3
Historical Aerial Photograph Review

Date	Observations
1939, 1946	The footprint of the reservoir is observed. It is not apparent whether or not the reservoir is operational. Orchards are located adjacent to the west, southwest, and southeast, along with sparse residential structures. The land to the north and east appears undeveloped. Edgehill Road is observed on the south side of the reservoir footprint. A small structure is located on the southwest corner of the project site, on the north side of Edgehill Road.
1953	The reservoir appears covered with a structure. The property to the south is an orchard with a residential structure. The remaining surrounding areas appear unchanged as compared to the 1946 aerial photograph.
1964, 1967, 1970	A large reservoir has been constructed to the northeast of the project site. The other adjacent property uses appear unchanged as compared to the 1953 aerial photograph.
1979, 1985	Commercial development has increased to the west. Residential development has increased to the south and southwest. Adjacent property uses appear unchanged as compared to the 1970 aerial photograph. The project site appears unchanged as compared to the 1970 aerial photograph.
1989, 1994	Residential development is increasing to the north, south, and southeast. Remaining areas appear unchanged as compared to the 1985 aerial photograph.
2005, 2009, 2012, 2016	The adjacent properties to the west, east, and southeast have been developed with residential dwellings; the orchards have been removed. Remnants of the orchard and agricultural land is observed to the south and southwest. Residential development in the area has increased; commercial development has increased to the west and northwest. Residential and commercial development of the area continues to increase as described above from 2005 to 2016.

Historical Sanborn fire insurance maps were requested from EDR. Sanborn maps provide information regarding the historical uses of the project site and surrounding properties. Sanborn maps typically exist for cities with populations of 2,000 or more; the coverage is dependent on the location of the subject site within the city limits. The Sanborn Map Report lists the project site as an unmapped property; no additional information was included in the report (Attachment C).

SUMMARY AND CONCLUSIONS

The proposed project is located on the north side of Edgehill Road in San Diego County, California. The proposed project includes replacement of the existing oval-shaped, partially buried reservoir and construction of a new pump station. The existing 1.5 million gallon (MG) partially buried reservoir will be demolished and replaced with a 2 MG to 4 MG partially buried reservoir. The new pump station will be constructed on the project site to convey approximately 3,000

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

gallons per minute (gpm), and will connect to the existing 16-inch subterranean pipeline within Edgehill Road to the south.

Since at least 1939, the project site has been used for operation of a potable water storage reservoir. The reservoir was completed and enclosed in at least 1953. Edgehill Road has been located on the south side of the reservoir since at least 1939. The surrounding area was agricultural, specifically orchards, from at least 1939. Residential development of the area began in the 1970s, and the adjacent properties were residentially developed beginning in the 1980s through approximately 2005. While the adjacent properties were historically orchards, most of the area has been redeveloped as residential properties; therefore, it is unlikely that historical use of pesticides, herbicides, or fungicides will impact the proposed project.

Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal-EPA) to compile a list of hazardous waste and substances sites (Cortese List). While the Cortese List is no longer maintained as a single list, the following databases provide information that meet the Cortese List requirements:

- 1) List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database (Health and Safety Codes 25220, 25242, 25356, and 116395);
- 2) List of Leaking Underground Storage Tank (LUST) Sites by County and Fiscal Year from the State Water Resources Control Board (Water Board) GeoTracker database (Health and Safety Code 25295);
- 3) List of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels outside the waste management unit (Water Code Section 13273 subdivision (e) and California Code of Regulations Title 14 Section 18051));
- 4) List of “active” Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the Water Board (Water Code Sections 13301 and 13304); and
- 5) List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The two listings identified on the EnviroStor database within one mile of the project site are closed investigations for proposed schools, and do not indicate a confirmed presence of hazardous wastes or substances. No LUST sites or solid waste disposal sites were identified on the GeoTracker database within a one mile radius of the project site. No CDO or CAO sites were identified within

Memorandum

Subject: Preliminary ESA for the Vista Irrigation District E Reservoir Replacement and Pump Station Project

a one mile radius of the project site. No DTSC-identified hazardous waste facilities subject to corrective action were identified within a one mile radius of the project site.

This Preliminary ESA has not identified environmental impacts on or near the project site that could impact the proposed project.

REFERENCES

SanGIS 2019. San Diego County GIS. Online interactive mapping tool. Accessed March 7, 2019.
<http://sdgis.sandag.org/map.aspx>

USGS 2019. USGS National Water Information System: Mapper. Online interactive water resources mapping tool. Accessed March 7, 2019.
<https://maps.waterdata.usgs.gov/mapper/index.html>



SOURCE: SANGIS 2017, 2019

FIGURE 1
Project Site
Vista Irrigation District

ATTACHMENT A
EDR Report

Vista E Reservoir

Edgehill Road
Vista, CA 92084

Inquiry Number: 5589586.1s

March 13, 2019

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), 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

EDGEHILL ROAD
VISTA, CA 92084

COORDINATES

Latitude (North): 33.2121540 - 33° 12' 43.75"
Longitude (West): 117.2011280 - 117° 12' 4.06"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 481256.1
UTM Y (Meters): 3674633.0
Elevation: 751 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5641320 SAN MARCOS, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140603
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
EDGEHILL ROAD
VISTA, CA 92084

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	HUNTALAS SCHOOL SITE	2317/2355 FOOTHILL D	ENVIROSTOR, SCH	Lower	2907, 0.551, SSW
2	CAMINO LARGO ELEMENT	NORTH SANTA FE AVENU	ENVIROSTOR, SCH	Higher	4064, 0.770, NNW

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

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

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

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report

SAN DIEGO CO. SAM..... Environmental Case Listing

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Active UST Facilities

AST..... Aboveground Petroleum Storage Tank Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

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

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

ODI..... Open Dump Inventory

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

EXECUTIVE SUMMARY

HIST Cal-Sites.....	Historical Calsites Database
SCH.....	School Property Evaluation Program
CDL.....	Clandestine Drug Labs
San Diego Co. HMMD.....	Hazardous Materials Management Division Database
CERS HAZ WASTE.....	CERS HAZ WASTE
Toxic Pits.....	Toxic Pits Cleanup Act Sites
US CDL.....	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

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

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

RCRA NonGen / NLR.....	RCRA - Non Generators / No Longer Regulated
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

EXECUTIVE SUMMARY

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
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
UXO.....	Unexploded Ordnance Sites
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
EML.....	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
MILITARY PRIV SITES.....	MILITARY PRIV SITES (GEOTRACKER)
PROJECT.....	PROJECT (GEOTRACKER)
WDR.....	Waste Discharge Requirements Listing
SAN DIEGO CO LOP.....	Local Oversight Program Listing
CIWQS.....	California Integrated Water Quality System
CERS.....	CERS
NON-CASE INFO.....	NON-CASE INFO (GEOTRACKER)
WIP.....	Well Investigation Program Case List
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)

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

State- and tribal - equivalent CERCLIS

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

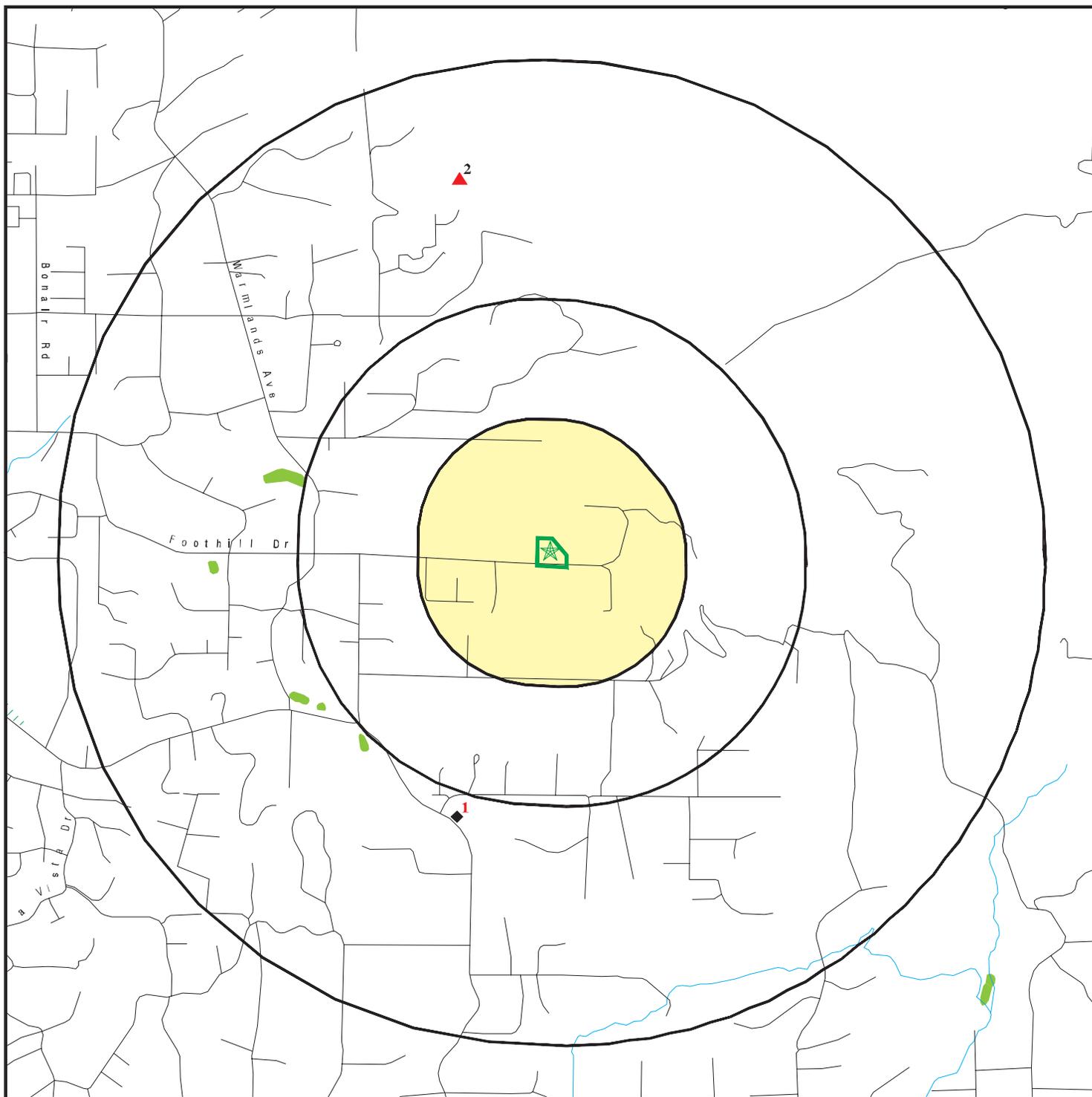
A review of the ENVIROSTOR list, as provided by EDR, and dated 01/28/2019 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CAMINO LARGO ELEMENT</i> Facility Id: 37010049 Status: Inactive - Withdrawn	<i>NORTH SANTA FE AVENU</i>	<i>NNW 1/2 - 1 (0.770 mi.)</i>	<i>2</i>	<i>12</i>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>HUNTALAS SCHOOL SITE</i> Facility Id: 37010012 Status: No Further Action	<i>2317/2355 FOOTHILL D</i>	<i>SSW 1/2 - 1 (0.551 mi.)</i>	<i>1</i>	<i>8</i>

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5589586.1S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

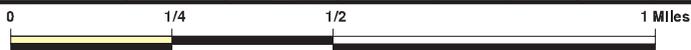
100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

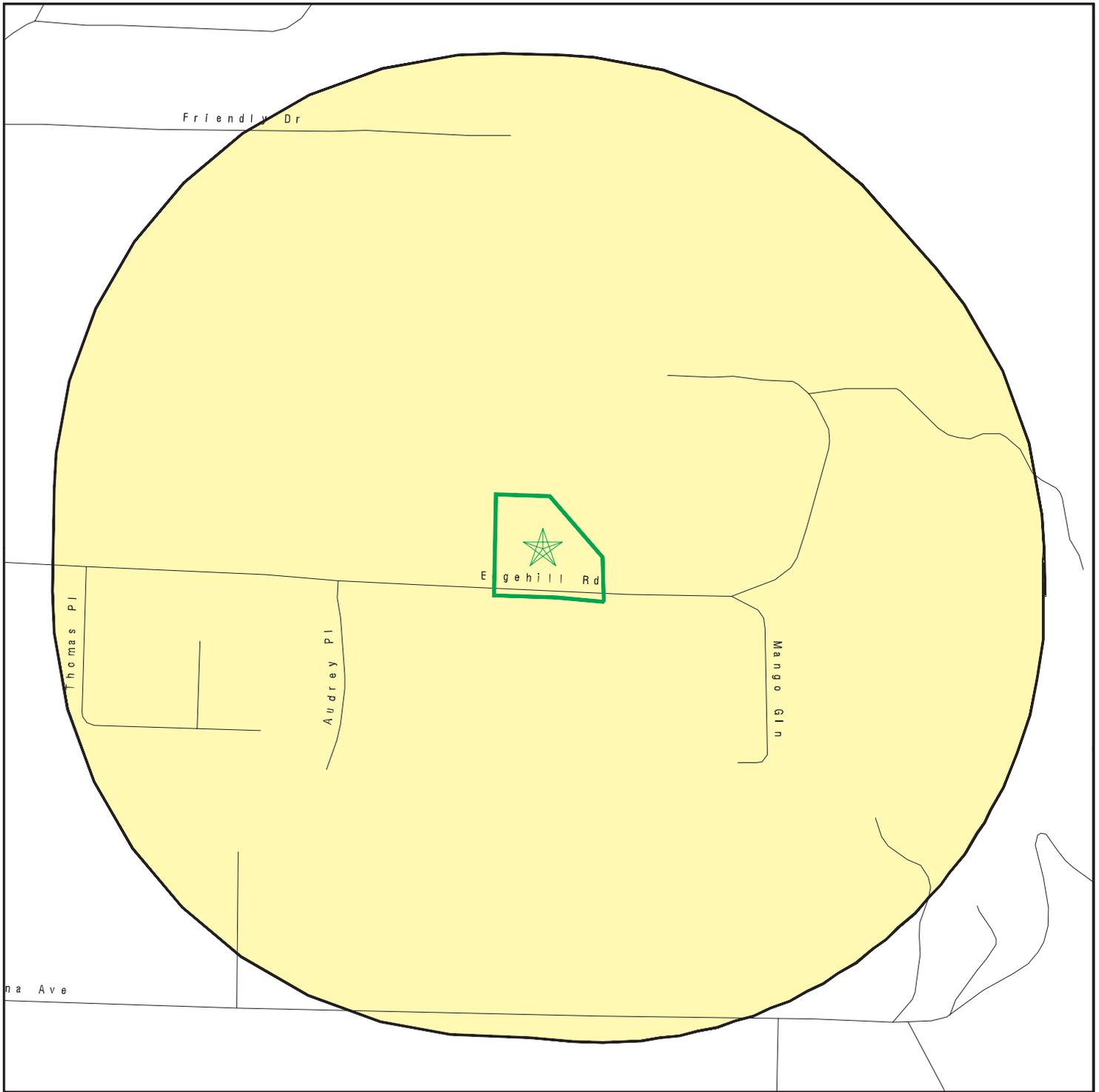


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vista E Reservoir
 ADDRESS: Edgehill Road
 Vista CA 92084
 LAT/LONG: 33.212154 / 117.201128

CLIENT: Dudek & Associates
 CONTACT: Audrey Herschberger
 INQUIRY #: 5589586.1s
 DATE: March 13, 2019 7:09 pm

DETAIL MAP - 5589586.1S



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



-  Indian Reservations BIA
-  100-year flood zone
-  500-year flood zone
-  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: Vista E Reservoir
 ADDRESS: Edgehill Road
 Vista CA 92084
 LAT/LONG: 33.212154 / 117.201128

CLIENT: Dudek & Associates
 CONTACT: Audrey Herschberger
 INQUIRY #: 5589586.1s
 DATE: March 13, 2019 7:11 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL RESPONSE</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS ENVIROSTOR</i>								
ENVIROSTOR	1.000		0	0	0	2	NR	2
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	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
SAN DIEGO CO. SAM	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
State and tribal registered storage tank lists								
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
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
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
San Diego Co. HMMD	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
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
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
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	0.001		0	NR	NR	NR	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	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

1
SSW
1/2-1
0.551 mi.
2907 ft.

HUNTALAS SCHOOL SITE
2317/2355 FOOTHILL DRIVE
VISTA, CA 92083

ENVIROSTOR S105628871
SCH N/A

Relative:
Lower
Actual:
646 ft.

ENVIROSTOR:
Facility ID: 37010012
Status: No Further Action
Status Date: 09/21/2000
Site Code: 404071
Site Type: School Investigation
Site Type Detailed: School
Acres: 27.75
NPL: NO
Regulatory Agencies: DTSC
Lead Agency: DTSC
Program Manager: Sandra Karinen
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 76
Senate: 36
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.20430
Longitude: -117.2043
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: DDD DDE DDT TPH-diesel Chlordane
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL, SV
Alias Name: HUNTALAS SCHOOL SITE
Alias Type: Alternate Name
Alias Name: VISTA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: VISTA USD, PROPOSED HUNTALAS SCH/VCA
Alias Type: Alternate Name
Alias Name: VISTA USD-HUNTALAS SCH
Alias Type: Alternate Name
Alias Name: 404018
Alias Type: Project Code (Site Code)
Alias Name: 404071
Alias Type: Project Code (Site Code)
Alias Name: 37010012
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/27/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/19/2000
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HUNTALAS SCHOOL SITE (Continued)

S105628871

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/26/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 09/21/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Public Participation
Completed Date: 08/30/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/22/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/27/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/08/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/03/2002
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HUNTALAS SCHOOL SITE (Continued)

S105628871

SCH:

Facility ID: 37010012
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 27.75
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Sandra Karinen
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404071
Assembly: 76
Senate: 36
Special Program Status: Not reported
Status: No Further Action
Status Date: 09/21/2000
Restricted Use: NO
Funding: School District
Latitude: 33.20430
Longitude: -117.2043
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: DDD, DDD, DDE, DDT, TPH-diesel, Chlordane
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL, SV
Alias Name: HUNTALAS SCHOOL SITE
Alias Type: Alternate Name
Alias Name: VISTA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: VISTA USD, PROPOSED HUNTALAS SCH/VCA
Alias Type: Alternate Name
Alias Name: VISTA USD-HUNTALAS SCH
Alias Type: Alternate Name
Alias Name: 404018
Alias Type: Project Code (Site Code)
Alias Name: 404071
Alias Type: Project Code (Site Code)
Alias Name: 37010012
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/27/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/19/2000
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HUNTALAS SCHOOL SITE (Continued)

S105628871

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/26/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 09/21/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Public Participation
Completed Date: 08/30/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/22/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/27/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/08/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/03/2002
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

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

2
NNW
1/2-1
0.770 mi.
4064 ft.

CAMINO LARGO ELEMENTARY SCHOOL
NORTH SANTA FE AVENUE/OSBORNE STREET
VISTA, CA 92084

ENVIROSTOR S107027275
SCH N/A

Relative:
Higher
Actual:
860 ft.

ENVIROSTOR:
Facility ID: 37010049
Status: Inactive - Withdrawn
Status Date: 09/22/2003
Site Code: 404468
Site Type: School Investigation
Site Type Detailed: School
Acres: 9
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: * Rafat Abbasi
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 75
Senate: 36
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.2235
Longitude: -117.2044
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: VISTA USD-PRPSD CAMINO LARGO ELEM SCHOOL
Alias Type: Alternate Name
Alias Name: 404468
Alias Type: Project Code (Site Code)
Alias Name: 37010049
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inactive Status Letter
Completed Date: 09/15/2003
Comments: Vista Unified School District submitted an application to DTSC to initiate the Preliminary Endangerment Assessment process for the Proposed Large Elementary School and prepare an Environmental Oversight Agreement. The Agreement was never executed. DTSC received notice from the School District via electronic mail on September 15, 2003 that they are no longer pursuing site acquisition and requested termination of the project.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/09/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMINO LARGO ELEMENTARY SCHOOL (Continued)

S107027275

Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/22/2003
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:

Facility ID: 37010049
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 9
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: * Rafat Abbasi
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404468
Assembly: 75
Senate: 36
Special Program Status: Not reported
Status: Inactive - Withdrawn
Status Date: 09/22/2003
Restricted Use: NO
Funding: School District
Latitude: 33.2235
Longitude: -117.2044
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: VISTA USD-PRPSD CAMINO LARGO ELEM SCHOOL
Alias Type: Alternate Name
Alias Name: 404468
Alias Type: Project Code (Site Code)
Alias Name: 37010049
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inactive Status Letter
Completed Date: 09/15/2003
Comments: Vista Unified School District submitted an application to DTSC to

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMINO LARGO ELEMENTARY SCHOOL (Continued)

S107027275

initiate the Preliminary Endangerment Assessment process for the Proposed Large Elementary School and prepare an Environmental Oversight Agreement. The Agreement was never executed. DTSC received notice from the School District via electronic mail on September 15, 2003 that they are no longer pursuing site acquisition and requested termination of the project.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/09/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/22/2003
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

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

Federal NPL site list

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: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

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: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

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: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMs by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

Date of Government Version: 12/13/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018	Source: EPA
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

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: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

Federal RCRA generators list

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: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - 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). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	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: 10/17/2018	Source: Department of the Navy
Date Data Arrived at EDR: 10/25/2018	Telephone: 843-820-7326
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 02/07/2019
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/27/2019
	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: 01/31/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/04/2019	Telephone: 703-603-0695
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 02/04/2019
Number of Days to Update: 32	Next Scheduled EDR Contact: 06/10/2019
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

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: 01/31/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/04/2019	Telephone: 703-603-0695
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 02/04/2019
Number of Days to Update: 32	Next Scheduled EDR Contact: 06/10/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 02/04/2019

Date Data Arrived at EDR: 02/08/2019

Date Made Active in Reports: 03/08/2019

Number of Days to Update: 28

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 02/08/2019

Next Scheduled EDR Contact: 04/08/2019

Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/28/2019

Date Data Arrived at EDR: 01/29/2019

Date Made Active in Reports: 03/05/2019

Number of Days to Update: 35

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 01/29/2019

Next Scheduled EDR Contact: 05/11/2019

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

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

Date of Government Version: 01/28/2019

Date Data Arrived at EDR: 01/29/2019

Date Made Active in Reports: 03/05/2019

Number of Days to Update: 35

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 01/29/2019

Next Scheduled EDR Contact: 05/11/2019

Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/11/2019

Date Data Arrived at EDR: 02/12/2019

Date Made Active in Reports: 03/05/2019

Number of Days to Update: 21

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320

Last EDR Contact: 02/12/2019

Next Scheduled EDR Contact: 05/27/2019

Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 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	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 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	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 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: Quarterly

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: 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: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

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: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/25/2018	Source: EPA Region 8
Date Data Arrived at EDR: 05/18/2018	Telephone: 303-312-6271
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/12/2018	Source: EPA, Region 5
Date Data Arrived at EDR: 05/18/2018	Telephone: 312-886-7439
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018	Source: EPA Region 4
Date Data Arrived at EDR: 05/18/2018	Telephone: 404-562-8677
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/05/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/01/2018	Source: EPA Region 6
Date Data Arrived at EDR: 05/18/2018	Telephone: 214-665-6597
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/24/2018	Source: EPA Region 7
Date Data Arrived at EDR: 05/18/2018	Telephone: 913-551-7003
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 12/10/2018	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

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: Semi-Annually

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: Varies

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: Semi-Annually

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: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

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: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

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: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 05/06/2019
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).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/12/2018	Source: EPA Region 5
Date Data Arrived at EDR: 05/18/2018	Telephone: 312-886-6136
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/01/2018	Source: EPA Region 6
Date Data Arrived at EDR: 05/18/2018	Telephone: 214-665-7591
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/24/2018	Source: EPA Region 7
Date Data Arrived at EDR: 05/18/2018	Telephone: 913-551-7003
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/25/2018	Source: EPA Region 8
Date Data Arrived at EDR: 05/18/2018	Telephone: 303-312-6137
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/10/2018	Source: EPA Region 9
Date Data Arrived at EDR: 05/18/2018	Telephone: 415-972-3368
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	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: 04/12/2018	Source: EPA Region 10
Date Data Arrived at EDR: 05/18/2018	Telephone: 206-553-2857
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 03/07/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
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: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
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: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/20/2018
Date Data Arrived at EDR: 12/21/2018
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
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: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/18/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 01/28/2019
Number of Days to Update: 30	Next Scheduled EDR Contact: 05/11/2019
	Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/10/2018	Source: Department of Conservation
Date Data Arrived at EDR: 12/12/2018	Telephone: 916-323-3836
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 34	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/26/2018	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 09/28/2018	Telephone: 916-341-6422
Date Made Active in Reports: 11/01/2018	Last EDR Contact: 02/12/2019
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/27/2019
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 01/29/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/13/2019
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 01/17/2019
Number of Days to Update: 137	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 05/13/2019
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: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing Aboveground storage tank sites

Date of Government Version: 09/11/2018	Source: San Francisco County Department of Public Health
Date Data Arrived at EDR: 09/12/2018	Telephone: 415-252-3896
Date Made Active in Reports: 10/11/2018	Last EDR Contact: 01/31/2019
Number of Days to Update: 29	Next Scheduled EDR Contact: 05/20/2019
	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	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	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: 10/22/2018	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 10/23/2018	Telephone: 916-323-2514
Date Made Active in Reports: 11/30/2018	Last EDR Contact: 01/24/2019
Number of Days to Update: 38	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/29/2018	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 12/04/2018	Telephone: 916-323-3400
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/27/2019
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/17/2019
	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: 12/12/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2018	Telephone: 202-564-6023
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/03/2018	Source: DTSC and SWRCB
Date Data Arrived at EDR: 12/05/2018	Telephone: 916-323-3400
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 03/05/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 06/17/2019
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 03/27/2018	Telephone: 202-366-4555
Date Made Active in Reports: 06/08/2018	Last EDR Contact: 02/08/2019
Number of Days to Update: 73	Next Scheduled EDR Contact: 04/08/2019
	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: 10/24/2018	Source: Office of Emergency Services
Date Data Arrived at EDR: 01/24/2019	Telephone: 916-845-8400
Date Made Active in Reports: 03/05/2019	Last EDR Contact: 01/24/2019
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/06/2019
	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: 12/10/2018	Source: State Water Quality Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	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: 12/10/2018	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 02/22/2019
Number of Days to Update: 97	Next Scheduled EDR Contact: 06/03/2019
	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: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Semi-Annually

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: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 05/27/2019
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: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 04/08/2019
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: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
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: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
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: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
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: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
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: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/08/2019
Next Scheduled EDR Contact: 06/17/2019
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: 10/26/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018	Source: EPA
Date Data Arrived at EDR: 10/04/2018	Telephone: 202-564-6023
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 02/15/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/20/2019
	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: 09/14/2018	Source: EPA
Date Data Arrived at EDR: 10/11/2018	Telephone: 202-566-0500
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 01/11/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/07/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

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: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 01/22/2019
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/06/2019
	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: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 03/07/2019
Number of Days to Update: 76	Next Scheduled EDR Contact: 06/17/2019
	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: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 03/05/2019
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/17/2019
	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: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/06/2019
	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: 10/02/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2018	Telephone: 202-343-9775
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 01/03/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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: 09/30/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 56

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
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: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
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: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
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: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/22/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

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: 08/01/2018
Date Data Arrived at EDR: 08/29/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 37

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/10/2019
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
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: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
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: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/11/2019
Next Scheduled EDR Contact: 06/24/2019
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: 11/15/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 03/01/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 06/10/2019
	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: 08/22/2018	Source: EPA
Date Data Arrived at EDR: 08/22/2018	Telephone: 800-385-6164
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 02/21/2019
Number of Days to Update: 44	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/20/2018	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 12/21/2018	Telephone: 916-323-3400
Date Made Active in Reports: 02/28/2019	Last EDR Contact: 12/21/2018
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/08/2019
	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: 08/28/2018	Source: Livermore-Pleasanton Fire Department
Date Data Arrived at EDR: 08/30/2018	Telephone: 925-454-2361
Date Made Active in Reports: 11/01/2018	Last EDR Contact: 02/26/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/27/2019
	Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 09/11/2018	Source: San Francisco County Department of Environmental Health
Date Data Arrived at EDR: 09/12/2018	Telephone: 415-252-3896
Date Made Active in Reports: 09/19/2018	Last EDR Contact: 01/31/2019
Number of Days to Update: 7	Next Scheduled EDR Contact: 05/20/2019
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/13/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 42

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 27

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/07/2019
Next Scheduled EDR Contact: 06/10/2019
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: 12/13/2018
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 47

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
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: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/10/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/11/2019
Next Scheduled EDR Contact: 05/27/2019
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: 12/31/2017
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 877-786-9427
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
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: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 56

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018	Source: Department of Conservation
Date Data Arrived at EDR: 12/12/2018	Telephone: 916-322-1080
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 34	Next Scheduled EDR Contact: 03/25/2019
	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: 11/09/2018	Source: Department of Public Health
Date Data Arrived at EDR: 12/05/2018	Telephone: 916-558-1784
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 03/05/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 06/17/2019
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/11/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 02/12/2019	Telephone: 916-445-9379
Date Made Active in Reports: 03/07/2019	Last EDR Contact: 02/12/2019
Number of Days to Update: 23	Next Scheduled EDR Contact: 05/27/2019
	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: 12/03/2018	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 12/05/2018	Telephone: 916-445-4038
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 03/05/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 06/17/2019
	Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 12/10/2018	Source: Department of Conservation
Date Data Arrived at EDR: 12/12/2018	Telephone: 916-323-3836
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 34	Next Scheduled EDR Contact: 03/25/2019
	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: 09/19/2018	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/20/2018	Telephone: 916-445-3846
Date Made Active in Reports: 10/19/2018	Last EDR Contact: 12/12/2018
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018	Source: Department of Conservation
Date Data Arrived at EDR: 06/13/2018	Telephone: 916-445-2408
Date Made Active in Reports: 07/17/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 34	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 12/10/2018	Source: State Water Resource Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	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: 05/08/2018	Source: RWQCB, Central Valley Region
Date Data Arrived at EDR: 07/11/2018	Telephone: 559-445-5577
Date Made Active in Reports: 09/13/2018	Last EDR Contact: 01/11/2019
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/20/2007	Telephone: 916-341-5227
Date Made Active in Reports: 06/29/2007	Last EDR Contact: 02/13/2019
Number of Days to Update: 9	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 12/10/2018	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)

Projects sites

Date of Government Version: 12/10/2018	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/11/2018	Telephone: 866-480-1028
Date Made Active in Reports: 01/15/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 35	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 37

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 12/03/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
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: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: 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	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 01/11/2019	Telephone: 510-567-6700
Date Made Active in Reports: 03/05/2019	Last EDR Contact: 01/07/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/07/2019	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 01/08/2019	Telephone: 510-567-6700
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 01/07/2019
Number of Days to Update: 59	Next Scheduled EDR Contact: 04/24/2047
	Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA AMADOR: CUPA Facility List Cupa Facility List

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 58

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
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: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing Cupa Facility Listing

Date of Government Version: 01/24/2019
Date Data Arrived at EDR: 01/25/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 39

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List Cupa facility list.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
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: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 17

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA DEL NORTE: CUPA Facility List Cupa Facility list

Date of Government Version: 01/16/2019
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 28

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List CUPA facility list.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
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: 10/16/2018
Date Data Arrived at EDR: 10/18/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 27

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
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: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA IMPERIAL: CUPA Facility List Cupa facility list.

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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: 29

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
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: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List Cupa facility list

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/12/2019
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA LASSEN: CUPA Facility List Cupa facility list

Date of Government Version: 01/17/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/19/2018
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 56

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/14/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
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: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
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: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/19/2017	Telephone: 310-524-2236
Date Made Active in Reports: 05/10/2017	Last EDR Contact: 01/14/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Semi-Annually

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: 03/09/2017	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 03/10/2017	Telephone: 562-570-2563
Date Made Active in Reports: 05/03/2017	Last EDR Contact: 01/17/2019
Number of Days to Update: 54	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 10/05/2018	Telephone: 310-618-2973
Date Made Active in Reports: 11/02/2018	Last EDR Contact: 01/17/2019
Number of Days to Update: 28	Next Scheduled EDR Contact: 05/06/2019
	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: 02/20/2019	Source: Madera County Environmental Health
Date Data Arrived at EDR: 02/22/2019	Telephone: 559-675-7823
Date Made Active in Reports: 03/07/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 13	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018	Source: Public Works Department Waste Management
Date Data Arrived at EDR: 10/04/2018	Telephone: 415-473-6647
Date Made Active in Reports: 11/02/2018	Last EDR Contact: 01/14/2019
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/29/2018
Date Data Arrived at EDR: 08/31/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 19

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 12/07/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/24/2019
Number of Days to Update: 44

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 26

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/27/2018
Next Scheduled EDR Contact: 04/15/2019
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: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
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: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 01/25/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 01/02/2019	Source: Health Care Agency
Date Data Arrived at EDR: 02/07/2019	Telephone: 714-834-3446
Date Made Active in Reports: 03/05/2019	Last EDR Contact: 02/04/2019
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/20/2019
	Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 01/02/2019	Source: Health Care Agency
Date Data Arrived at EDR: 02/08/2019	Telephone: 714-834-3446
Date Made Active in Reports: 03/06/2019	Last EDR Contact: 02/04/2019
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/20/2019
	Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2019	Source: Health Care Agency
Date Data Arrived at EDR: 02/05/2019	Telephone: 714-834-3446
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 02/05/2019
Number of Days to Update: 31	Next Scheduled EDR Contact: 05/20/2019
	Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/29/2018	Source: Placer County Health and Human Services
Date Data Arrived at EDR: 12/04/2018	Telephone: 530-745-2363
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/27/2019
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/17/2019
	Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/14/2019	Source: Plumas County Environmental Health
Date Data Arrived at EDR: 01/18/2019	Telephone: 530-283-6355
Date Made Active in Reports: 03/05/2019	Last EDR Contact: 01/17/2019
Number of Days to Update: 46	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/29/2019	Source: Department of Environmental Health
Date Data Arrived at EDR: 01/31/2019	Telephone: 951-358-5055
Date Made Active in Reports: 03/06/2019	Last EDR Contact: 12/17/2018
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST RIVERSIDE: Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 01/29/2019
Date Data Arrived at EDR: 01/31/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 01/04/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 60

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 67

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 42

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/19/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 03/06/2019
Next Scheduled EDR Contact: 05/06/2019
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: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversight 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: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
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: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List Cupa Facility List.

Date of Government Version: 11/14/2018
Date Data Arrived at EDR: 11/15/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
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: 12/03/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/23/2019
Number of Days to Update: 36

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/11/2019
Next Scheduled EDR Contact: 06/24/2019
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: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA SANTA CLARA: Cupa Facility List Cupa facility list

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 15

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
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: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
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: 30

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
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: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SOLANO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST SOLANO: Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 10

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List

Cupa Facility list

Date of Government Version: 12/21/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
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: 01/08/2019
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List

Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Environmental Protection
Telephone: 209-525-6751
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 59

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA TEHAMA: CUPA Facility List Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List Cupa facility list

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 42

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
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: 02/27/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 35

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

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: 02/07/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 42

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
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: 11/26/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 22

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/11/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 02/12/2019	Telephone: 860-424-3375
Date Made Active in Reports: 03/04/2019	Last EDR Contact: 02/12/2019
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/27/2019
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/13/2018	Telephone: N/A
Date Made Active in Reports: 08/01/2018	Last EDR Contact: 01/07/2019
Number of Days to Update: 19	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 01/30/2019	Telephone: 518-402-8651
Date Made Active in Reports: 02/14/2019	Last EDR Contact: 01/30/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/11/2019
	Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/23/2018	Telephone: 717-783-8990
Date Made Active in Reports: 11/27/2018	Last EDR Contact: 01/11/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017	Source: Department of Environmental Management
Date Data Arrived at EDR: 02/23/2018	Telephone: 401-222-2797
Date Made Active in Reports: 04/09/2018	Last EDR Contact: 02/19/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017	Source: Department of Natural Resources
Date Data Arrived at EDR: 06/15/2018	Telephone: N/A
Date Made Active in Reports: 07/09/2018	Last EDR Contact: 03/11/2019
Number of Days to Update: 24	Next Scheduled EDR Contact: 06/24/2019
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines

Source: PennWell Corporation
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 PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VISTA E RESERVOIR
EDGEHILL ROAD
VISTA, CA 92084

TARGET PROPERTY COORDINATES

Latitude (North):	33.212154 - 33° 12' 43.75"
Longitude (West):	117.201128 - 117° 12' 4.06"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	481256.1
UTM Y (Meters):	3674633.0
Elevation:	751 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641320 SAN MARCOS, CA
Version Date:	2012

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).

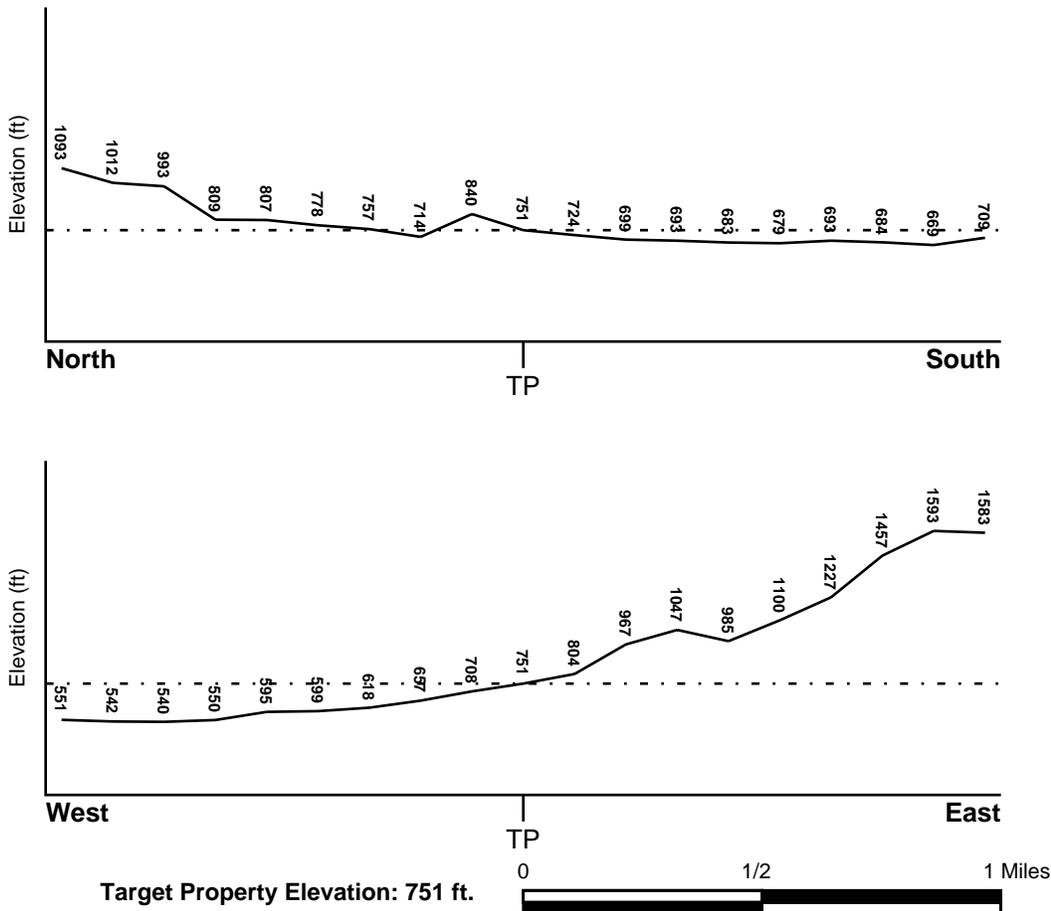
TOPOGRAPHIC INFORMATION

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 West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06073C0779G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06073C0777F	FEMA FIRM Flood data
06073C0781F	FEMA FIRM Flood data
06073C0783G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
SAN MARCOS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Mesozoic
System: Lower Jurassic and Upper Triassic
Series: Lower Mesozoic
Code: IMze (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

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).

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: LAS POSAS

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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	3 inches	33 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	33 inches	37 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: LAS POSAS

Soil Surface Texture: stony 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: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	3 inches	stony fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	3 inches	33 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	33 inches	37 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: LAS POSAS

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	3 inches	33 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	33 inches	37 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

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: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
2	12 inches	40 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
3	40 inches	66 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
4	66 inches	72 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6

Soil Map ID: 5

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
2	12 inches	40 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
3	40 inches	66 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6
4	66 inches	72 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.6

Soil Map ID: 6

Soil Component Name: STEEP GULLIED LAND

Soil Surface Texture: variable

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

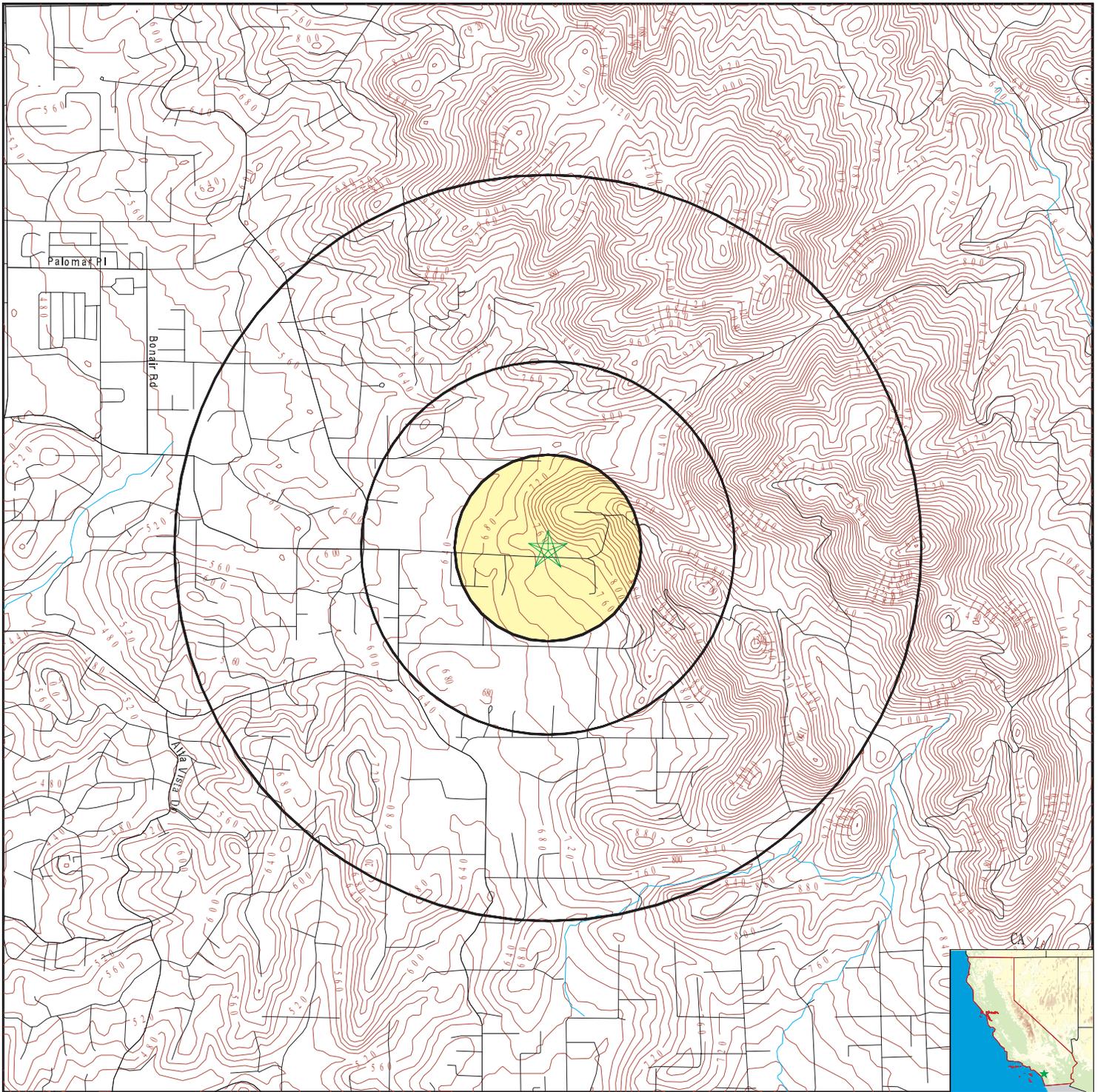
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

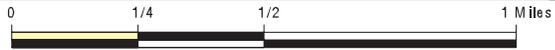
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5589586.1s



-  County Boundary
-  Major Roads
-  Contour Lines
-  Earthquake Fault Lines
-  Earthquake epicenter, Richter 5 or greater
-  Water Wells
-  Public Water Supply Wells
-  Cluster of Multiple Icons

-  Groundwater Flow Direction
-  Indeterminate Groundwater Flow at Location
-  Groundwater Flow Varies at Location
-  Closest Hydrogeological Data
-  Oil, gas or related wells



SITE NAME: Vista E Reservoir
 ADDRESS: Edgehill Road
 Vista CA 92084
 LAT/LONG: 33.212154 / 117.201128

CLIENT: Dudek & Associates
 CONTACT: Audrey Herschberger
 INQUIRY #: 5589586.1s
 DATE: March 13, 2019 7:11 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92084	30	1

Federal EPA Radon Zone for SAN DIEGO County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN DIEGO COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.677 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.400 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 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.

STATE RECORDS

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.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

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

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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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ATTACHMENT B
Historical Aerial Photographs



Vista E Reservoir

Edgehill Road

Vista, CA 92084

Inquiry Number: 5574857.7

February 28, 2019

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

02/28/19

Site Name:

Vista E Reservoir
Edgehill Road
Vista, CA 92084
EDR Inquiry # 5574857.7

Client Name:

Dudek & Associates
605 Third Street
Encinitas, CA 92024
Contact: Audrey Herschberger



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: June 01, 1994	USGS/DOQQ
1989	1"=500'	Flight Date: August 15, 1989	USDA
1985	1"=500'	Flight Date: September 13, 1985	USDA
1979	1"=500'	Flight Date: January 27, 1979	EDR Proprietary Landiscor
1970	1"=500'	Flight Date: March 06, 1970	EDR Proprietary Landiscor
1967	1"=500'	Flight Date: May 07, 1967	USGS
1964	1"=500'	Flight Date: April 10, 1964	USDA
1953	1"=500'	Flight Date: April 14, 1953	USDA
1946	1"=500'	Flight Date: December 30, 1946	USGS
1939	1"=500'	Flight Date: April 16, 1939	USDA

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INQUIRY #: 5574857.7

YEAR: 2016

— = 500'





INQUIRY #: 5574857.7

YEAR: 2012

— = 500'





INQUIRY #: 5574857.7

YEAR: 2009

— = 500'





INQUIRY #: 5574857.7

YEAR: 2005

— = 500'





INQUIRY #: 5574857.7

YEAR: 1994

— = 500'





INQUIRY #: 5574857.7

YEAR: 1989

— = 500'

↑ N
CDR EDR



INQUIRY #: 5574857.7

YEAR: 1985

— = 500'





INQUIRY #: 5574857.7

YEAR: 1979

— = 500'





INQUIRY #: 5574857.7

YEAR: 1970

— = 500'





INQUIRY #: 5574857.7

YEAR: 1967

— = 500'





INQUIRY #: 5574857.7

YEAR: 1964

— = 500'





INQUIRY #: 5574857.7

YEAR: 1953

— = 500'



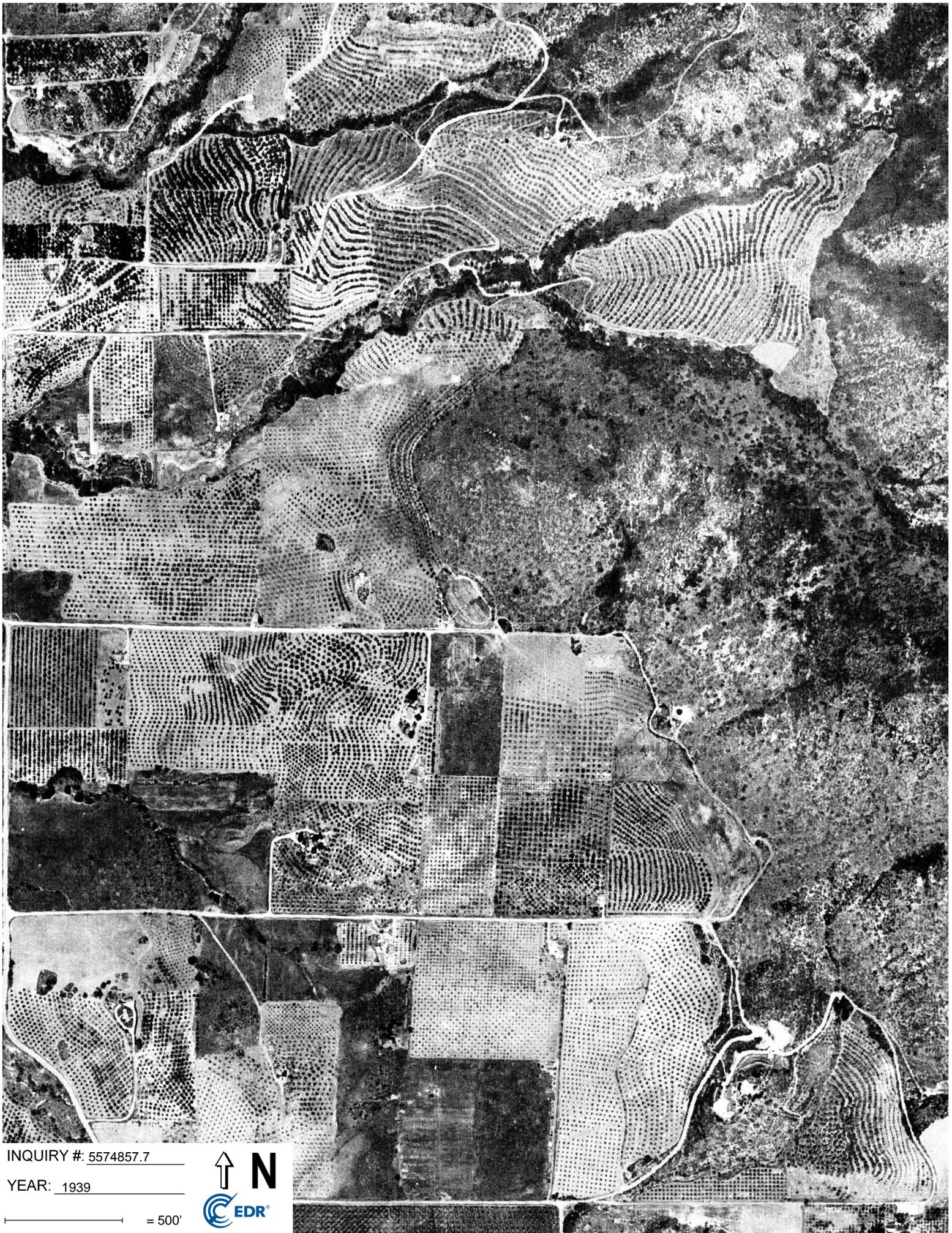


INQUIRY #: 5574857.7

YEAR: 1946

— = 500'





INQUIRY #: 5574857.7

YEAR: 1939

— = 500'



ATTACHMENT C
Sanborn Map Report



Vista E Reservoir

Edgehill Road

Vista, CA 92084

Inquiry Number: 5574857.5

February 27, 2019

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

02/27/19

Site Name:

Vista E Reservoir
Edgehill Road
Vista, CA 92084
EDR Inquiry # 5574857.5

Client Name:

Dudek & Associates
605 Third Street
Encinitas, CA 92024
Contact: Audrey Herschberger



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Dudek & Associates were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # C61C-453C-AE00

PO # NA

Project 11538

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: C61C-453C-AE00

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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Appendix E2

Asbestos Building Inspection, Lead-Based Paint Testing, and
Bulk Sampling of Treated Wood



**Asbestos Building Inspection,
Lead-Based Paint Testing, and
Bulk Sampling of Treated Wood**

For

**Vista Water District
Edgehill Road Reservoir
Vista, CA**

Prepared For:

**Dudek
604 Third Street
Encinitas, CA 92024**

Prepared By:

**Aurora Industrial Hygiene
San Diego, CA**

Karen G Shockley

Prepared By:

Karen G. Shockley, CIH #6766

Date: March 22, 2019

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USE OF THIS REPORT

This report is intended to provide an understanding of the potential hazards that the property evaluated in this report may pose to human health due to asbestos-containing building materials and lead-based paint. This report is based primarily upon data and information obtained during a single site visit by Aurora Industrial Hygiene, Inc. (Aurora) to the property identified herein on February 5, 2019, and is based solely upon the condition of the property on the date of such assessment.

Aurora has performed the work, made the findings, and proposed recommendations described in this report in accordance with generally accepted industrial hygiene and environmental science practices for asbestos and lead assessments in California at the time the work was performed. This warrantee stands in lieu of all other warranties, expressed or implied. While this report can be used as a guide by the client, it must be understood that changing circumstances in the environment and in property usage can alter radically the conclusions and information contained in this report.

1.0 Introduction

Rick Shockley, a California Certified Asbestos Consultant (#15-5581) and Lead Inspector/Risk Assessor (#9755) and Certified Industrial Hygienist Karen Shockley (CIH #6766), also Certified Asbestos Consultant (#97-2146), Lead Inspector/Risk Assessor/Project Monitor (#2664). visited the Edgehill Road Reservoir in Vista, CA on February 5, 2019. They met with Greg Keppler, Vista Irrigation District, and Neil Harper, Dudek.

The purposes of the survey were to determine the presence of asbestos or lead-based paint on the accessible building components, and to test the treated wood on and near the above-ground water storage tank that may be impacted by upcoming renovations. The tank was emptied prior to the inspection. It was locked out so it could not be filled during the inspection and a confined space permit was completed prior to entry into the tank.

This report documents the findings from asbestos bulk sampling, treated wood bulk sampling, and x-ray fluorescence (XRF) instrumentation direct reading measurements conducted by Aurora at Vista Irrigation District's Edgehill Road Reservoir in Vista.

The Edgehill Road Reservoir in Vista is owned by the Vista Irrigation District, located at 1391 Engineer Street, in Vista, CA 92081. Contact person is Greg Keppler, (760) 390-8444.

Asbestos was not detected in any of the samples collected during this survey.

None of the components tested during this survey were found to have greater than 1.0 mg/cm² of lead.

Treated wood contained varying levels of semi-volatile organic compounds, creosote, chromium, and copper.

2.0 Sampling Methodology

2.1 Asbestos Sampling

On February 5, 2019, Mr. Shockley collected seven bulk samples of building materials that were all analyzed by polarized light microscopy (PLM) at EMLab P & K. EMLab P & K is an EPA accredited laboratory located at 8304 Clairemont Mesa Boulevard, Suite 103, San Diego, CA, 92123, (866) 465-6653.

Samples approximately one cubic centimeter (cc) in size were obtained using appropriate sampling equipment. The sampling area was misted with water to minimize the potential for the release of airborne fibers. Collected samples were placed in sealed plastic bags and labeled. They were transported under chain of custody to EMLab by Mr. Shockley.

2.2 Lead-Based Paint Testing

X-ray fluorescence (XRF) instrumentation was utilized to determine if lead-based paint was present. Painted surfaces were tested using x-ray fluorescence (XRF) analysis with a NITON model XLp 300A instrument, serial number 10129. A reading of 1.0 mg/cm² was considered positive for lead-based paint, in accordance with Chapter 7 (revised, 1997) of the Housing and Urban Development Guidelines for Lead Based Paint Inspection¹.

2.3 Treated Wood Sampling

On February 5, 2019, Mr. Shockley collected three bulk samples of treated wood that were analyzed for arsenic, chromium, copper, creosote, pentachlorophenol (SVOC panel) and PCBs at American Scientific Laboratories. American Scientific Laboratories is an EPA accredited laboratory located at 2520 N. San Fernando Road, LA, CA, 90065, (323) 223-9700.

Samples approximately four ounces in size were obtained using appropriate sampling equipment. Collected samples were placed in sealed plastic bags and labeled. They were transported under chain of custody to American Scientific Laboratories by Federal Express.

¹ The California-OSHA standard for lead applies at any potential exposure to lead, even at levels below the HUD Guidelines. See discussion of XRF sampling results.

3.0 Data – Laboratory and Direct Reading Results

3.1 Laboratory Results for Asbestos Sampling

Table 1 summarizes the laboratory results from the asbestos bulk sampling. A satellite photograph identifying the Edgehill Road Reservoir as well as photographs of the materials sampled are included in Appendix One. A sample location diagram is included in Appendix Two. Laboratory reports of analysis and chains of custody are included in Appendix Three.

Table 1. Bulk Asbestos Sampling Results – February 5, 2019

Sample #	Sample Location	Description	Cond ²	Asbestos Content
VID-0205-01A	Bottom of steps	Concrete steps	G	None Detected
VID-0205-02A	Bottom of steps	Speed-crete concrete sealant	G	None Detected
VID-0205-03A	Bottom of steps	Concrete column	G	None Detected
VID-0205-04A	Inlet pipe near steps	Concrete pipe coating	G	None Detected
VID-0205-05A	Near access hatch	Gunnite coating on floor and sides of tank	G	None Detected
VID-0205-06A	Exterior on south side of tank	Caulk near plywood	G	None Detected
VID-0205-07A	Bottom of steps	Aquatipoxy crack sealant	G	None Detected

² G = Good condition. D = Damaged condition with damage to less than 10% (distributed) or 25% (localized) of the surface area. SD = Significantly damaged condition with damage to greater than 10% (distributed) or 25% (localized) of the surface area.

3.2 Lead-Based Paint Testing Results

The following data table summarizes the XRF testing data. The table columns are identified below:

Area	Identifies the location of the tested component. (See diagram in Appendix Two for locations of areas).
Location	Side of the tank sampled (Side A is North and then moves clockwise).
Component	Identifies the actual component tested.
Substrate	The material of the tested component.
Color	The visible color of the upper coatings.
Condition	The condition of the paint was determined, as defined in the <i>Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing</i> : <i>Intact</i> – the entire surface is intact. <i>Fair</i> – less than or equal to ten percent of the total surface area of the component is deteriorated. <i>Poor</i> – more than ten percent of the total surface area of the component is deteriorated.
Replications	The number of like components found. Field is left blank if tested surface is the only like component.
Results	Whether lead was found at greater than 1.0 mg/cm ² (Positive or Negative).
PbC	The reading displayed by the XRF (lead concentration) in milligrams per square centimeter.

California law requires that CDPH Form 8552, Lead Hazard Evaluation Report, be sent to the Department of Public Health following a lead-based paint inspection or risk assessment in a public or residential area. Because the tank is not accessible to the public, a form 8552 was not required or completed.

Table 2. XRF Readings – Edgehill Road Reservoir

Area	Location	Component	Substrate	Color	Condition	Replications	Results	PbC
Other	Other	Other	Other	Other	Calibration	3	Positive	1.0
Other	Other	Other	Other	Other	Calibration	3	Positive	1.0
Other	Other	Other	Other	Other	Calibration	3	Positive	1.1
Exterior	A	Wall on top of tank	Wood	Beige	Fair		Negative	0.02
	B	Wall on top of tank	Wood	Beige	Fair		Negative	0.01
	C	Wall on top of tank	Wood	Beige	Fair		Negative	0.01
	D	Wall on top of tank	Wood	Beige	Fair		Negative	0.05
	A	Base of tank	Concrete	Beige	Fair		Negative	0.0
	B	Base of tank	Concrete	Beige	Fair		Negative	0.07
	C	Base of tank	Concrete	Beige	Fair		Negative	0.06
	D	Base of tank	Concrete	Beige	Fair		Negative	0.04
	A	Plywood over screens	Wood	Beige	Fair		Negative	0.02
	B	Plywood over screens	Wood	Beige	Fair		Negative	0.0
	C	Plywood over screens	Wood	Beige	Fair		Negative	0.01
	D	Plywood over screens	Wood	Beige	Fair		Negative	0.0

Area	Location	Component	Substrate	Color	Condition	Replications	Results	PbC
Roof	B	Top layer of roof	Metal	Beige	Intact		Negative	0.0
	B	Bottom layer of roof	Metal	Beige	Intact		Negative	0.07
	C	Top layer of roof	Metal	Beige	Intact		Negative	0.0
	C	Bottom layer of roof	Metal	Beige	Fair		Negative	0.27
	D	Top layer of roof	Metal	Beige	Intact		Negative	0.0
	D	Bottom layer of roof	Metal	Beige	Intact		Negative	0.12
	A	Siding on center area on roof	Wood	Beige	Intact		Negative	0.0
	C	Siding on center area on roof	Wood	Beige	Intact		Negative	0.0
	A	Louver on center area on roof	Metal	Beige	Intact		Negative	0.0
	C	Louver on center area on roof	Metal	Beige	Intact		Negative	0.0
	C	Access hatch frame	Metal	Silver	Intact		Negative	0.0
	C	Access hatch door	Metal	Silver	Intact		Negative	0.0
Interior	Center	Inlet pipe	Metal	Black	Poor		Negative	0.0
	Center	Ceiling	Metal	Beige	Fair		Negative	0.15
	C	Handrail	Metal	Lt. Blue	Fair		Negative	0.8
	C	Riser	Metal	Lt. Blue	Fair		Negative	0.0
	C	Steps	Metal	Silver	Intact		Negative	0.0
Other	Other	Other	Other	Other	Calibration	3	Positive	1.0
Other	Other	Other	Other	Other	Calibration	3	Positive	0.9
Other	Other	Other	Other	Other	Calibration	3	Positive	1.2

3.3 Treated Wood Sampling Results

Bulk samples were collected of the following treated woods:

- VID-0205-W01: Wood framing above concrete columns inside the tank;
- VID-0205-W02: Wood framing below the perimeter top wall on the inside the tank; and
- VID-0205-W03: Wood railroad ties outside of the tank within the fenced tank area.

The samples of treated wood that were all analyzed for arsenic, chromium, copper, creosote, pentachlorophenol (as part of semi-volatile organic compound (SVOC) panel) and polychlorinated biphenyls (PCBs). The following materials were detected in the samples in varying quantities. The quantities detected and a complete list of all analytes can be found in the laboratory report of analysis in Appendix Three.

VID-0102-W01, Wood framing above concrete columns inside the tank:

- SVOCs: Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (g,h,i) perylene, Benzo (k) fluoranthene, Benzyl alcohol, Chrysene, Fluoranthene, Indeno (1,2,3-cd) pyrene, Phenanthrene, and Pyrene; and
- Creosote

VID-0102-W02, Wood framing below the perimeter top wall on the inside the tank:

- SVOC – Bis(2-ethylhexyl) phthalate; and
- Creosote

VID-0102-W03, Wood railroad ties outside of the tank within the fenced tank area:

- Chromium
- Copper
- SVOCs – Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenzofuran, Fluoranthene, Fluorene, 1-Methyl Naphthylene, 2-Methylnaphthalene, Naphthalene, Phenanthrene, and Pyrene; and
- Creosote

A satellite photograph identifying the Edgehill Road Reservoir as well as photographs of the materials sampled are included in Appendix One. Sample location diagram is included in Appendix Two. Laboratory reports of analysis and chains of custody are included in Appendix Three.

4.0 Discussion and Recommendations

4.1 Asbestos Sampling Discussion

The Environmental Protection Agency (EPA) defines asbestos-containing material (ACM) as containing asbestos in an amount greater than 1%. In the State of California, the CalOSHA has determined that building materials containing asbestos at “trace” levels can still pose a health risk. CalOSHA has very stringent requirements regarding asbestos-containing building materials (defined as 0.1% or greater) and it is a property owner’s overall responsibility to ensure that all work involving the disturbance or removal of asbestos is conducted in such a manner as to ensure that employees and occupants are not exposed. The use of a registered asbestos removal contractor is required when removing more than 100 feet of asbestos containing construction material (ACCM, >0.1%).

In addition, a property owner has the responsibility for ensuring that occupants are informed, and that the asbestos-containing material is maintained in good condition. Custodial or maintenance staff must be trained regarding proper handling of the material as part of an ongoing operations and maintenance program. Prior to demolition or remodeling activities, asbestos-containing building materials which may be damaged and become friable must be removed from the building by a licensed asbestos removal contractor and transferred to a waste facility that will accept asbestos waste. A California certified asbestos removal contractor should be utilized for the removal work and proper removal methodology as outlined in CalOSHA 8CCR1529, and all other applicable federal, state, and local regulations regarding the removal, transport and disposal of ACM should be applied.

Asbestos was not detected in any of the samples collected during this survey.

The following materials were not sampled and should be presumed to contain asbestos:

- ✓ **Any suspect hidden materials (i.e. behind walls, in any crawl spaces, etc.).**

Prior to renovation or demolition activities, ACM and ACCM that may be disturbed should be removed by a California certified asbestos removal contractor.

4.2 Lead-Based Paint Testing Discussion

An XRF reading of 1.0 mg/cm² is considered positive for lead-based paint.

None of the components tested during this survey were found to have greater than 1.0 mg/cm² of lead.

Worker Protection

California regulations (8 CCR 1532.1) define lead-related construction work as, “Construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential, public or commercial building, including preparation and clean-up, that, by using or disturbing lead containing material or soil, may result in significant exposure of individuals to lead”. As such, Cal/OSHA does not distinguish between lead-based paint as defined by HUD (1.0 mg/cm²) and paint which contains lead at a lower concentration. The presence of lead *at any level* requires compliance with the OSHA standard if that paint is disturbed. There are many other materials which may contain lead in the average building. When conducting construction activities which disturb lead in any amount or create an exposure to workers, the employer is required to provide training, worker protection, and conduct exposure assessments. Other provisions of 8 CCR 1532.1 may apply, based on the results of the exposure assessments. These include, but are not limited to additional training, notification, medical evaluations, and personal protective equipment. All employers should consult Federal OSHA Regulations at 29 CFR 1926.62 and Cal-OSHA Regulations at Title 8, 1532.1, “Lead in Construction” standards for complete requirements.

4.3 Treated Wood Discussion

Treated wood is wood which has been treated with a chemical preservative for protection against pests and environmental conditions. Typically, wood is treated when contact with water or the ground is likely.

Treated wood can be tested prior to disposal to determine whether it is hazardous waste. Alternatively, the California Department of Toxic Substances Control (DTSC) has developed alternative management standards (AMS) for treated wood waste. These standards lessen the storage, accumulation period, shipment, disposal, and testing requirements and allow treated wood waste to be disposed of in a solid waste landfill which has been approved for treated wood waste by the Regional Water Quality Control Board.

A summary of the California requirements for the management of treated wood waste can be found at <https://www.dtsc.ca.gov/hazardouswaste/upload/Treated-Wood-Waste-Generators-Fact-Sheet.pdf>. A list of landfills approved for treated wood waste is available at <https://www.dtsc.ca.gov/hazardouswaste/upload/lanfillapr11PDATED1.pdf>.

The treated wood analytical results are included in Appendix Three.

Limitations

The data and observations collected during this work have been gathered to provide the Client with information pertaining to the areas of the subject property identified in this report. Although Aurora believes that the findings and conclusions provided in this report are reasonable, the assessment is limited to the conditions observed and to the information available at the time of the work. Due to the nature of the work, there is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent at the time of our site work. The assessment is also limited to information available from the client at the time it was conducted. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. Aurora does not accept responsibility for changes in the state of the art.

We hope that this information is helpful. Please feel free to contact us at (619) 276-5901 if you have any questions.

Appendix One – Photographs



Photo One: Satellite photo of the area around the Edgell Road reservoir (red box) located near 2342 Edgell Road.



Photo Two: Close-up satellite photo of the reservoir.



Photo Three: Ground level photo of Edgehill Road Reservoir. The blue arrows point to the plywood over the screens around the perimeter of the tank and the louvers on the center area of roof. The black arrow points toward the access hatch used to enter the tank.



Photo Four: The stairs inside the tank looking towards the access hatch. The arrows point to the inlet pipe and the gunnite on the interior walls,



Photo Five: The blue arrows point to the wood framing on the interior of the tank above the concrete columns.

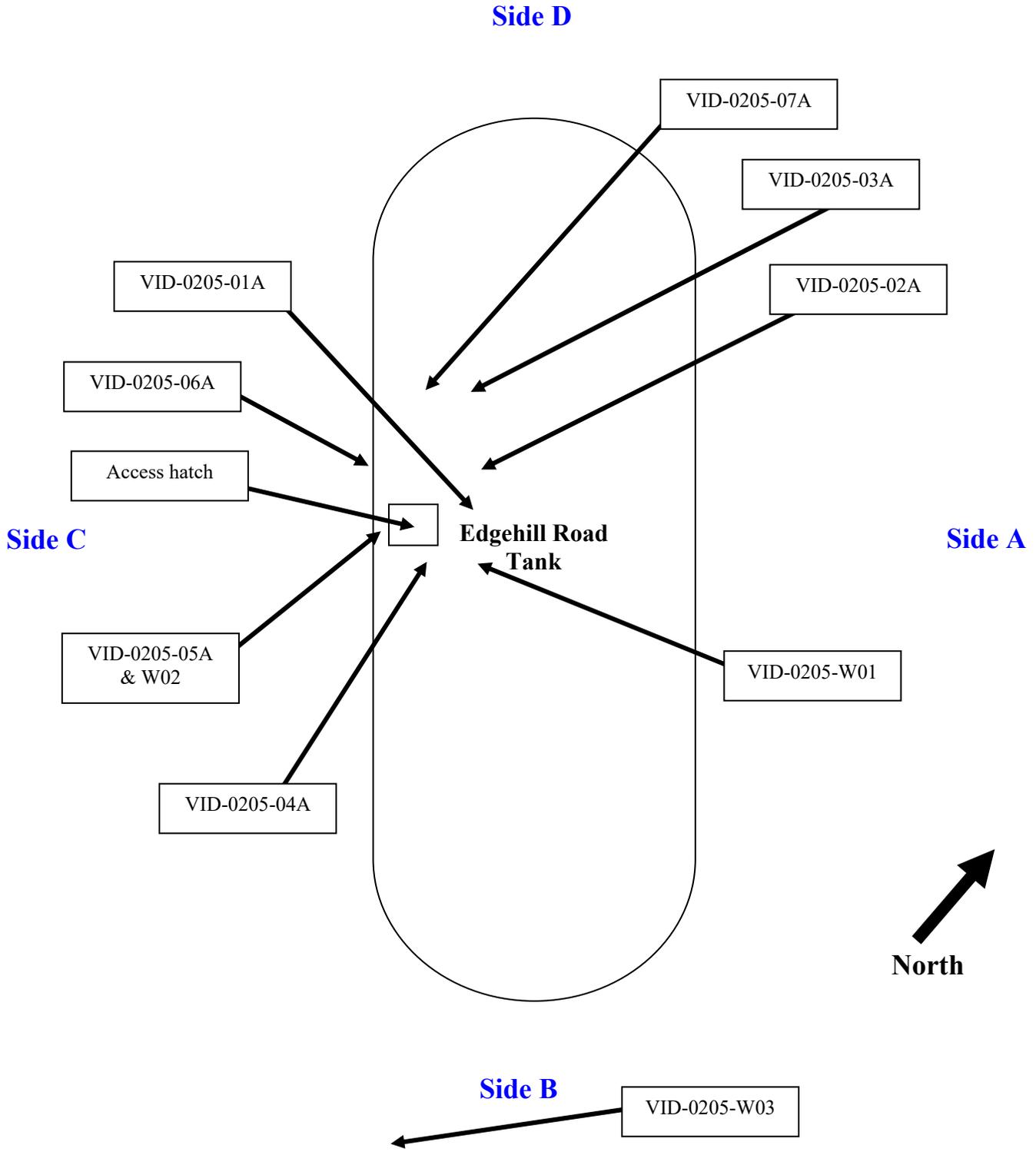


Photo Six: The bottom plate on wall around the perimeter of the tank.



Photo Seven: The arrow points to the railroad ties that were tested on the outside of the tank.

Appendix Two – Diagrams



Appendix Three – Laboratory Reports of Analysis and Chains of Custody



Report for:

Ms. Karen Shockley
Aurora Industrial Hygiene, Inc.
9666 Businesspark Ave, Suite 102
San Diego, CA 92131

Regarding: Project: 58153-VID Reservoir Inspection; Asbestos Sampling
EML ID: 2091551

Approved by:

Approved Signatory
Diane Green

Dates of Analysis:
Asbestos PLM: 02-07-2019

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the items tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Aurora Industrial Hygiene, Inc.
 C/O: Ms. Karen Shockley
 Re: 58153-VID Reservoir Inspection; Asbestos Sampling

Date of Sampling: 02-05-2019
 Date of Receipt: 02-06-2019
 Date of Report: 02-08-2019

ASBESTOS PLM REPORT

Total Samples Submitted: 7

Total Samples Analyzed: 7

Total Samples with Layer Asbestos Content > 1%: 0

Location: VID-0205-01A, Concrete and coating

Lab ID-Version‡: 9888145-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity: Good	

Location: VID-0205-02A, Speedcrete patch

Lab ID-Version‡: 9888146-1

Sample Layers	Asbestos Content
Gray Non-Fibrous Material	ND
Sample Composite Homogeneity: Good	

Location: VID-0205-03A, Concrete column

Lab ID-Version‡: 9888147-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity: Good	

Location: VID-0205-04A, Pipe coating

Lab ID-Version‡: 9888148-1

Sample Layers	Asbestos Content
Gray Coating	ND
Sample Composite Homogeneity: Good	

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: Aurora Industrial Hygiene, Inc.
C/O: Ms. Karen Shockley
Re: 58153-VID Reservoir Inspection; Asbestos
Sampling

Date of Sampling: 02-05-2019
Date of Receipt: 02-06-2019
Date of Report: 02-08-2019

ASBESTOS PLM REPORT

Location: VID-0205-05A, Texture coating

Lab ID-Version‡: 9888149-1

Sample Layers	Asbestos Content
Gray Coating	ND
Sample Composite Homogeneity: Good	

Location: VID-0205-06A, Caulk near plywood

Lab ID-Version‡: 9888150-1

Sample Layers	Asbestos Content
White Caulk	ND
Sample Composite Homogeneity: Good	

Location: VID-0205-07A, Aquatipoxy sealant

Lab ID-Version‡: 9888151-1

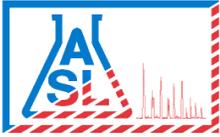
Sample Layers	Asbestos Content
White Sealant with Gray Compound	ND
Sample Composite Homogeneity: Good	

Comments: Sample layers inseparable without cross contamination.

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

25 February 2019

Karen Shockley

Aurora Industrial Hygiene - SD

9666 Business Park Ave. Suite 102

San Diego, CA 92131

Work Order #: 1902098

Project Name: VID Reservoir

Project ID: 58153

Site Address: Edgehill Rd. Vista, CA

Enclosed are the results of analyses for samples received by the laboratory on February 11, 2019. If you have any questions concerning this report, please feel free to contact us.

Wendy Lu

Laboratory Supervisor

Rojert G. Araghi

Laboratory Director

American Scientific Laboratories, LLC (ASL) accepts sample materials from clients for analysis with the assumption that all of the information provided to ASL verbally or in writing by our clients (and/or their agents), regarding samples being submitted to ASL, is complete and accurate. ASL accepts all samples subject to the following conditions:

- 1) ASL is not responsible for verifying any client-provided information regarding any samples submitted to the laboratory.
- 2) ASL is not responsible for any consequences resulting from any inaccuracies, omissions, or misrepresentations contained in client-provided information regarding samples submitted to the laboratory.



AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services

2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

COC# _____ GLOBAL ID _____ E REPORT: PDF EDF EDD ASL JOB# 1902098

Company: <u>Aurora IH</u>		Report To: <u>Karen Shockley</u>		ANALYSIS REQUESTED			
Address: <u>9666 Businesspark Ave #102</u>		Address: <u>Same</u>					
San Diego CA 92131		Project Name: <u>VID Reservoir</u>		Arsenic, Chromium, Copper, Cresote, Pentachloropheno (SVOC Panel) PCBs			
Telephone: <u>619-276-5501</u>		Site Address: <u>Edgehill Rd. / Vista, CA</u>					
Fax: <u>619-276-5504</u>		Invoice To: <u>Karen Shockley</u>					
Special Instruction:		Address: <u>Same</u>					
Project ID: <u>58153</u>		P.C.#:					
E-mail: <u>kshockley@auroraih.com</u>		Project Manager: <u>Karen Shockley</u>					

ITEM	LAB USE ONLY		SAMPLE DESCRIPTION				Container(s)		Matrix	Preservation						Remarks
	Lab ID	Sample ID	Date	Time	#	Type										
	<u>1902098-01</u>	<u>VID-0205-W01</u>	<u>2/5/19</u>	<u>1300</u>	<u>1</u>	<u>Bag</u>	<u>Wood</u>	<u>1/4</u>			<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
	<u>1902098-02</u>	<u> -W02</u>	<u> </u>	<u>1310</u>	<u>1</u>	<u> </u>	<u> </u>	<u> </u>			<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
	<u>1902098-03</u>	<u> -W03</u>	<u> </u>	<u>1320</u>	<u>1</u>	<u> </u>	<u> </u>	<u> </u>			<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	

Collected By: <u>Rich Murphy</u>	Date: <u>2/5/19</u> Time: <u>1300</u>	Relinquished By: <u>Rich Murphy</u>	Date: <u>2/5/19</u> Time: <u>1630</u>	TAT
Relinquished By:	Date: _____ Time: _____	Received For Laboratory: <u>Janet Chun</u>	Date: <u>2-11-19</u> Time: <u>17:45</u>	<input checked="" type="checkbox"/> Normal
Received By:	Date: _____ Time: _____	Condition of Sample: <u>Via FedEx</u>		<input type="checkbox"/> Rush

White - Report, Yellow - Laboratory, Pink - Client

CHAIN OF CUSTODY RECORD



Job# 1902098

ASL Sample Receipt Form

Client: Aurora Industrial Hygiene - SD

Date: 2-11-19

Sample Information:

Temperature: 5.8 °C

Blank Sample

Custody Seal:

Yes No Not Available

Received Within Holding Time:

Yes No

Container:

Proper Containers and Sufficient Volume:

Yes No

Soil: 4oz 8oz Sleeve VOA Plastic Bag

Water: 500AG 1AG 125PB 250PB 500PB VOA Other _____

Air: Tedlar®

Sample Containers Intact:

Yes No

Trip Blank

Yes No

Chain-of-Custody (COC):

Received:

Yes No

Samplers Name:

Yes No

Container Labels match COC:

Yes No

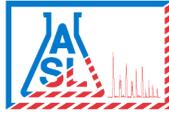
COC documents received complete:

Yes No

Proper Preservation Noted:

Yes No

Completed By: Janet Chin



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

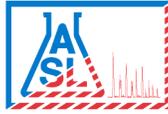
Work Order No: 1902098
Reported:
02/25/2019 12:34

ANALYTICAL SUMMARY REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VID-0205-W01	1902098-01	Solid	02/05/2019 13:00	02/11/2019 12:15
VID-0205-W02	1902098-02	Solid	02/05/2019 13:10	02/11/2019 12:15
VID-0205-W03	1902098-03	Solid	02/05/2019 13:20	02/11/2019 12:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Lu, Laboratory Supervisor



Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

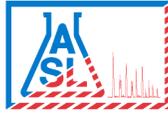
Analytical Results

Client Sample ID: VID-0205-W01

Laboratory Sample ID: 1902098-01 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID: BB90637		Prepared: 02/21/2019 12:38			
Arsenic	ND		0.250	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Chromium	ND		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Copper	ND		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography				Batch ID: BB90383		Prepared: 02/13/2019 14:39			
Aroclor 1016	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1221	ND		67.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1232	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1242	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1248	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1254	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
Aroclor 1260	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:39	AY	8082
<i>Surrogate: Decachlorobiphenyl</i>			124 %		43-169	3550 SV	02/13/2019 14:39	AY	8082
Semivolatile Organic Compounds				Batch ID: BB90382		Prepared: 02/13/2019 09:48 R-01			
Acenaphthene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Acenaphthylene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Anthracene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benz(a)anthracene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzo (a) pyrene	7370		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzo (b) fluoranthene	18900		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzo (g,h,i) perylene	1520		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzo (k) fluoranthene	5080		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzoic acid	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Benzyl alcohol	3160		2970	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Bis(2-chloroethoxy)methane	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Bis(2-chloroethyl) ether	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Bis(2-chloroisopropyl) ether	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Bis(2-ethylhexyl) phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Bromophenyl phenyl ether	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Butyl benzyl phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Chloro-3-methylphenol	ND		2970	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Chloroaniline	ND		2970	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Chloronaphthalene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Chlorophenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Chlorophenyl phenyl ether	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Chrysene	11300		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Di-n-butyl phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Di-n-octyl phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Dibenz (a,h) anthracene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C

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Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

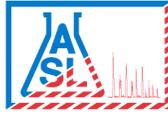
Analytical Results

Client Sample ID: VID-0205-W01

Laboratory Sample ID: 1902098-01 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds			Batch ID: BB90382		Prepared: 02/13/2019 09:48		R-01		
Dibenzofuran	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
1,3-Dichlorobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
1,2-Dichlorobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
1,4-Dichlorobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
3,3'-Dichlorobenzidine	ND		2970	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,4-Dichlorophenol	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Diethyl phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,4-Dimethylphenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Dimethyl phthalate	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,4-Dinitrophenol	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,4-Dinitrotoluene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,6-Dinitrotoluene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Fluoranthene	12600		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Fluorene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Hexachlorobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Hexachlorobutadiene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Hexachlorocyclopentadiene	ND		2970	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Hexachloroethane	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Indeno (1,2,3-cd) pyrene	2140		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Isophorone	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Methyl-4,6-dinitrophenol	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
1-Methyl Naphthylene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Methylnaphthalene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Methylphenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
3/4-Methylphenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
N-Nitroso-di-n-propylamine	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
N-Nitrosodiphenylamine	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Naphthalene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Nitroaniline	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
3-Nitroaniline	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Nitroaniline	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Nitrobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2-Nitrophenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
4-Nitrophenol	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Pentachlorophenol	ND		7650	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Phenanthrene	4740		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Phenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Pyrene	15000		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
1,2,4-Trichlorobenzene	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
2,4,5-Trichlorophenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C

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Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

Analytical Results

Client Sample ID: VID-0205-W01

Laboratory Sample ID: 1902098-01 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds			Batch ID: BB90382		Prepared: 02/13/2019 09:48 R-01				
2,4,6-Trichlorophenol	ND		1480	ug/kg	3	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: 2-Fluorophenol			85.1 %		21-105	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: Phenol-d6			94.2 %		10-107	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: 2,4,6-Tribromophenol			108 %		10-123	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: Nitrobenzene-d5			91.3 %		35-114	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: 2-Fluorobiphenyl			108 %		18-116	3550 SV	02/13/2019 21:00	AY	8270C
Surrogate: Terphenyl-d14			109 %		33-141	3550 SV	02/13/2019 21:00	AY	8270C

TPH Creosote

Batch ID: BB90577

Prepared: 02/13/2019 09:00 **A-01a**

Creosote	880		50.0	mg/kg	1	3550B	02/18/2019 23:22	JOI	LUFT GC
Surrogate: Chlorobenzene		A-01	56.7 %		75-115	3550B	02/18/2019 23:22	JOI	LUFT GC

Analytical Results

Client Sample ID: VID-0205-W02

Laboratory Sample ID: 1902098-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals			Batch ID: BB90637		Prepared: 02/21/2019 12:38				
Arsenic	ND		0.250	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Chromium	ND		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Copper	ND		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography			Batch ID: BB90383		Prepared: 02/13/2019 14:39				
Aroclor 1016	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1221	ND		67.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1232	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1242	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1248	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1254	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Aroclor 1260	ND		33.0	ug/kg	1	3550 SV	02/13/2019 14:54	AY	8082
Surrogate: Decachlorobiphenyl			86.5 %		43-169	3550 SV	02/13/2019 14:54	AY	8082

Semivolatile Organic Compounds

Batch ID: BB90382

Prepared: 02/13/2019 09:48 **R-01**

Acenaphthene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Acenaphthylene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Anthracene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benz(a)anthracene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benzo (a) pyrene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benzo (b) fluoranthene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benzo (g,h,i) perylene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C

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Wendy Lu



Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
 02/25/2019 12:34

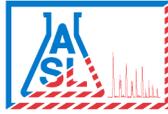
Analytical Results

Client Sample ID: VID-0205-W02

Laboratory Sample ID: 1902098-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds				Batch ID: BB90382		Prepared: 02/13/2019 09:48 R-01			
Benzo (k) fluoranthene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benzoic acid	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Benzyl alcohol	ND		3960	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Bis(2-chloroethoxy)methane	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Bis(2-chloroethyl) ether	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Bis(2-chloroisopropyl) ether	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Bis(2-ethylhexyl) phthalate	4530		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Bromophenyl phenyl ether	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Butyl benzyl phthalate	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Chloro-3-methylphenol	ND		3960	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Chloroaniline	ND		3960	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Chloronaphthalene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Chlorophenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Chlorophenyl phenyl ether	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Chrysene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Di-n-butyl phthalate	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Di-n-octyl phthalate	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Dibenz (a,h) anthracene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Dibenzofuran	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
1,3-Dichlorobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
1,2-Dichlorobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
1,4-Dichlorobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
3,3'-Dichlorobenzidine	ND		3960	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4-Dichlorophenol	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Diethyl phthalate	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4-Dimethylphenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Dimethyl phthalate	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4-Dinitrophenol	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4-Dinitrotoluene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,6-Dinitrotoluene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Fluoranthene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Fluorene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Hexachlorobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Hexachlorobutadiene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Hexachlorocyclopentadiene	ND		3960	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Hexachloroethane	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Isophorone	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Methyl-4,6-dinitrophenol	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
1-Methyl Naphthylene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C

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Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
 02/25/2019 12:34

Analytical Results

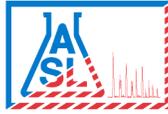
Client Sample ID: VID-0205-W02

Laboratory Sample ID: 1902098-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds			Batch ID: BB90382		Prepared: 02/13/2019 09:48		R-01		
2-Methylnaphthalene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Methylphenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
3/4-Methylphenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
N-Nitroso-di-n-propylamine	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
N-Nitrosodiphenylamine	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Naphthalene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Nitroaniline	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
3-Nitroaniline	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Nitroaniline	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Nitrobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2-Nitrophenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
4-Nitrophenol	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Pentachlorophenol	ND		10200	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Phenanthrene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Phenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Pyrene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
1,2,4-Trichlorobenzene	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4,5-Trichlorophenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
2,4,6-Trichlorophenol	ND		1980	ug/kg	3	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: 2-Fluorophenol			77.6 %		21-105	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: Phenol-d6			88.0 %		10-107	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: 2,4,6-Tribromophenol			100 %		10-123	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: Nitrobenzene-d5			70.2 %		35-114	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: 2-Fluorobiphenyl			102 %		18-116	3550 SV	02/13/2019 21:35	AY	8270C
Surrogate: Terphenyl-d14			79.0 %		33-141	3550 SV	02/13/2019 21:35	AY	8270C

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Wendy Lu, Laboratory Supervisor



Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
 Reported:
 02/25/2019 12:34

Analytical Results

Client Sample ID: VID-0205-W02

Laboratory Sample ID: 1902098-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
TPH Creosote						Batch ID: BB90577	Prepared: 02/13/2019 09:00		
Creosote	55.5		50.0	mg/kg	1	3550B	02/18/2019 21:57	JOI	LUFT GC
<i>Surrogate: Chlorobenzene</i>		A-01	51.8 %		75-115	3550B	02/18/2019 21:57	JOI	LUFT GC

Analytical Results

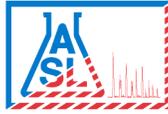
Client Sample ID: VID-0205-W03

Laboratory Sample ID: 1902098-03 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals						Batch ID: BB90637	Prepared: 02/21/2019 12:38		
Arsenic	ND		0.250	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Chromium	1.47		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Copper	3.10		0.500	mg/kg	1	3050B	02/21/2019 15:48	LVE	SW846 6010B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography						Batch ID: BB90383	Prepared: 02/13/2019 14:39		
Aroclor 1016	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1221	ND		67.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1232	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1242	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1248	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1254	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
Aroclor 1260	ND		33.0	ug/kg	1	3550 SV	02/13/2019 15:30	AY	8082
<i>Surrogate: Decachlorobiphenyl</i>			105 %		43-169	3550 SV	02/13/2019 15:30	AY	8082

Semivolatile Organic Compounds						Batch ID: BB90382	Prepared: 02/13/2019 09:48 R-01		
Acenaphthene	23600		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Acenaphthylene	5660		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Anthracene	81500		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benz(a)anthracene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzo (a) pyrene	10800		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzo (b) fluoranthene	31900		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzo (g,h,i) perylene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzo (k) fluoranthene	7060		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzoic acid	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Benzyl alcohol	ND		6600	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Bis(2-chloroethoxy)methane	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Bis(2-chloroethyl) ether	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Bis(2-chloroisopropyl) ether	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Bis(2-ethylhexyl) phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
4-Bromophenyl phenyl ether	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Butyl benzyl phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C

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Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
 Reported:
 02/25/2019 12:34

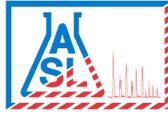
Analytical Results

Client Sample ID: VID-0205-W03

Laboratory Sample ID: 1902098-03 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds			Batch ID: BB90382		Prepared: 02/13/2019 09:48		R-01		
4-Chloro-3-methylphenol	ND		6600	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
4-Chloroaniline	ND		6600	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Chloronaphthalene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Chlorophenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
4-Chlorophenyl phenyl ether	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Chrysene	29300		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Di-n-butyl phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Di-n-octyl phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Dibenz (a,h) anthracene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Dibenzofuran	22300		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
1,3-Dichlorobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
1,2-Dichlorobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
1,4-Dichlorobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
3,3'-Dichlorobenzidine	ND		6600	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4-Dichlorophenol	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Diethyl phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4-Dimethylphenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Dimethyl phthalate	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4-Dinitrophenol	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4-Dinitrotoluene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,6-Dinitrotoluene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Fluoranthene	101000		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Fluorene	31500		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Hexachlorobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Hexachlorobutadiene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Hexachlorocyclopentadiene	ND		6600	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Hexachloroethane	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Isophorone	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Methyl-4,6-dinitrophenol	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
1-Methyl Naphthylene	7820		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Methylnaphthalene	8330		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Methylphenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
3/4-Methylphenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
N-Nitroso-di-n-propylamine	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
N-Nitrosodiphenylamine	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Naphthalene	5270		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Nitroaniline	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
3-Nitroaniline	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
4-Nitroaniline	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C

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Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
 Reported:
 02/25/2019 12:34

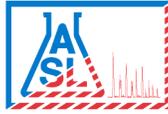
Analytical Results

Client Sample ID: VID-0205-W03

Laboratory Sample ID: 1902098-03 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Semivolatile Organic Compounds			Batch ID: BB90382		Prepared: 02/13/2019 09:48		R-01		
Nitrobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2-Nitrophenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
4-Nitrophenol	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Pentachlorophenol	ND		17000	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Phenanthrene	130000		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Phenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Pyrene	71200		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
1,2,4-Trichlorobenzene	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4,5-Trichlorophenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
2,4,6-Trichlorophenol	ND		3300	ug/kg	10	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: 2-Fluorophenol			37.3 %		21-105	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: Phenol-d6			45.0 %		10-107	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: 2,4,6-Tribromophenol			50.8 %		10-123	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: Nitrobenzene-d5		S-01	33.4 %		35-114	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: 2-Fluorobiphenyl			41.8 %		18-116	3550 SV	02/13/2019 22:11	AY	8270C
Surrogate: Terphenyl-d14			52.4 %		33-141	3550 SV	02/13/2019 22:11	AY	8270C
TPH Creosote			Batch ID: BB90585		Prepared: 02/17/2019 09:00		A-01b		
Creosote	7290		1100	mg/kg	22	3550B	02/19/2019 15:24	JOI	LUFT GC
Surrogate: Chlorobenzene			103 %		75-115	3550B	02/19/2019 15:24	JOI	LUFT GC

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Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

Total ICP Metals - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BB90637 - 3050B - SW846 6010B

Blank (BB90637-BLK1)

Prepared & Analyzed: 02/21/201

Arsenic	ND	0.250	mg/kg							
Chromium	ND	0.500	"							
Copper	ND	0.500	"							

LCS (BB90637-BS1)

Prepared & Analyzed: 02/21/201

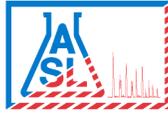
Arsenic	103	0.500	mg/kg	100		103	80-120			
Chromium	105	1.00	"	100		105	80-120			
Copper	105	1.00	"	100		105	80-120			

LCS Dup (BB90637-BSD1)

Prepared & Analyzed: 02/21/201

Arsenic	104	0.500	mg/kg	100		104	80-120	0.208	30	
Chromium	102	1.00	"	100		102	80-120	2.17	30	
Copper	104	1.00	"	100		104	80-120	1.57	20	

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Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BB90383 - 3550 SV - 8082

Blank (BB90383-BLK1)

Prepared & Analyzed: 02/13/201

Aroclor 1016	ND	33.0	ug/kg							
Aroclor 1221	ND	67.0	"							
Aroclor 1232	ND	33.0	"							
Aroclor 1242	ND	33.0	"							
Aroclor 1248	ND	33.0	"							
Aroclor 1254	ND	33.0	"							
Aroclor 1260	ND	33.0	"							
Surrogate: Decachlorobiphenyl	18.1		"	16.7		108	43-169			

LCS (BB90383-BS1)

Prepared & Analyzed: 02/13/201

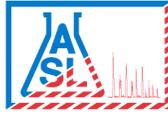
Aroclor 1260	156	33.0	ug/kg	167		93.8	39-150			
Surrogate: Decachlorobiphenyl	15.1		"	16.7		90.6	43-169			

LCS Dup (BB90383-BSD1)

Prepared & Analyzed: 02/13/201

Aroclor 1260	157	33.0	ug/kg	167		94.2	39-150	0.469	30	
Surrogate: Decachlorobiphenyl	14.5		"	16.7		87.0	43-169			

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Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
 02/25/2019 12:34

Semivolatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BB90382 - 3550 SV - 8270C

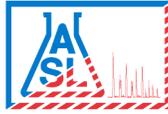
Blank (BB90382-BLK1)

Prepared & Analyzed: 02/13/201

Acenaphthene	ND	330	ug/kg
Acenaphthylene	ND	330	"
Anthracene	ND	330	"
Benz(a)anthracene	ND	330	"
Benzo (a) pyrene	ND	330	"
Benzo (b) fluoranthene	ND	330	"
Benzo (g,h,i) perylene	ND	330	"
Benzo (k) fluoranthene	ND	330	"
Benzoic acid	ND	1700	"
Benzyl alcohol	ND	660	"
Bis(2-chloroethoxy)methane	ND	330	"
Bis(2-chloroethyl) ether	ND	330	"
Bis(2-chloroisopropyl) ether	ND	330	"
Bis(2-ethylhexyl) phthalate	ND	330	"
4-Bromophenyl phenyl ether	ND	330	"
Butyl benzyl phthalate	ND	330	"
4-Chloro-3-methylphenol	ND	660	"
4-Chloroaniline	ND	660	"
2-Chloronaphthalene	ND	330	"
2-Chlorophenol	ND	330	"
4-Chlorophenyl phenyl ether	ND	330	"
Chrysene	ND	330	"
Di-n-butyl phthalate	ND	330	"
Di-n-octyl phthalate	ND	330	"
Dibenz (a,h) anthracene	ND	330	"
Dibenzofuran	ND	330	"
1,3-Dichlorobenzene	ND	330	"
1,2-Dichlorobenzene	ND	330	"
1,4-Dichlorobenzene	ND	330	"
3,3'-Dichlorobenzidine	ND	660	"
2,4-Dichlorophenol	ND	1700	"
Diethyl phthalate	ND	330	"
2,4-Dimethylphenol	ND	330	"
Dimethyl phthalate	ND	330	"
2,4-Dinitrophenol	ND	1700	"
2,4-Dinitrotoluene	ND	330	"
2,6-Dinitrotoluene	ND	330	"
Fluoranthene	ND	330	"
Fluorene	ND	330	"
Hexachlorobenzene	ND	330	"
Hexachlorobutadiene	ND	330	"

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Wendy Lu, Laboratory Supervisor



Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
 02/25/2019 12:34

Semivolatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BB90382 - 3550 SV - 8270C

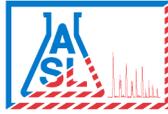
Blank (BB90382-BLK1)

Prepared & Analyzed: 02/13/201

Hexachlorocyclopentadiene	ND	660	ug/kg							
Hexachloroethane	ND	330	"							
Indeno (1,2,3-cd) pyrene	ND	330	"							
Isophorone	ND	330	"							
2-Methyl-4,6-dinitrophenol	ND	1700	"							
1-Methyl Naphthylene	ND	330	"							
2-Methylnaphthalene	ND	330	"							
2-Methylphenol	ND	330	"							
3/4-Methylphenol	ND	330	"							
N-Nitroso-di-n-propylamine	ND	330	"							
N-Nitrosodiphenylamine	ND	330	"							
Naphthalene	ND	330	"							
2-Nitroaniline	ND	1700	"							
3-Nitroaniline	ND	1700	"							
4-Nitroaniline	ND	1700	"							
Nitrobenzene	ND	330	"							
2-Nitrophenol	ND	330	"							
4-Nitrophenol	ND	1700	"							
Pentachlorophenol	ND	1700	"							
Phenanthrene	ND	330	"							
Phenol	ND	330	"							
Pyrene	ND	330	"							
1,2,4-Trichlorobenzene	ND	330	"							
2,4,5-Trichlorophenol	ND	330	"							
2,4,6-Trichlorophenol	ND	330	"							
Surrogate: 2-Fluorophenol	1150		"	3330		34.6	21-105			
Surrogate: Phenol-d6	1480		"	3330		44.4	10-107			
Surrogate: 2,4,6-Tribromophenol	2670		"	3330		80.0	10-123			
Surrogate: Nitrobenzene-d5	796		"	1670		47.8	35-114			
Surrogate: 2-Fluorobiphenyl	1290		"	1670		77.3	18-116			
Surrogate: Terphenyl-d14	1400		"	1670		83.9	33-141			

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Wendy Lu, Laboratory Supervisor



Aurora Industrial Hygiene - SD
 9666 Business Park Ave. Suite 102
 San Diego CA, 92131

Project: VID Reservoir
 Project Number: 58153
 Project Manager: Karen Shockley

Work Order No: 1902098
 Reported:
 02/25/2019 12:34

Semivolatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BB90382 - 3550 SV - 8270C

LCS (BB90382-BS1)

Prepared & Analyzed: 02/13/201

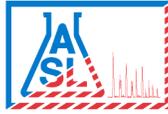
Acenaphthene	1090	330	ug/kg	1330		82.1	43-118			
4-Chloro-3-methylphenol	1770	660	"	2670		66.3	23-117			
2-Chlorophenol	1320	330	"	2670		49.6	27-113			
1,4-Dichlorobenzene	799	330	"	1330		60.0	36-105			
2,4-Dinitrotoluene	1350	330	"	1330		102	24-120			
N-Nitroso-di-n-propylamine	995	330	"	1330		74.6	41-116			
4-Nitrophenol	1860	1700	"	2670		69.9	10-133			
Pentachlorophenol	2420	1700	"	2670		90.9	9-118			
Phenol	1660	330	"	2670		62.4	12-110			
Pyrene	1370	330	"	1330		103	26-127			
1,2,4-Trichlorobenzene	972	330	"	1330		72.9	39-98			
Surrogate: 2-Fluorophenol	1300		"	3330		39.1	21-105			
Surrogate: Phenol-d6	2470		"	3330		74.0	10-107			
Surrogate: 2,4,6-Tribromophenol	3390		"	3330		102	10-123			
Surrogate: Nitrobenzene-d5	1090		"	1670		65.3	35-114			
Surrogate: 2-Fluorobiphenyl	1530		"	1670		91.7	18-116			
Surrogate: Terphenyl-d14	1480		"	1670		88.7	33-141			

LCS Dup (BB90382-BSD1)

Prepared & Analyzed: 02/13/201

Acenaphthene	1060	330	ug/kg	1330		79.5	43-118	3.19	30	
4-Chloro-3-methylphenol	1700	660	"	2670		63.7	23-117	4.11	30	
2-Chlorophenol	1270	330	"	2670		47.8	27-113	3.70	30	
1,4-Dichlorobenzene	771	330	"	1330		57.8	36-105	3.61	30	
2,4-Dinitrotoluene	1300	330	"	1330		97.8	24-120	3.76	30	
N-Nitroso-di-n-propylamine	931	330	"	1330		69.8	41-116	6.68	30	
4-Nitrophenol	1870	1700	"	2670		70.2	10-133	0.321	30	
Pentachlorophenol	2240	1700	"	2670		83.9	9-118	7.99	30	
Phenol	1740	330	"	2670		65.4	12-110	4.56	30	
Pyrene	1370	330	"	1330		102	26-127	0.195	30	
1,2,4-Trichlorobenzene	1010	330	"	1330		75.8	39-98	3.93	30	
Surrogate: 2-Fluorophenol	1500		"	3330		44.9	21-105			
Surrogate: Phenol-d6	1770		"	3330		53.0	10-107			
Surrogate: 2,4,6-Tribromophenol	3450		"	3330		103	10-123			
Surrogate: Nitrobenzene-d5	1020		"	1670		61.3	35-114			
Surrogate: 2-Fluorobiphenyl	1510		"	1670		90.7	18-116			
Surrogate: Terphenyl-d14	1440		"	1670		86.5	33-141			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

TPH Creosote - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch BB90577 - 3550B - LUFT GC

Blank (BB90577-BLK1)

Prepared & Analyzed: 02/18/201

Creosote	ND	50.0	mg/kg							
Surrogate: Chlorobenzene	106		"	100		106	75-115			

LCS (BB90577-BS1)

Prepared & Analyzed: 02/18/201

Diesel range organics	307		mg/kg	300		102	75-120			
Surrogate: Chlorobenzene	85.0		"	100		85.0	75-115			

Batch BB90585 - 3550B - LUFT GC

Blank (BB90585-BLK1)

Prepared & Analyzed: 02/19/201

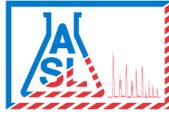
Creosote	ND	50.0	mg/kg							
Surrogate: Chlorobenzene	104		"	100		104	75-115			

LCS (BB90585-BS1)

Prepared & Analyzed: 02/19/201

Diesel range organics	350		mg/kg	300		117	75-120			
Surrogate: Chlorobenzene	95.7		"	100		95.7	75-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Aurora Industrial Hygiene - SD
9666 Business Park Ave. Suite 102
San Diego CA, 92131

Project: VID Reservoir
Project Number: 58153
Project Manager: Karen Shockley

Work Order No: 1902098
Reported:
02/25/2019 12:34

Notes and Definitions

- S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- A-01b ORO detected: 34400mg/kg
- A-01a ORO detected: 1470mg/kg
- A-01 No surrogate recovery due to limited sample
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the practical quantitation limit (PQL)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Appendix Four – Asbestos and Lead Inspector Certification

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Milton R Shockley, Jr.



Name

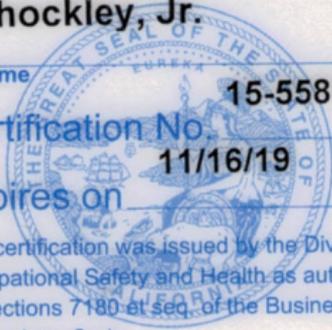
15-5581

Certification No.

11/16/19

Expires on

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



State of California Department of Public Health

Lead-Related
Construction
Certificate

Certificate
Type

Expiration
Date



Inspector Assessor	09/10/2019
Project Monitor	09/10/2019



Milton R. Shockley, Jr ID #: 9755



american board of industrial hygiene®

organized to improve the practice of industrial hygiene
proclaims that

Karen G. Shockley

having met all requirements of
education, experience and examination, and
ongoing maintenance,
is hereby certified in the

**COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE**

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

Certificate Number	6766 CP
Awarded:	July 21, 1995
Expiration Date:	December 1, 2021



Susan Ripple
Chair, ABIH

Alvin H. Oliver
Chief Executive Officer, ABIH

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Karen G Shockley

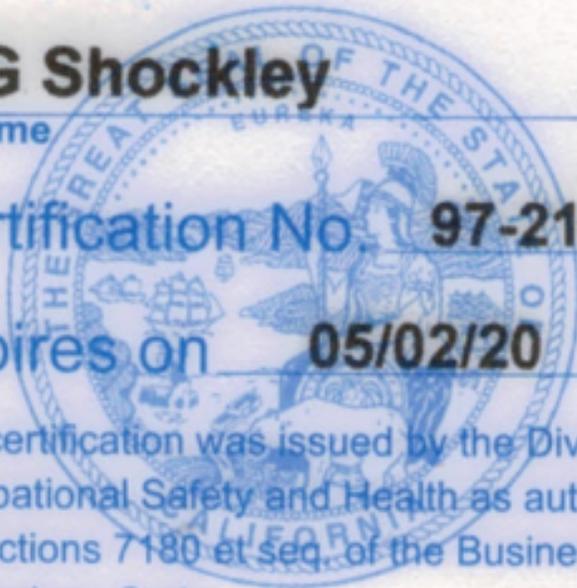
Name



Certification No. **97-2146**

Expires on **05/02/20**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



State of California Department of Public Health

Lead-Related
Construction
Certificate

Certificate
Type

Expiration
Date



Inspector/Assessor

05/29/2019

★
Project Monitor

05/29/2019

Karen G. Shockley

27782
ID #: 2664

Appendix F

Noise and Vibration Technical Memorandum

MEMORANDUM

To: Greg Keppler, PE, Vista Irrigation District
From: Connor Burke, Dudek
Subject: Vista Irrigation District – E Reservoir Project, Noise and Vibration Technical Memorandum
Date: January 17, 2020
cc: Mark Storm, Dudek
Attachment(s): Figures 1–3
A – Construction Noise Modeling Input/Output Worksheets
B – Operation Noise Modeling Input/Output Worksheets

Dudek is pleased to submit this predictive noise impact assessment to assist the Vista Irrigation District with initial environmental planning requirements for the proposed E Reservoir Project (project) in the County of San Diego (County).

This memorandum estimates potential noise and vibration impacts from construction and operation of the project in accordance with the California Environmental Quality Act (CEQA) Guidelines.

The contents and organization of this memorandum are as follows: project description, environmental setting, regulatory setting, noise and vibration impacts assessment, conclusions, and references cited.

1 Project Description

Project Location

The proposed project would be located on a 1.88-acre parcel of land located within Section 16 of Township 11 South, Range 3 West of the San Marcos, CA 7.5' United States Geological Survey (USGS) Topographic Quadrangle Map (Figure 1, Project Vicinity). The project site, a one-parcel property (APN: 174-240-33) is located at 2330 Edgehill Road in unincorporated land in the County of San Diego (County) east of the City of Vista (City) in the northern portion of San Diego County—please see Figure 1, Project Vicinity; and Figure 2, Project Location.

Project Description

In accordance with its 2017 Potable Water Master Plan, the Vista Irrigation District (VID or District) is proposing the replacement of the existing oval shaped, partially buried, 1.5 million gallon (MG) E Reservoir with a new reservoir and construction of a new pump station (proposed project) on the existing site. The new reservoir would increase storage capacity and provide the VID with a facility that meets applicable current codes and standards. The new pump station would provide a redundant water supply to higher-pressure zones within the VID's service area when disruptions occur to primary water supplies.

The project would require the demolition of the existing E Reservoir and accessory facilities. Within a similar footprint, the proposed project would construct a cast-in-place hexagonal shaped structure that would increase the onsite capacity to approximately 2.92 MG, which is a 1.42 MG net increase. The hexagonal shape would allow for more easily maintained water quality. The proposed project would also construct a new water pump station. The pumps, control panel, and other electric and SCADA equipment would be housed in an above ground structure with approximate dimensions of 20-feet by 38-feet that would match the architectural features of the existing adjacent pressure reducing station (PRS) facility.

2 Environmental Setting

2.1 Noise Characteristics and Terminology

Pressure fluctuations, traveling as waves through air from an emission source of vibrational energy, exert a force perceived by the human ear as sound. Sound pressure level (often referred to generally as “sound level” or “noise level”) is expressed by way of a logarithmic scale in decibels (dB) that represent magnitude of these air pressure waves with respect to the threshold of average healthy human hearing. The human ear is more sensitive to middle and higher frequencies (those usually associated with speech) of the audible spectrum, especially when the noise levels are quieter; thus, a frequency-dependent decibel weighting system called the “A” scale was developed to mimic this human hearing frequency response. The A-weighted dB scale is typically used for quantifying typical environmental sound levels and is described in units of “dBA” to distinguish the values from “flat” or unweighted dB values. In a manner similar to the scaling of temperature on a thermometer, Table 1 provides examples of common indoor and outdoor sound sources having A-weighted levels that “line-up” with the listed dB values.

Table 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime	70	Vacuum cleaner at 3 meters (10 feet)
gas lawn mower at 30 meters (100 feet)		
Commercial area	60	Normal speech at 1 meter (3 feet)
Heavy traffic at 90 meters (300 feet)		
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural night time	20	Bedroom at night, concert hall (background)

Table 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013a.

Notes: kph = kilometers per hour; mph = miles per hour

The equivalent noise level (L_{eq}), also referred to as the energy-average sound level, is a single number representing the fluctuating sound level in decibels (dB) over a specified period of time. In other words, L_{eq} is a constant value considered equivalent to what is actually a time-varying fluctuating sound level. Community noise sources tend to vary continuously, being the amalgam of many sound emission sources at various distances with respect to a listener position. Many acoustical contributors to a perceived or measured overall outdoor sound level are indistinct and thus aggregate into what is usually called the “background” sound environment. This background, added to perceptibly dominant acoustical contributors (i.e., those that are the loudest and/or closest to the listener position) constitutes the overall “ambient” sound that a sound level meter can detect with its microphone and quantify as a dB level.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. However, noise sources experienced during nighttime hours when background levels are generally lower can be potentially more conspicuous and irritating to the receiver. In order to evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, a concept termed “community noise equivalent level” (CNEL) was developed. The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted equivalent (L_{eq}) sound level. But more than merely a 24-hour L_{eq} , CNEL accounts for the increased noise sensitivity during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dB to the hourly average sound levels occurring during the evening hours and 10 dB to the hourly average sound levels occurring during nighttime hours. Day-night sound level (L_{dn}) is a comparable 24-hour metric, but differs from CNEL in that it only adds the 10 dB to nighttime hours (i.e., the “evening” hours from 7 p.m. to 10 p.m. are treated as daytime hours that are not adjusted).

2.1.2 Exterior Noise Distance Attenuation

Noise sources are largely classified in two forms: 1) point sources, such as stationary equipment or a group of construction vehicles and equipment working within a spatially limited area at a given time; and 2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically “hard” sites and at a rate of 7.5 dBA for each doubling of distance from source to receptor at acoustically “soft” sites. These attenuation rates would also be expected for sound propagation away from a horizontal area source, which can be approximated as a single point such as the geographic center of the area. By comparison, sound generated by a line source (such as a roadway) typically attenuates at a rate of 3.0 dBA for each doubling of distance from the source to the receptor at acoustically “hard” sites and at a rate of 4.5 dBA for each doubling of distance from source to receptor at acoustically “soft” sites.

Sound levels can also be attenuated by man-made or natural barriers. For the purpose of a sound attenuation discussion, hard, smooth, or otherwise acoustically reflective surfaces do not provide any excess ground-effect attenuation and are characteristic of sealed asphalt roads, bodies of water, and hard-packed soils. An acoustically

soft or absorptive surface, on the other hand, is exemplified by fresh-fallen snow, tilled soils, or thickly-vegetated ground cover.

2.1.3 Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different descriptors are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second (ips). The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to describe RMS amplitude with respect to a reference quantity. The decibel notation acts to compress, and thus make more convenient for presentation and discussion purposes, the range of numbers required to describe vibration.

High levels of vibration may cause risk of or actual damage to buildings. However, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can interfere with processes or equipment that are highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, which means there are little or no bumps that could cause a slight wheel drop or other force impulse, the vibration from traffic is rarely perceptible.

2.1.4 Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound and/or vibration could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receptors near the project site include existing single-family residential uses to the south, west, and north, the closest of which are located approximately 35 feet from the project site boundary. These sensitive receptors represent the nearest residential land uses with the potential to be impacted by construction and operation of the proposed project. Additional sensitive receptors are located farther from the project site in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptors.

2.3 Existing Noise Conditions

Noise level measurements were conducted on and near the project site on November 5, 2019 to characterize and quantify a representative sample of the existing outdoor ambient sound environment. Table 2 provides the location,

date, and time for the sound pressure level (SPL) measurements collected with a Rion NL-52 sound level meter (SLM) equipped with a 0.5-inch, pre-polarized condenser microphone and connected pre-amplifier. The SLM meets the current American National Standards Institute (ANSI) standard for a Type 1 (Precision) sound level meter. The accuracy of the SLM was verified in the field using a reference signal-generating calibrator before and after the SPL measurements; and, the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 2. Measured Existing Outdoor Ambient Noise Levels

Receptors	Location	Date & Time	L _{eq} (dBA)	L _{max} (dBA)
ST1	Eastern property line	2019-11-05, 09:00 AM to 09:15 AM	37.0	49.5
ST2	West of existing pump house at southern property line	2019-11-05, 09:35 AM to 09:50 AM	40.8	55.2
ST3	Western property line	2019-11-05, 09:20 AM to 09:35 AM	36.6	53.4
ST4	Adjacent from existing reservoir, south of Edgehill Road	2019-11-05, 10:00 AM to 10:15 AM	42.1	58.7

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels.

Four (4) short-term SPL measurement locations (ST) that represent the existing noise-sensitive receivers were selected on and near the project site. These locations are depicted as receivers ST1–ST4 on Figure 3, Noise Measurement Locations. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 2. The primary noise sources at the sites identified in Table 2 consisted of birds; distant roadway traffic; distant aviation traffic, and rustling leaves. As shown in Table 2, the measured sound levels ranged from approximately 37 dBA L_{eq} at ST1 to 42.1 dBA L_{eq} at ST4.

3 Regulatory Setting

Federal

Environmental Protection Agency

As described in its “Levels Document” (EPA 1974) and referenced or used by several federal agencies and many other state and local jurisdictions, the U.S. Environmental Protection Agency (EPA) considers 55 dBA day-night sound level (L_{dn}) as a threshold for outdoor noise at the exterior of an existing residential receiver. For continuous sources of noise, such as the operating pumps considered in this assessment, the per-hour sound limit translated from this L_{dn} metric would be 48.6 dBA L_{eq}. While not a regulatory limit that would apply to this project, this sound metric serves as guidance for consideration.

Federal Transit Administration

In its *Transit Noise and Vibration Impact Assessment* guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2006) at community residences when detailed construction noise assessments are performed to evaluate potential project

impacts. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such applicable limits at the state and local jurisdictional levels.

With respect to vibration velocity thresholds for building damage risk, the aforementioned FTA guidance manual suggests that 0.2 ips PPV is appropriate for construction-attributed vibration, where the receiving building category is “non-engineered timber and masonry buildings” that likely resemble the features of the existing residences near the project site.

State

California Department of Transportation (Caltrans)

In its *Transportation and Construction Vibration Guidance Manual*, the California Department of Transportation (Caltrans) presents a variety of industry-recommended thresholds for vibration velocity expressed as PPV, which are summarized and reproduced in Table 3.

Table 3. Selected Caltrans Recommended Vibration Velocity Thresholds

Receptor Type	Land Use or Receptor Description	Vibration Velocity for Continuous Source (PPV ips)	Vibration Velocity for Transient or Single-Event Source (PPV ips)	Source Note
Building Occupant	“Annoying” Human Response	0.2 (e.g., from traffic)	n/a	A
Building Occupant	“Strongly Perceptible” Human Response	n/a	0.9	B
Building Structure	“Relatively old residential structures in poor condition”	n/a	1 (single blast); 0.5 (repeated blasts)	C

Notes:

- A = Transportation and Construction Vibration Guidance Manual (Caltrans 2013b), Table 5.
- B = Transportation and Construction Vibration Guidance Manual (Caltrans 2013b), Table 6.
- C = Transportation and Construction Vibration Guidance Manual (Caltrans 2013b), Table 9.

Local

The proposed project site is located within an unincorporated portion of the County of San Diego (County). The County of San Diego has adopted various noise policies and standards contained within the County’s General Plan Noise Element and the County Noise Ordinance.

County of San Diego General Plan, Noise Element

The County’s General Plan Noise Element (Noise Element) establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The Noise Element characterizes the noise environment in the County and provides the context for the County’s noise/land use compatibility guidelines and standards. The Noise Element also describes the County’s goals for achieving the standards and introduces policies designed to implement the goals. Under implementation of the General Plan, the County would use the Noise Compatibility Guidelines to determine the compatibility of land uses when evaluating proposed development projects. The Noise

Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments.

A land use located in an area identified as “acceptable” indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. Land uses that fall into the “conditionally acceptable” noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source has the potential to interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as “conditionally acceptable,” structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Compatibility Guidelines. For land uses where the exterior noise levels fall within the “unacceptable” range, new construction generally should not be undertaken (San Diego County 2011a).

San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Sections 36.401–36.435, Noise Ordinance

The Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise as well as provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Planned compliance with sound level limits and other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g., varying densities and intensities of residential, industrial, and commercial zones). Where two adjacent properties have different zones, the sound level limit at a location on a boundary between two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries. It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced. Table 4 lists the sound level limits for the County.

Table 4. San Diego County Noise Ordinance Sound Level Limits

Zone	Applicable Limit 1-Hour Average Sound Level (dB)		
	7 a.m. to 7 p.m.	7 p.m. to 10 p.m.	10 p.m. to 7 a.m.
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S87, S90, S92, RV, and RU with a density of less than 11 dwelling units per acre	50	50	45
(2) RRO, RC, RM, S86, V5 and RV and RU with a density of 11 or more dwelling units per acre	55	55	50
(3) S94, V4, all other commercial zones.	60	60	55
(4) V1, V2	60	55	see below
V1	60	55	55
V2	60	55	50
V3	70	70	65
(5) M50, M52, M54	70	70	70
(6) S82, M56 and M58	75	75	75
(7) S88 (see note 4 below)			

Source: County of San Diego 2011

Notes:

RS, RD, RM, RR, RU, RV, RRO, RMH, RU = Residential uses; A70, A72 = Agricultural uses; S80, S81, S82, S87, S90 = Open space uses, ecological resource areas, or holding area uses; S92 = General rural uses; RC = Residential/commercial uses; S86 = parking uses; V1, V2, V3, V4, V5 = Village uses; M50, M52, M54, M56, M58 = Manufacturing and industrial uses; S88 = Special planning area uses.

- 1 If the measured ambient level exceeds the applicable limit noted in the table, the allowable 1-hour average sound level will be the ambient noise level. The ambient noise level will be measured when the alleged noise violation source is not operating.
- 2 The sound-level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts; provided, however, that the 1-hour average sound-level limit applicable to extractive industries, including but not limited to borrow pits and mines, will be 75 dB at the property line, regardless of the zone where the extractive industry is actually located.
- 3 Fixed-location, public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise-level limits of this section, measured at or beyond 6 feet from the boundary of the easement upon which the equipment is located.
- 4 S88 zones are Specific Planning Areas, which allow different uses. The sound level limits present in Table 2 that apply in an S88 zone depend on the use being made of the property. The limits in Table 2, subsection (1) apply to a property with a residential, agricultural, or civic use. The limits in subsection (3) apply to a property with a commercial use. The limits in subsection (5) apply to a property with an industrial use that would only be allowed in an M50, M52, or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

Section 36.408 of the Noise Ordinance sets limits on the time of day and days of the week that construction can occur, as well as setting noise limits for construction activities. In summary, the Noise Ordinance prohibits operating construction equipment on the following days and times:

- Mondays through Saturdays except between the hours of 7:00 a.m. and 7:00 p.m.
- Sundays or a holiday. A holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, December 25th and any day appointed by the President as a special national holiday or the Governor of the State as a special State holiday.

In addition, Section 36.409 requires that between the hours of 7:00 a.m. and 7:00 p.m., no equipment shall be operated so as to cause an 8-hour average construction noise level in excess of 75 dBA when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received.

In addition to the general limitations on sound levels in section 36.404 and the limitations on construction equipment in section 36.409, the following additional sound level limitations shall apply:

- a) Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 36.410A, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 5 are as described in the County Zoning Ordinance.

Table 5. Maximum Sound Level (Impulsive) Measured at Occupied Property in Decibels (dBA)

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

- (b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 4, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 4 are as described in the County Zoning Ordinance.

4 Noise and Vibration Impacts Assessment

4.1 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act Guidelines (14 CCR 15000 et seq.) and will be used to determine the significance of potential noise impacts. Impacts related to noise would be significant if the proposed project would result in the following:

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- b. Generation of excessive groundborne vibration or groundborne noise levels
- c. Expose people residing or working in the project area to excessive noise levels (for a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport)

Per California Government Code Section 53091(d) and 53091(e), the project is exempt from the provisions of the County's Zoning Ordinance, and the County cannot prohibit the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy. Because the District is an independent local agency, it is not required to comply with County of San Diego requirements; however, a combination of the summarized regulations and standards as described in Section 3 (Regulatory Setting) of this analysis serves as suggested criteria against which potential noise and vibration impacts can be assessed in the following section.

5 Impact Discussion

- a) **Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Short-Term Construction

Conventional Construction Activities

Construction noise and vibration are temporary phenomena, and their levels can vary from hour to hour and day to day depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Equipment that would be in use during construction would include, in part, backhoes, loaders, cranes, forklifts, pavers, rollers, a rock drill rig, impact hammer, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 6. Note that the equipment noise levels presented in Table 6 are maximum noise levels (L_{max}). Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 6. Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Backhoe	78
Compressor (air)	78
Crane	81
Excavator	81
Flat bed truck	74
Front-end loader	79
Impact Hammer	90
Man lift	75
Paver	77
Rock Drill	81
Roller	80
Welder / torch	73

Source: FHWA 2006.

Notes: dBA = A-weighted decibels.

Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction near the western project boundary would take place within approximately 35 feet of

existing residences, but during construction of other project components, construction would be further away from these noise-sensitive receptors. Most construction activities associated with the proposed project would occur at distances of approximately 100 feet or more from existing noise-sensitive uses, which represents activities both near and far from any one receiver, as is typical for construction projects.

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted at two distances to the nearest existing noise-sensitive receptor: 1) from the nearest position of the construction site boundary and 2) from the geographic center of the construction site, which serves as the time-averaged location or *geographic acoustical centroid* of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, demolition, or paving. The latter distance is used in a manner similar to the general assessment technique as described in the FTA guidance for construction noise assessment, when the location of individual equipment for a given construction phase is uncertain over some extent of (or the entirety of) the construction site area. Because of this uncertainty, all the equipment for a construction phase is assumed to operate—on average—from the acoustical centroid. Table 7 summarizes these two distances to the apparent closest noise-sensitive receptor for each of the seven sequential construction phases. At the site boundary, this analysis assumes that up to only one piece of equipment of each listed type per phase will be involved in the construction activity for a limited portion of the 8-hour period. In other words, at such proximity, the operating equipment cannot “stack” or crowd the vicinity and still operate. For the acoustical centroid case, which intends to be a geographic average position for all equipment during the indicated phase, this analysis assumes that the equipment may be operating up to all 8 hours per day.

Table 7. Estimated Distances between Phase Activities and the Nearest Noise-sensitive Receptors

Construction Phase (and Equipment Types Involved)	Approximate Distance from Nearest Noise-Sensitive Receptor to Construction Site Boundary (Feet)	Approximate Distance from Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (Feet)
Demolition (backhoe, excavator, front end loader)	60	100
Site preparation (excavator, backhoe, front-end loader, rock drill, impact hammer)	50	100
Pump Station Construction (crane, flat bed truck, man lift, welder/torch)	50	100
Paving (paver, roller)	50	100
Reservoir Construction (backhoe, excavator, front end loader)	35	100
Piping (excavator)	50	100
Architectural finishes (air compressor)	50	100

A Microsoft Excel-based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. (Although the RCNM was funded

and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 6), and the distance from the noise-sensitive receiver to the construction zone. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis, which is detailed in Attachment A, Construction Noise Model Input and Output Data, and produce the predicted results displayed in Table 7.

Table 8. Construction Noise Model Results Summary

Construction Phase	Estimated Construction Noise Level at Representative Locations (8-hour L_{eq} dBA)	
	Construction Site Boundary	Acoustical Centroid of Site
Demolition	78.4	75.7
Site Preparation and Grading	85.1	79.1
Pump Station Construction	76.5	70.5
Paving	76.5	72.1
Reservoir Construction	79.1	76.0
Piping	77.0	71.0
Architectural Coating	74.0	68.0

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

As presented in Table 8, the construction noise levels are predicted to have an 8-hour L_{eq} value as high as 85 dBA at the nearest existing residences when site preparation and grading activities take place.

On an average construction workday, heavy equipment will be operating sporadically throughout the project site and more frequently away from the southernmost edge of the site. At more typical distances closer to the center of the project site (approximately 100 feet from the nearest existing residence), construction noise levels are estimated to range from approximately 68 dBA L_{eq} to 79 dBA L_{eq} at the nearest existing residence.

Although nearby off-site residences would be exposed to elevated construction noise levels, the increased noise levels would typically be relatively short term. It is anticipated that construction activities associated with the proposed project would take place primarily within the allowable hours of the County of San Diego (7:00 a.m. and 7:00 p.m. Monday through Saturday), and would not occur at any time on Sunday or on national holidays. In the event that construction is required to extend beyond these times, extended hours permits would be required and would be obtained by the Client.

As previously mentioned in Section 4, the Vista Irrigation District is a local agency that is not required to comply with the County's thresholds, such as the 75 dBA 8-hour L_{eq} identified in Section 3. For this reason, the FTA guidance-based standard was adopted herein for purposes of this environmental impact assessment. However, as best practice, VID would aim for compliance with County noise standards. Therefore, because the prediction results presented in Table 8 indicate that noise from conventional construction activities attributed to the project would exceed the County's 8-hour L_{eq} threshold for most of the activity phases and exceed the FTA threshold at the nearest existing residential receivers when site grading and preparation occurs, implementation of common noise-reducing construction activity best practices listed below in mitigation measure M-NOI-1 would be recommended. If these measures are implemented properly by the District or its contractors, conventional construction noise impacts would be considered less than significant.

M-NOI-1. Construction Noise Reduction

The Vista Irrigation District and/or its construction contractor shall comply with the following measures during construction:

1. Construction activities shall not occur between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturdays, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required.
2. Equipment (e.g., portable generators) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured to minimize noise at nearby noise-sensitive receptors.
3. All noise-producing equipment and vehicles using internal combustion engines should be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) should be equipped with shrouds and noise control features that are readily available for that type of equipment.
4. All mobile or fixed noise-producing equipment used on the project facilities that are regulated for noise output by a local, state, or federal agency should comply with such regulation while in the course of project activity.
5. Idling equipment should be kept to a minimum and moved as far as practicable from noise-sensitive land uses.
6. Electrically powered equipment should be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
7. Material stockpiles and mobile equipment staging, parking, and maintenance areas should be located as far as practicable from noise-sensitive receptors.
8. The use of noise-producing signals, including horns, whistles, alarms, and bells, should be for safety warning purposes only.
9. Residences within 500 feet of the construction site should be notified of the construction schedule in writing at least 3 calendar days prior to construction. The District or its contractor(s) shall designate a

noise disturbance point of contact who would be responsible for responding to complaints regarding construction noise. The point of contact should make reasonable effort to investigate the cause of the complaint and, if indeed related to construction noise attributed to the project, see that reasonable measures are implemented to help address the problem. A contact number for the noise disturbance point of contact should be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.

The net noise reduction effectiveness of these listed practices would vary with the equipment in use, the original condition of the equipment, the specific locations of the noise source and receiver, etc. By way of example, halving equipment engine idling time could reduce—over the course of a measurement period—noise levels from idling equipment by 3 dB. Positioning of large trailers or storage containers onsite, so that they occlude the line of sight between the noise-producing idling equipment and a receptor could yield an additional 3 to 5 dB of noise reduction. Collectively, proper application of multiple listed practices under M-NOI-1 would be expected to result in a substantial decrease in construction noise, and under the right conditions could also yield compliance with the County standard (i.e., per Section 36.409) of 75 dBA 8-hour L_{eq} . Therefore, with respect to federal guidance consistency, the anticipated impact from construction noise would be considered **less than significant with mitigation incorporated**.

Blasting

Based on the known presence of hard rock at the project site, there is a high likelihood that rock excavation would be required during the site preparation and grading phase. Rock excavation methods would generally consist of non-explosive techniques, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, or expansive chemical agents. Although potential noise from these rock excavation activities has been included in the preceding predictive analysis of conventional construction equipment, there is some potential that these methods would be unable to excavate the underlying rock and limited blasting would be required. Because of this potential, the analysis presented in this report conservatively assumes blasting would be required.

Blasting typically involves drilling a series of boreholes, placing explosives (the “charge”) in each hole, then topping the charge with fill material to help confine the blast. These multiple holes are typically arranged so as to yield optimal fracturing of the rock strata and thus allow gravity to subsequently collapse or “implode” the volume of rock in as safe and controlled manner as possible after detonation. Post-detonation material can then be further broken down to manageable size and hauled away with conventional construction equipment and vehicles.

By limiting the amount of charge in each hole, and detonating each charge successively with a time delay, the blasting contractor can limit the total energy released at any single time, which in turn reduces the airborne noise L_{max} and groundborne vibration energy associated with each individual detonated charge.

If required, no more than one blast per day would occur during construction activities. To keep groundborne vibration magnitude from each charge-delayed detonation at a peak particle velocity (PPV) that does not exceed the single-event threshold of 1 ips for residential structures, per Caltrans guidance, Table 9 presents the preliminarily determined maximum charge weights with respect to the nearest eastern and western residential receptors. Table 9 also displays the predicted A-weighted L_{max} for each detonated charge, under a fully-confined

condition, using mathematical expressions and typical parameters provided by the Blasting and Explosives Quick Reference Guide (Dyno Nobel 2010).

Table 9. Preliminary Blasting Charge Weights and Predicted L_{max} Values

Nearest Receiving Residential Structure	Per-Detonation Charge Weight (lbs)	Single Charge Detonation Airborne Sound Pressure Level (SPL, dBA L _{max})	Single Charge Detonation Peak Particle Velocity (PPV, inches per second)
West (75 feet distance to expected closest detonation)	1.56	105	0.992
East (130 feet distance to expected closest detonation)	4.62	104	0.994

With a blast expected to loosen up to 2,000 cubic yards of material, and assuming a powder factor of 0.5, the total quantity of successive detonations would vary with the charge weight but result in an estimated 8-hour L_{eq} of 85 to 91 dBA using the values in Table 9 as a guide. Hence, and for informational purposes, noise from the blast at these indicated distances could exceed the County’s standard.

M-NOI-2. Blasting Plan

Blasting for rock excavation shall only be used by the contractor upon receipt of approval by Vista Irrigation District and after other non-explosive techniques have been exhausted, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, and expansive chemical agents. If blasting is required for rock excavation, the District or its contractor will prepare a blasting plan that will reduce impacts associated with construction-related noise, drilling operations and vibrations related to blasting. The blasting plan will be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan will include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan will account for blasting activities and all supplemental construction equipment. The final blasting plan and pre-blast survey shall meet the requirements provided below.

- Prior to blasting, a qualified geotechnical professional shall inspect and document the existing conditions of facades and other visible structural features or elements of the nearest residential buildings. Should this inspector determine that some structural features or elements appear fragile or otherwise potentially sensitive to vibration damage caused by the anticipated blasting activity, the maximum per-delay charge weights and other related blast parameters shall be re-evaluated to establish appropriate quantified limits.
- All blasting shall be performed by a blast contractor and blasting personnel licensed to operate per appropriate regulatory agencies.
- Each blast shall be monitored and recorded with an air-blast overpressure monitor and groundborne vibration accelerometer that is located outside the closest residence to the blast. This data shall be recorded, and a post-blast summary report shall be prepared and be available for public review or distribution as necessary.

- Blasting shall not exceed 1 ips PPV (transient or single-event), or a lower PPV determined by the aforesaid inspector upon completion of the pre-blast inspection, at the façade of the nearest occupied residence
- To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 500 feet of the project at least 1 week prior to a scheduled blasting event.
- Drilling operations associated with blasting preparations shall be performed in a manner consistent with adherence to guidance that emulates Sections 36.408, 36.409, and 36.410 of the San Diego County Code Noise Ordinance.

Long-Term Operational Impacts

On-Site Mechanical Noise Levels

Operating pump station equipment would have the potential to create noise impacts. The proposed new pump station would provide redundant water supply and would have a capacity of 3,000 gallons per minute to meet peak hour expectations during maximum-day demand conditions. The pump station would consist of skid-mounted multi-stage vertical pumps with aboveground headers. The pumps would be housed in an aboveground structure that would match the architectural features of the existing PRS facility. The pump station structure would also house the pump station control panel, electrical panels, and SCADA equipment for the site. The station would be approximately 20 feet by 38 feet with a height of 14 feet. It would be constructed of a 12-inch, cast-in-place concrete floor with an 8- to 12-inch concrete masonry wall. Additionally, the roof would be composed of sloped composite shingles supported by wood trusses and plywood sheathing, with a 20-pounds-per-square-foot load limit. The pump station would also include outside air intake louvers on one of the walls and a roof-mounted ventilation fan to remove heat generated by the pump equipment. Access to the structure would be provided through two entry points: a single standard solid personnel door, and a 14-foot-wide and 12-foot-tall insulated roll-up door.

Prediction of pump noise propagation from the new pump station structure under typical expected operating conditions utilized techniques based on International Organization of Standardization (ISO) 9613-2 (ISO 1996) and included the following key calculation parameters and assumptions:

- The “long wall” of the new pump station features the 12-inch thick concrete masonry unit (CMU) wall, penetrated by the aforesaid roll-up door (comparable to an Alpine Insul-Sound model), personnel door, and a twelve square-foot outside air intake housing an Industrial Acoustics 12”-deep “S-12” model acoustical louver (or comparable product).
- The “short wall” is an 8-inch thick CMU wall with no penetrations.
- The sloped roof features a roof hatch, through which vertical pump equipment may be drawn or lowered.
- The interior is ventilated with a Loren Cook model 180ACRUB (3/4 HP) roof-mounted fan that yields 3,000 cubic feet per minute (cfm) at 0.875 inches water gauge (iwg) of static pressure.
- To reduce reverberation (i.e., the build-up of noise) within the enclosed volume housing multiple operating pumps, the interior wall surfaces should feature at least a cumulative quantity of 320 square feet of 2-inch thick (minimum), 3 pounds per cubic foot density (minimum), acoustically absorptive insulation (e.g., Owens-Corning 703 insulation, or pre-fabricated panels composed of similarly-performing media). The equipment-facing side of the ceiling should also feature a total of 320 square feet of similar acoustically absorptive media that has a noise reduction coefficient (NRC) of 0.7 or better.

With the design of the new pump station reflecting these above-listed features, two alternatives for the structural footprint were considered and resulted in predicted operation noise levels at the indicated project property lines as presented in Table 10. Details of the new pump station operation noise assessment appear in Attachment B.

Table 10: Predicted Pump Station Operation Noise Levels

Pump Station Building Orientation	Receiving Property Line	Noise Level (dBA)
Alt 1 B	South Boundary	44.2
	West Boundary	35.3
Alt 1 B Alternate Pump station location	South Boundary	38.1
	West Boundary	42.7

As shown in Table 10, estimated noise levels during typical operation would range from approximately 35.3 to 44.2 dBA and thus comply with the County’s noise standards of 45 dBA hourly L_{eq} during nighttime hours (10:00 p.m. through 7:00 a.m.). These predicted levels are also below the suggested hourly L_{eq} limit of 48.6 dBA, based on EPA guidance. Hence, no further noise mitigation would be needed, and impact from operation noise would be considered less than significant.

Operation noise contribution to the outdoor sound environment from the valve vault, an enclosed volume, and buried new piping and fittings would be expected to have a less than significant impact.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2013b). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered annoying. For context, heavier pieces of construction equipment, such as a vibratory roller that may be expected on the project site as part of the paving phase, have peak particle velocities of 0.21 ips PPV at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for the aforementioned roller operating on site and as close as the western project boundary (i.e., 35 feet from the nearest receiving sensitive land use) the estimated vibration velocity level would be less than 0.13 ips per the equation as follows (FTA 2006):

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5} = 0.127 = 0.21 * (25/35)^{1.5}$$

In the above equation, PPV_{rcvr} is the predicted vibration velocity at the receiver position, PPV_{ref} is the reference value at 25 feet from the vibration source (the roller), and D is the actual horizontal distance to the receiver. Therefore, at this predicted PPV magnitude, the impact of vibration-induced annoyance to occupants of nearby existing homes would be less than significant.

Construction vibration, at sufficiently high levels, can also present a building damage risk. However, the predicted 0.13 ips PPV at the nearest residential receiver 35 feet away from onsite operation of the roller during paving would not surpass the guidance limit of 0.2 to 0.3 ips PPV for preventing damage to residential structures (Caltrans 2013b). Because the predicted vibration level at 35 feet is less than both the annoyance and building damage risk thresholds, vibration from project conventional construction activities is considered less than significant.

Once operational, the proposed project would not be expected to feature major onsite producers of groundborne vibration. Anticipated mechanical systems like pumps are designed and manufactured to feature rotating components (e.g., impellers) that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, potential vibration impacts due to proposed project operation would be less than significant.

Blasting Vibration

Although conventional construction equipment using mechanical means for earth-moving are not expected to yield vibration velocity levels that exceed applicable standards, potential blasting activities represent a separate category of vibration assessment. The project may require blasting to facilitate excavation in areas where competent bedrock occurs at depths that make mechanical excavation difficult. The right-most column in Table 9 presents the estimated per-detonation PPV that would be received at each of the indicated residential receptors. Under such parameters, the blast vibration magnitudes would be compatible with Caltrans guidance limits for single-event or “transient” events. However, to help ensure that vibration from the blasting associated with project excavation would not cause undue temporary annoyance and minimize damage risk to the receiving structures, proper implementation of the Blasting Plan introduced as M-NOI-2 is recommended to help render vibration-related environmental impacts temporary and **less than significant with mitigation**.

- c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

There are no private airstrips within the vicinity of the project site. The closest airport to the project site is the McClellan Palomar Airport, approximately 7 miles southwest of the site. The project site is not located within any noise contours and would therefore not expose people residing or working in the project area to excessive noise levels. Impacts from aviation overflight noise exposure would be **less than significant**.

6 Conclusions

Based upon the project-attributed operation and construction noise and vibration analysis presented herein, predicted sound and vibration levels are anticipated to be less than significant with application of proper mitigation.

We trust that this technical memorandum meets your Project needs with the County. Should you have any questions or require additional information, please do not hesitate to contact Mark Storm at (760) 479-4297, mstorm@dudek.com; or, Connor Burke at (760) 479-4272, cburke@dudek.com.

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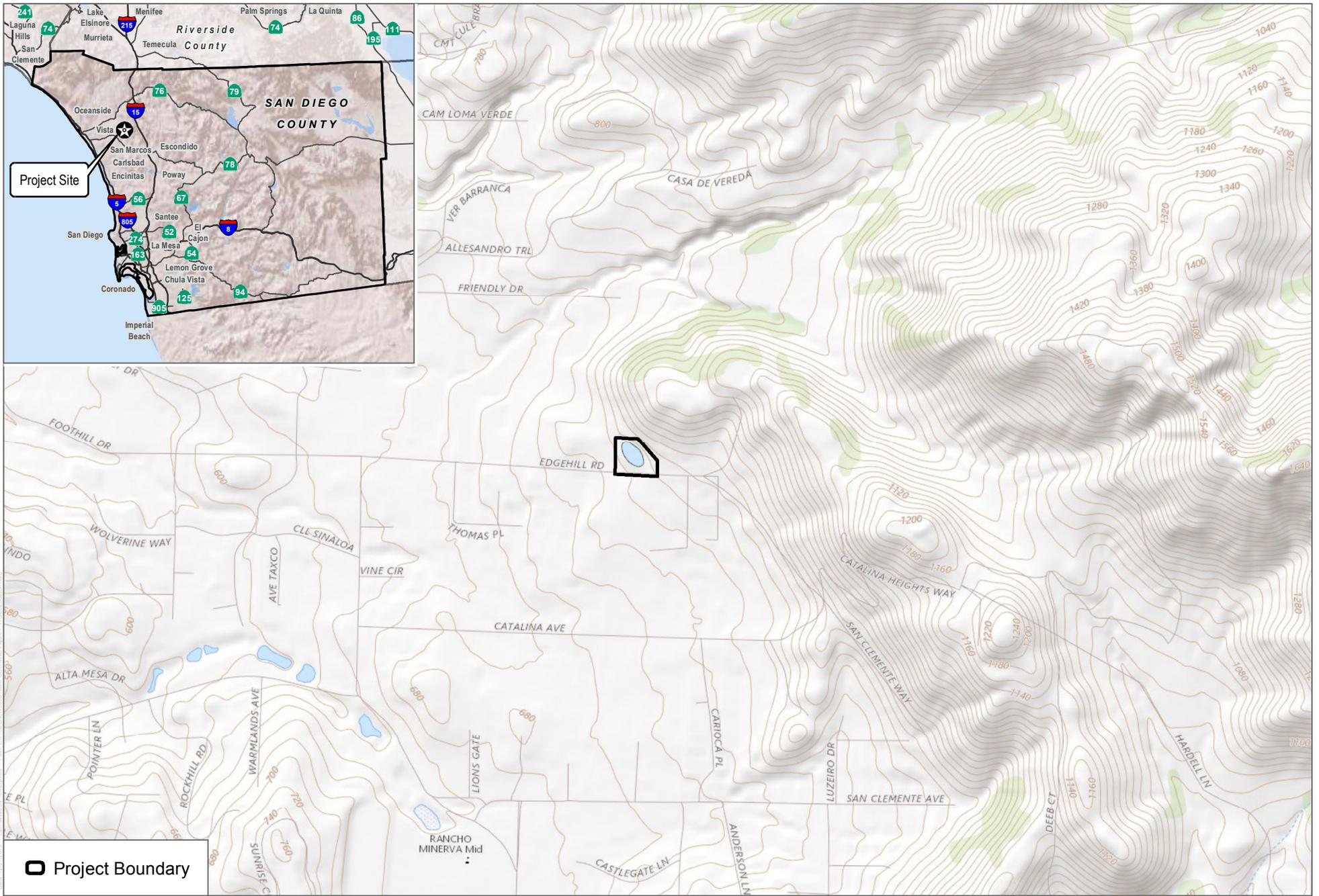
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SOURCE: USGS 7.5-minute Quadrangle



FIGURE 1

Project Vicinity

Vista Irrigation District E Reservoir and Pump Station



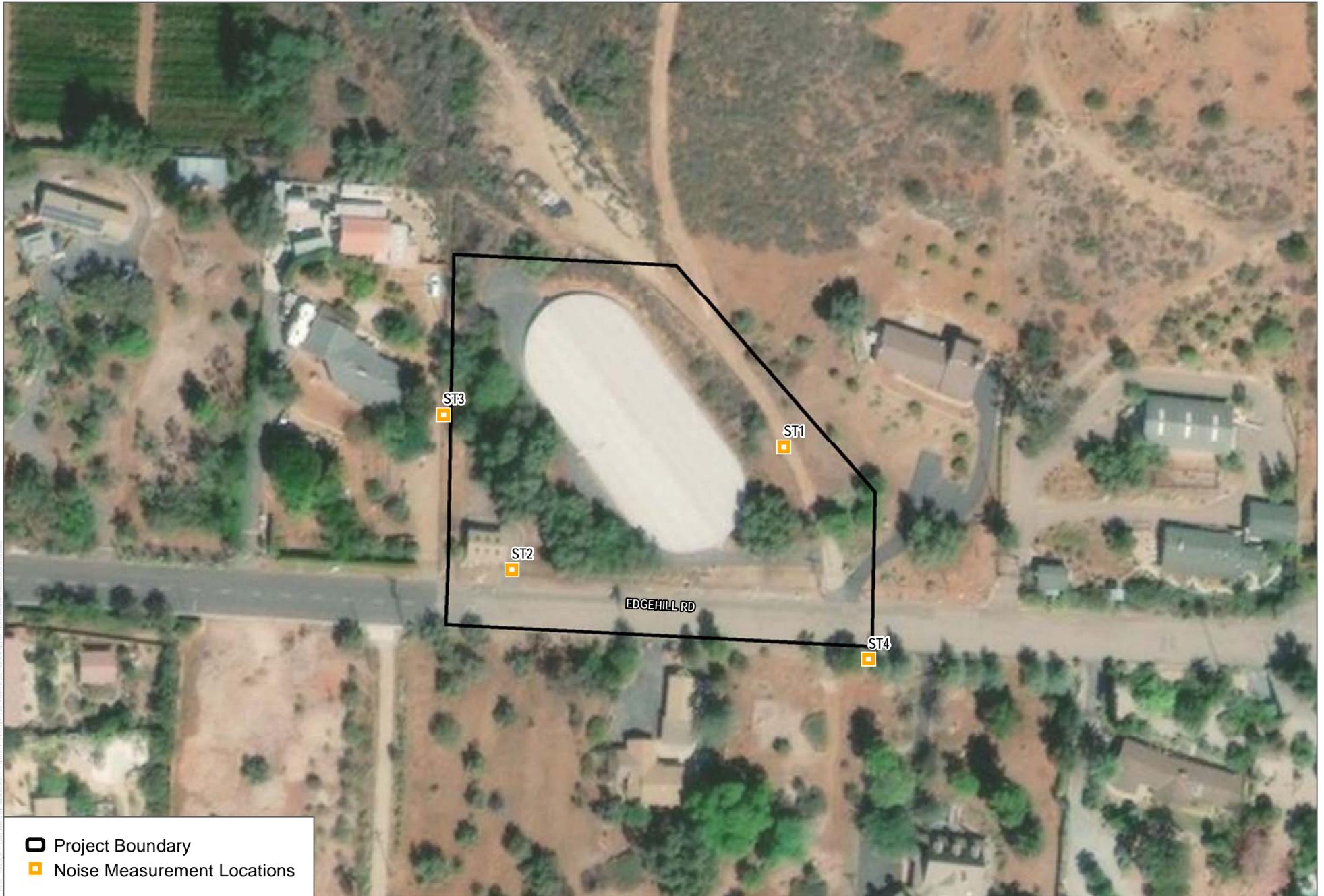
SOURCE: SANGIS 2017



FIGURE 2

Project Location

Vista Irrigation District E Reservoir and Pump Station



Project Boundary
 Noise Measurement Locations

SOURCE: ESRI 2019



FIGURE 3

Noise Measurement Locations
 Vista Irrigation District E Reservoir and Pump Station



Attachment A

Construction Noise Modeling Input/Output Worksheets

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase, per FTA guidance for residential receptors = **80**
 allowable hours over which Leq is to be averaged (example: 8 for County of San Diego, FTA guidance) = **8**

Construction Phase	FHWA RCNM Equipment Type	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Backhoe	1	40	78		60	76.4	8	480	72
	Excavator	1	40	81		60	79.4	8	480	75
	Front End Loader	1	40	79		60	77.4	6	360	72
Total for Demolition Phase:										78.4
Site Preparation and Grading	Excavator	1	40	81		50	81.0	8	480	77
	Backhoe	1	40	78		50	78.0	8	480	74
	Front End Loader	1	40	79		50	79.0	6	360	74
	Rock Drill	1	20	81		50	81.0	8	480	74
	Mounted Impact Hammer (hoe ram)	1	20	90		50	90.0	8	480	83
Total for Site Preparation and Grading Phase:										65.1
Pump Station Construction	Crane	1	16	81		50	81.0	8	480	73
	Flat bed truck	1	40	74		50	74.0	8	480	70
	Man Lift	1	20	75		50	75.0	8	480	68
	Welder / Torch	1	40	73		50	73.0	8	480	69
Total for Pump Station Construction Phase:										76.5
Paving	Paver	1	50	77		50	77.0	8	480	74
	Roller	1	20	80		50	80.0	8	480	73
Total for Paving Phase:										76.5
Reservoir Construction	Backhoe	1	40	78		35	81.1	3	180	73
	Excavator	1	40	81		35	84.1	3	180	76
	Front End Loader	1	40	79		35	82.1	3	180	74
Total for Reservoir Construction Phase:										79.1
Piping	Excavator	1	40	81		50	81.0	8	480	77
Total for Piping Phase:										77.0
Architectural Coating	Compressor (air)	1	40	78		50	78.0	8	480	74
Total for Architectural Coating Phase:										74.0

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase, per FTA guidance for residential receptors = **80**
 allowable hours over which Leq is to be averaged (example: 8 for County of San Diego, FTA guidance) = **8**

Construction Phase	FHWA RCNM Equipment Type	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Backhoe	1	40	78		100	72.0	8	480	68
	Excavator	2	40	81		100	75.0	8	480	74
	Front End Loader	1	40	79		100	73.0	6	360	68
Total for Demolition Phase:										75.7
Site Preparation and Grading	Excavator	1	40	81		100	75.0	8	480	71
	Backhoe	1	40	78		100	72.0	8	480	68
	Front End Loader	1	40	79		100	73.0	6	360	68
	Rock Drill	1	20	81		100	75.0	8	480	68
	Mounted Impact Hammer (hoe ram)	1	20	90		100	84.0	8	480	77
Total for Site Preparation and Grading Phase:										79.1
Pump Station Construction	Crane	1	16	81		100	75.0	8	480	67
	Flat bed truck	1	40	74		100	68.0	8	480	64
	Man Lift	1	20	75		100	69.0	8	480	62
	Welder / Torch	1	40	73		100	67.0	8	480	63
Total for Pump Station Construction Phase:										70.5
Paving	Paver	1	50	77		100	71.0	8	480	68
	Roller	2	20	80		100	74.0	8	480	70
Total for Paving Phase:										72.1
Reservoir Construction	Backhoe	1	40	78		100	72.0	8	480	68
	Excavator	2	40	81		100	75.0	8	480	74
	Front End Loader	1	40	79		100	73.0	8	480	69
Total for Reservoir Construction Phase:										76.0
Piping	Excavator	1	40	81		100	75.0	8	480	71
Total for Piping Phase:										71.0
Architectural Coating	Compressor (air)	1	40	78		100	72.0	8	480	68
Total for Architectural Coating Phase:										68.0



Attachment B

Operation Noise Modeling Input/Output Worksheets

below from Bies & Hansen, *Engineering Noise Control*, 2nd ed. (1996), Section 11.6 and Table 11.0

OBCF (Hz)	kW	rpm	Unweighted OBCF PWL (dB)									Notes	input for your pump:			
			<u>31.5</u>	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>		rpm	kW		
			83	84	85	87	87	90	87	83	77		3550	37.3	← User: enter these two values!	
< 75kW		3000-3600										72	10	3000	3600	
		1600-1800										75	10	1600	1800	
		1000-1500										70	10	1000	1500	
		450-900										68	10	450	900	
> 75kW		3000-3600										86	3	3000	3600	
		1600-1800										89	3	1600	1800	
		1000-1500										84	3	1000	1500	
		450-900										82	3	450	900	
Horsepower to kW conversion			83	84	85	87	87	90	87	83	77	values for other worksheets		← User: these are accessed by other sheets		
	37.3															

Scenario: painted CMU % cover	Square Feet (SF)	room dimensions in feet			Vol. (m)	Octave Band Center Frequency (Hz)						NRC	Notes
		L	W	H		125	250	500	1000	2000	4000		
		20	26	13	191	Acoustical Absorption Coefficients (α)							
Abs. Coeff - walls, treated	0%	0	20	26	13	0.63	0.56	0.95	0.79	0.60	0.35	0.73	Owens-Corning 703, 2" thick, 3 pcf, FRK lined, on wall; http://www.bobgolds.com/AbsorptionCoefficients.htm
Abs. Coeff - walls, untreated	100%	1196				0.1	0.05	0.06	0.07	0.09	0.08	0.07	I
Abs. Coeff - ceiling, treated	0%	0	20	26		0.63	0.56	0.95	0.79	0.60	0.35	0.73	Owens-Corning 703, 2" thick, 3 pcf, FRK lined, on wall; http://www.bobgolds.com/AbsorptionCoefficients.htm
Abs. Coeff - ceiling, untreated	100%	520				0.05	0.1	0.01	0.1	0.07	0.02	0.07	II
Abs. Coeff - floor, treated	0%	0	20	26		0.01	0.05	0.1	0.2	0.45	0.65	0.20	Egan, p. 52, #36 (indoor-outdoor carpet)
Abs. Coeff - floor, untreated	100%	520				0.01	0.01	0.02	0.02	0.02	0.02	0.02	III
Total Square Footage TREATED	0%	0											
Total Square Footage UNTREATED	100%	2236											
TOTAL SQUARE FOOTAGE		2236				0.07	0.05	0.04	0.07	0.07	0.05	0.06	average absorption coefficient
						Sabins (A)							
Abs. Coeff - walls, treated						0	0	0	0	0	0		
Abs. Coeff - walls, untreated						120	60	72	84	108	96		
Abs. Coeff - ceiling, treated						0	0	0	0	0	0		
Abs. Coeff - ceiling, untreated						26	52	5	52	36	10		
Abs. Coeff - floor, untreated						5	5	10	10	10	10		
Total Sabins per OBCF						151	117	87	146	154	116		
Notes:													
						I	painted concrete block (Egan, p. 52, #4)						
						II	steel (Egan, p. 52, #15)						
						III	concrete floor (Egan, p. 52, #15)						
						NRC = noise reduction coefficient							

Scenario: 2" fill w/ FSK liner* % cover	Square Feet (SF)	room dimensions in feet			Vol. (m)	Octave Band Center Frequency (Hz)						NRC	Notes
		L	W	H		125	250	500	1000	2000	4000		
		320	20	26	13	Acoustical Absorption Coefficients (α)							
Abs. Coeff - walls, treated	27%	320	20	26	13	0.63	0.56	0.95	0.79	0.60	0.35	0.73	Owens-Corning 703, 2" thick, 3 pcf, FRK lined, on wall; http://www.bobgolds.com/AbsorptionCoefficients.htm
Abs. Coeff - walls, untreated	73%	876				0.1	0.05	0.06	0.07	0.09	0.08	0.07	I
Abs. Coeff - ceiling, treated	62%	320	20	26		0.63	0.56	0.95	0.79	0.60	0.35	0.73	Owens-Corning 703, 2" thick, 3 pcf, FRK lined, on wall; http://www.bobgolds.com/AbsorptionCoefficients.htm
Abs. Coeff - ceiling, untreated	38%	200				0.05	0.1	0.01	0.1	0.07	0.02	0.07	II
Abs. Coeff - floor, treated	0%	0	20	26		0.01	0.05	0.1	0.2	0.45	0.65	0.20	Egan, p. 52, #36 (indoor-outdoor carpet)
Abs. Coeff - floor, untreated	100%	520				0.01	0.01	0.02	0.02	0.02	0.02	0.02	III
Total Square Footage TREATED	29%	640											
Total Square Footage UNTREATED	71%	1596											
TOTAL SF		2236				0.23	0.19	0.30	0.27	0.22	0.14	0.24	average absorption coefficient
						Sabins (A)							
Abs. Coeff - walls, treated						202	179	304	253	192	112		
Abs. Coeff - walls, untreated						88	44	53	61	79	70		
Abs. Coeff - ceiling, treated						202	179	304	253	192	112		
Abs. Coeff - ceiling, untreated						10	20	2	20	14	4		
Abs. Coeff - floor, treated						0	0	0	0	0	0		
Abs. Coeff - floor, untreated						5	5	10	10	10	10		
Total Sabins per OBCF						506	427	673	597	487	308		
estimated noise reduction (NR, dB)						5.3	5.6	8.9	6.1	5.0	4.2		

Notes:
*the FSK-lined 2"-thick, 3 pcf glass could be placed behind standard 23% open area perforated metal or comparable acoustically-transparent protective porous screen.

Booster Pump Building, long wall 12" hollow CMU

	qty	width	height
material or element #1			
material or element #2	1	14	12
material or element #3	1	3	7.25
material or element #4	1	3	4
total surface		35	14

TL Data Source

Harris, Noise Control in Buildings, Appx. 5.2c*
 *+ 5dB to adjust for STC up 5 points for grout-filled

Alpine Insul-Sound roll-up door (or comparable)

Egan, Architectural Acoustics, p. 205, line 46

<https://www.iacacoustics.com/acoustic-louvers.html>

Booster Pump Building, short wall 8" hollow CMU

	qty	width	height
material or element #1			
material or element #2			
material or element #3			
material or element #4			
total surface		20	14

TL Data Source

Harris, Noise Control in Buildings, Appx. 5.2c*
 *+ 5dB to adjust for STC up 5 points for grout-filled

Egan, Architectural Acoustics, p. 205, line 46

25 = approx. STC

Square feet	125	250	500	1000	2000	4000
288.25 12" hollow CMU	37	36	42	49	55	58
168 Rollup door	39	38	44	51	57	60
21.75 single solid door	43	42	48	55	61	64
12 Acoustical Louver						
490 arbitrary total surface area						
Octave Band Center Frequency (OBCF, Hz)						
	125	250	500	1000	2000	4000
12" hollow CMU material #1 τ	43	42	48	55	61	64
	5E-05	6.3E-05	1.6E-05	3.2E-06	7.9E-07	4E-07
Rollup door material #2 τ	20	23	24	31	43	50
	0.01	0.00501	0.00398	0.00079	5E-05	0.00001
single solid door material #3 τ	24	23	29	31	24	40
	0.00398	0.00501	0.00126	0.00079	0.00398	0.0001
Acoustical Louver material #4 τ	7	10	12	18	18	14
	0.19953	0.1	0.0631	0.01585	0.01585	0.03981
composite TL	21	24	25	32	32	30

STC is 50 per referenced 48 psf block, but this link suggests STC should be 55 for grout-filled 8" thick: <http://www.ncma-br.org/pdfs/5/TEK%2013-01C.pdf>

<https://3xg3ng2xwa8629t6fg2h7vu9-wpengine.netdna-ssl.com/wp-content/uploads/2011/04/Insul-sound-sound.jpg>

based on SL-12 model

44 = approx. STC

Square feet	125	250	500	1000	2000	4000
280 8" hollow CMU	39	38	44	51	57	60
0 n/a						
0 single solid door						
0 n/a						
280 arbitrary total surface area						
Octave Band Center Frequency (OBCF, Hz)						
	125	250	500	1000	2000	4000
8" hollow CMU material #1 τ	39	38	44	51	57	60
	0.00013	0.00016	4E-05	7.9E-06	2E-06	1E-06
n/a material #2 τ	1	1	1	1	1	1
single solid door material #3 τ	24	23	29	31	24	40
	0.00398	0.00501	0.00126	0.00079	0.00398	0.0001
n/a material #4 τ	0	0	0	0	0	0
	1	1	1	1	1	1
composite TL	39	38	44	51	57	60

STC is 50 per referenced 48 psf block, but this link suggests STC should be 55 for grout-filled 8" thick: <http://www.ncma-br.org/pdfs/5/TEK%2013-01C.pdf>

Pump Room, Roof		exhaust duct in roof		
	qty	width	height	
material or element #1				
material or element #2	1	1.5	1.5	
material or element #3	1	1.33	1.33	
material or element #4				
total surface		35	20	

TL Data Source

see link: STC 32 roof assembly (insulated metal deck)

26 = approx. STC

Square feet	Octave Band Center Frequency (OBCF, Hz)					
	125	250	500	1000	2000	4000
695.9811 insulated metal deck roof assembly	29	33	37	44	55	63
2.25 18"x18" roof hatch	15	21	27	33	38	39
1.7689 16" x 16" exhaust fan duct penetration	0	0	0	0	0	0
0 n/a	0	0	0	0	0	0
700 arbitrary total surface area	24	25	26	26	26	26

<http://therm-all.com/wp-content/uploads/2018/09/NAIMA-Fact-Sheet-58-Acoustical-Performance-of-Metal-Building-Insulation.pdf>

assume comparable to 1/16"-thick sheet steel per Universal Silencer Application Handbook, pg. 166, Appx. XIV

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	17	17	17	17	17	17
TL of room wall	21	24	25	32	32	30
Distance attenuation	24	24	24	24	24	24
Directivity	0	0	0	0	0	0
Intervening Barrier	0	0	0	0	0	0
Air absorption	0.0	0.0	0.0	0.1	0.1	0.3
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	29	35	36	38	37	35

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 490 ft ²
	see "pump_compTL_walls" worksheet, assumes long wall and 12" acoustical louver installed
	distance from façade to receptor 55 ft
	south façade facing southern receptor, so these values represent no directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

5 number of pumps

3.28 ft reference distance

average of height of source and height of receiver

44

	8" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	14	14	14	14	14	14
TL of room wall	39	38	44	51	57	60
Distance attenuation	27	27	27	27	27	27
Directivity	5	5	5	5	5	5
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	0
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	1	11	8	9	2	-4

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 280 ft ²
	see "pump_compTL_walls" worksheet, assumes short wall
	distance from façade to receptor 70 ft
	west façade isn't facing the southern receptor, so these values represent directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

average of height of source and height of receiver

15

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	18	18	18	18	18	18
Comp TL of roof	24	24	25	32	32	30
Distance attenuation	27	27	27	27	27	27
Directivity	7	8	9	10	11	12
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	0
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	18	26	26	28	25	23

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 700 ft ²
	see "pump_compTL_roof" worksheet
	distance from roof midpoint to receptor 70 ft
	IAC handbook, 90 degrees
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

average of height of source and height of receiver

33

44.0 =logsum of all three sound paths (both facades and the roof)

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	17	17	17	17	17	17
TL of room wall	21	24	25	32	32	30
Distance attenuation	28	28	28	28	28	28
Directivity	5	5	5	5	5	5
Intervening Barrier	0	0	0	0	0	0
Air absorption	0.0	0.0	0.1	0.1	0.2	0.5
Ground absorption	1.4	1.4	1.4	1.4	1.4	1.4
predicted SPL (dBA)	19	25	26	28	26	25

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 490 ft ²
	see "pump_compTL_walls" worksheet, assumes long wall and 12" acoustical louver installed
	distance from façade to receptor 85 ft
	south façade not facing southern receptor, so these values represent directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

5 *number of pumps

3.28 ft reference distance

average of height of source and height of receiver

	8" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	14	14	14	14	14	14
TL of room wall	39	38	44	51	57	60
Distance attenuation	26	26	26	26	26	26
Directivity	0	0	0	0	0	0
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	1
Ground absorption	1.4	1.4	1.4	1.4	1.4	1.4
predicted SPL (dBA)	6	15	12	14	7	0

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 280 ft ²
	see "pump_compTL_walls" worksheet, assumes short wall
	distance from façade to receptor 65 ft
	west façade is facing the southern receptor, so these values represent no directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

average of height of source and height of receiver

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	18	18	18	18	18	18
Comp TL of roof	24	24	25	32	32	30
Distance attenuation	28	28	28	28	28	28
Directivity	7	8	9	10	11	12
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	1
Ground absorption	1.4	1.4	1.4	1.4	1.4	1.4
predicted SPL (dBA)	15	23	23	25	22	20

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 700 ft ²
	see "pump_compTL_roof" worksheet
	distance from roof midpoint to receptor 85 ft
	IAC handbook, 90 degrees
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

average of height of source and height of receiver

35.1 =logsum of all three sound paths (both facades and the roof)

Alt 3 Pump Room, west Façade	12" hollow CMU	Octave Band Center Frequency (OBCF, Hz)					
		125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)		84	86	86	89	86	82
Room volume term, without absorption		5	5	5	5	5	5
Room absorption		5	6	9	6	5	4
Wall radiation term (°C)		17	17	17	17	17	17
TL of room wall		21	24	25	32	32	30
Distance attenuation		27	27	27	27	27	27
Directivity		5	5	5	5	5	5
Intervening Barrier		0	0	0	0	0	0
Air absorption		0.0	0.0	0.0	0.1	0.2	0.4
Ground absorption		0.4	0.4	0.4	0.4	0.4	0.4
predicted SPL (dBA)		22	27	28	31	29	28

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 490 ft ²
	see "pump_compTL_walls" worksheet, assumes long wall and 12" acoustical louver installed
	distance from façade to receptor 70 ft
	west façade not facing southern receptor, so these values represent directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

5 number of pumps

3.28 ft reference distance

5 ft average of height of source and height of receiver

36

Alt 3 Pump Room, south Façade	8" hollow CMU	Octave Band Center Frequency (OBCF, Hz)					
		125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)		84	86	86	89	86	82
Room volume term, without absorption		5	5	5	5	5	5
Room absorption		5	6	9	6	5	4
Wall radiation term (°C)		14	14	14	14	14	14
TL of room wall		39	38	44	51	57	60
Distance attenuation		24	24	24	24	24	24
Directivity		0	0	0	0	0	0
Intervening Barrier		0	0	0	0	0	0
Air absorption		0	0	0	0	0	0
Ground absorption		0.4	0.4	0.4	0.4	0.4	0.4
predicted SPL (dBA)		8	18	14	16	9	3

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 280 ft ²
	see "pump_compTL_walls" worksheet, assumes short wall
	distance from façade to receptor 55 ft
	south façade is facing the southern receptor, so these values represent no directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

5 ft average of height of source and height of receiver

22

Alt 1b Pump Room, Roof		Octave Band Center Frequency (OBCF, Hz)					
		125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)		84	86	86	89	86	82
Room volume term, without absorption		5	5	5	5	5	5
Room absorption		5	6	9	6	5	4
Wall radiation term (°C)		18	18	18	18	18	18
Comp TL of roof		24	24	25	32	32	30
Distance attenuation		27	27	27	27	27	27
Directivity		7	8	9	10	11	12
Intervening Barrier		0	0	0	0	0	0
Air absorption		0	0	0	0	0	0
Ground absorption		0.4	0.4	0.4	0.4	0.4	0.4
predicted SPL (dBA)		18	26	26	27	25	22

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 700 ft ²
	see "pump_compTL_roof" worksheet
	distance from roof midpoint to receptor 70 ft
	IAC handbook, 90 degrees
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

5 ft average of height of source and height of receiver

33

37.9 =logsum of all three sound paths (both façades and the roof)

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	17	17	17	17	17	17
TL of room wall	21	24	25	32	32	30
Distance attenuation	26	26	26	26	26	26
Directivity	0	0	0	0	0	0
Intervening Barrier	0	0	0	0	0	0
Air absorption	0.0	0.0	0.0	0.1	0.2	0.4
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	28	33	34	37	35	34

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 490 ft ²
	see "pump_compTL_walls" worksheet, assumes long wall and 12" acoustical louver installed
	distance from façade to receptor 65 ft
	west façade facing southern receptor, so these values represent no directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

5 number of pumps

3.28 ft reference distance

5 ft average of height of source and height of receiver

42

	8" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	14	14	14	14	14	14
TL of room wall	39	38	44	51	57	60
Distance attenuation	28	28	28	28	28	28
Directivity	5	5	5	5	5	5
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	0
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	0	9	6	8	1	-6

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 280 ft ²
	see "pump_compTL_walls" worksheet, assumes short wall
	distance from façade to receptor 85 ft
	south façade is facing the southern receptor, so these values represent directivity loss
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft reference distance

5 ft average of height of source and height of receiver

13

	12" hollow CMU					
	125	250	500	1000	2000	4000
3000 gpm pumps (5 running at once)	84	86	86	89	86	82
Room volume term, without absorption	5	5	5	5	5	5
Room absorption	5	6	9	6	5	4
Wall radiation term (°C)	18	18	18	18	18	18
Comp TL of roof	24	24	25	32	32	30
Distance attenuation	28	28	28	28	28	28
Directivity	7	8	9	10	11	12
Intervening Barrier	0	0	0	0	0	0
Air absorption	0	0	0	0	0	0
Ground absorption	0.0	0.0	0.0	0.0	0.0	0.0
predicted SPL (dBA)	17	25	25	26	23	21

A-weighting adjustments

overall Notes

94	SPL unweighted dB at 1m, calc'd from "pump_ref" based on individual pump power and RPM from EEPENG, Table 6.2
	see "pump_abs_calcs" worksheet, assumes interior treatment applied
	square feet of radiating wall 700 ft ²
	see "pump_compTL_roof" worksheet
	distance from roof midpoint to receptor 85 ft
	IAC handbook, 90 degrees
	from Beranek and Ver, NaVCE
	from Beranek and Ver, NaVCE (also ISO 9613-2)

3.28 ft

5 ft average of height of source and height of receiver

31

42.5 =logsum of all three sound paths (both facades and the roof)

Appendix G

Responses to Comments

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Rincon Band of Luiseño Indians

CULTURAL RESOURCES DEPARTMENT



One Government Center Lane | Valley Center | CA 92082
(760) 749-1051 | Fax: (760) 749-8901 | rincon-nsn.gov

April 6, 2020

Sent via email: gkeppler@vidwater.org

Greg Keppler
Vista Irrigation District
1391 Engineer Street
Vista, CA 92081

Re: E Reservoir Replacement and Pump Station Project

Dear Mr. Keppler,

This letter is written on behalf of the Rincon Band of Luiseño Indians (“Rincon Band” or “Band”), a federally recognized American Indian Tribe and sovereign government. If you have not done so already, please include the Band on all distribution lists for environmental document reviews and notices for public hearings and scheduled approvals.

The Rincon Band has received the Mitigated Negative Declaration (MND) for the above referenced project. From the transmittal description the Band understands that the proposed project includes the replacement of the existing oval shaped, partially buried, 1.5-million-gallon (MG) E Reservoir with a new reservoir and construction of a new pump station. The Rincon Band wishes to inform the Vista Irrigation District that the location identified within the MND is situated within the Territory of the Luiseño people and within the Band’s specific Area of Historic Interest (AHI). As such, Rincon is traditionally and culturally affiliated to the project area.

A-1

We have reviewed the provided documents and we are in agreement with the measures which include archaeological monitoring upon discovery. However, Rincon recommends that Luiseño Tribal Monitoring also be included in MM-CUL-1 for ground disturbances that extends beyond previously disturbed depths. Having a Luiseño Tribal Monitor would not only save time upon discovery of cultural resources, but the determination of potential significance would be made in consultation with the Luiseño tribal monitor who has knowledge pertaining to the cultural significance of Luiseño cultural material.

A-2

Furthermore, in Appendix C1 Cultural Resources Report of the MND, DUDEK listed guidelines “taken directly from the City of Vista’s General Plan 2030, initially established by the City in 2011...”. The Band would like to clarify, that this listing serves as reference but these guidelines will not be applied to the project, as RCS Policy 12.2 and 12.3 references the San Luis Rey Band of Mission Indians where it should state instead “the consulting Tribes”. The Band therefore asks, that if it is expected that the City’s guidelines be applied to this project, language needs to be changed to ensure that the Consulting Tribes will be included.

A-3

We request that the Rincon Band be notified of any changes in project plans. In addition, we request a copy of the final monitoring report, when available and ask that Rincon be afforded the opportunity to monitor the ground disturbances associated with this project.

If you have additional questions or concerns, please do not hesitate to contact our office at your convenience at (760) 297-2635.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,



Cheryl Madrigal
Tribal Historic Preservation Officer
Cultural Resources Manager

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A-4
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Response to Comment Letter A

Rincon Band of Luiseño Indians

Cheryl Madrigal

April 6, 2020

- A-1** The Vista Irrigation District (VID) appreciates the Rincon Band of Luiseño Indian's (Rincon Band's) review and comment on the Draft Mitigated Negative Declaration (MND). This comment is introductory in nature and provides an accurate summary of the proposed project analyzed in the Draft MND. VID acknowledges that the project site is within the Rincon Band's traditionally and culturally affiliated area. VID notes the Rincon Band's request to be included on all distribution lists for environmental document reviews and notices for public hearings and scheduled approvals; VID will add the Rincon Band to these requested future distribution lists.
- A-2** This comment refers to the requirements of mitigation measure MM-CUL-1. The commenter is recommending that Luiseño Tribal Monitoring also be included in mitigation measure MM-CUL-1. It should be noted that cultural resources construction monitoring is not included in mitigation measure MM-CUL-1, per the conclusions of the Negative Cultural Resources Report included as Appendix C1 to the Draft MND. This conclusion is based on the existing disturbance of the site, in combination with the negative survey and records search results, which suggests there is little to no potential to encounter unidentified significant cultural resources within the project's excavation area. Therefore, mitigation measure MM-CUL-1 requires construction work training and notification to a qualified archaeologist in the event of an unanticipated discovery.
- Per the requirements of mitigation measure MM-CUL-1, in the event that unanticipated archaeological resources are exposed during construction activities for the project, a qualified archaeologist shall be retained to evaluate the significance of the find. If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the National Historic Preservation Act, additional efforts may be warranted as recommended by the qualified archaeologist. These additionally recommended efforts may include coordination with appropriate tribal representatives, depending on the resource found. However, because cultural construction monitoring is not required of the project, no revisions to mitigation measure MM-CUL-1 have been made in response to this comment.
- A-3** This comment refers to the listing of the City of Vista's General Plan Cultural and Historical Resources Guidelines in the Cultural Resources Report for the project included as Appendix C1 to the MND. The commenter is correct that these are included as reference, but these guidelines do not apply to the proposed project. This comment does not raise any issue related to the adequacy of the environmental analysis contained in the Draft MND. No revisions to the Draft MND are required.
- A-4** This comment concludes the comment letter. VID will notify the Rincon Band of any changes in the project plans. VID notes the Rincon Band's request to monitor the ground disturbances of the project. As noted in Response to Comment A-2, cultural resources monitoring is not required of the project per mitigation measure MM-CUL-1 due to the extent of previous disturbance and low sensitivity. As such, mitigation measure MM-CUL-1 does not require provision of a monitoring report, as no monitoring is required. However, should an unanticipated discovery of a cultural resource occur during project construction, VID will provide the Rincon Band with the results of the evaluation of the discovery.

From: Mikayla Vaba <mikayla.vaba@opr.ca.gov>
Sent: Friday, April 24, 2020 2:54 PM
To: Greg Keppler <gkeppler@vidwater.org>
Subject: SCH# 2020039069

The State Clearinghouse would like to inform you that our office will be transitioning from providing a hard copy of acknowledging the close of review period on your project to electronic mail system.

Please visit: <https://ceqanet.opr.ca.gov/2020039069/2> for full details about your project and if any state agencies submitted comments by close of review period (note: any state agencies in bold, submitted comments and are available).

This email acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please email the State Clearinghouse at state.clearinghouse@opr.ca.gov if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

B-1

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Response to Comment Letter B

State Clearinghouse

Mikayala Vaba

April 24, 2020

- B-1** This comment letter confirms that VID has complied with the public review requirements for the Draft MND, pursuant to CEQA. VID has reviewed the link provided in this comment and confirmed that no state agencies submitted comment letters through the State Clearinghouse. This comment does not raise any issue with the adequacy of the Draft MND, therefore, no further response is required.

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Appendix H

Mitigation, Monitoring, and Reporting Program

E Reservoir Replacement and Pump Station Project

MITIGATION MONITORING AND REPORTING PROGRAM

The California Public Resources Code, Section 21081.6, requires that a lead or responsible agency adopt a mitigation monitoring and reporting plan when approving or carrying out a project when a Mitigated Negative Declaration identifies measures to reduce potential environmental impacts. As lead agency for the project, Vista Irrigation District is responsible for adoption and implementation of the mitigation monitoring and reporting program.

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	Planning	Pre-Construction	During Construction	Post-Construction		Monitor	Report		
<i>Biological Resources</i>									
MM-BIO-1 Pre-Construction Nesting Birds Surveys and Reporting. To avoid impacts to breeding and nesting birds in accordance with the Migratory Bird Treaty Act and California Fish and Game Code, construction activities shall take place outside of the nesting season; nesting season is March 1 (January 1 for raptors) through September 15. If construction cannot take place outside the nesting season, a breeding/nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to ground-disturbing activities to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the impact area or within 300 feet of the impact area. If active nests are found, an avoidance buffer shall be established (typically 50 to 300 feet, depending on the species) until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. A survey and monitoring report documenting the pre-construction survey results and implemented avoidance	x	x	x		Vista Irrigation District				

E Reservoir Replacement and Pump Station Project

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	Planning	Pre-Construction	During Construction	Post-Construction		Monitor	Report		
measures shall be submitted.									
<i>Cultural Resources</i>									
<p>MM-CUL-1 Prior to the start of construction, a worker environmental awareness training program (WEAP) shall be implemented at the construction kickoff meeting to inform construction workers of the cultural sensitivity of the general area and of the types of artifacts that are commonly found during construction in the region. In the event that unanticipated discoveries are encountered during future project undertakings, all activity shall cease within 50 feet of the find until a qualified archaeologist can determine the significance of the find and appropriate mitigation. Examples of prehistoric resources may include: stone tools and manufacturing debris; milling equipment such as bedrock mortars, portable mortars, and pestles; darkened or stained soils (midden) that may contain dietary remains such as shell and bone; and human remains. Historic resources may include: burial plots; structural foundations; mining spoils piles and prospecting pits; cabin pads; and trash scatters consisting of cans with soldered seams or tops, bottles, cut (square) nails, and ceramics; paleontological resources. The WEAP training shall also inform construction personnel on what to do in the event of a discovery.</p> <p>In the event that unanticipated archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring in the immediate vicinity of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (CEQA) (14 CCR 15064.5[f]; California Public Resources Code Section 21082) the archaeologist may record the find to</p>		x	x		Vista Irrigation District				

E Reservoir Replacement and Pump Station Project

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	Planning	Pre-Construction	During Construction	Post-Construction		Monitor	Report		
	appropriate standards (thereby addressing any data potential) and allow work to continue. If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the National Historic Preservation Act, additional efforts may be warranted as recommended by the qualified archaeologist.								
MM-CUL-2 In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, all work in the immediate vicinity shall be suspended and the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made. If the county coroner determines that the remains are, or are believed to be, Native American, they shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent (MLD) from the deceased Native American. Within 48 hours of their notification, the MLD will recommend to the lead agency their preferred treatment of the remains and associated grave goods.			x		Vista Irrigation District				
<i>Noise</i>									
MM-NOI-1 Construction Noise Reduction. The Vista Irrigation District (VID) and/or its construction contractor shall comply with the following measures during construction: 1. Construction activities shall not occur between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturdays, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required. 2. Equipment (e.g., portable generators) shall be shielded from sensitive uses		x	x		Vista Irrigation District				

E Reservoir Replacement and Pump Station Project

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	Planning	Pre-Construction	During Construction	Post-Construction		Monitor	Report		
	<p>using local temporary noise barriers or enclosures or shall otherwise be designed or configured to minimize noise at nearby noise-sensitive receptors.</p> <p>3. All noise-producing equipment and vehicles using internal combustion engines should be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) should be equipped with shrouds and noise control features that are readily available for that type of equipment.</p> <p>4. All mobile or fixed noise-producing equipment used on the project facilities that are regulated for noise output by a local, state, or federal agency should comply with such regulation while in the course of project activity.</p> <p>5. Idling equipment should be kept to a minimum and moved as far as practicable from noise-sensitive land uses.</p> <p>6. Electrically powered equipment should be used instead of pneumatic or internal-combustion-powered equipment, where feasible.</p> <p>7. Material stockpiles and mobile equipment staging, parking, and maintenance areas should be located as far as practicable from noise-sensitive receptors.</p> <p>8. The use of noise-producing signals, including horns, whistles, alarms, and bells, should be for safety warning purposes only.</p> <p>9. Residences within 500 feet of the construction site should be notified of the construction schedule in writing at least 3 calendar days prior to construction. VID or its contractor(s) shall designate a noise disturbance point of contact who would be responsible for responding to complaints regarding construction noise. The point of contact should make reasonable effort to investigate the cause of the complaint and, if indeed related to construction noise attributed to the</p>								

E Reservoir Replacement and Pump Station Project

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	Planning	Pre-Construction	During Construction	Post-Construction		Monitor	Report		
project, see that reasonable measures are implemented to help address the problem. A contact number for the noise disturbance point of contact should be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.									
<p>MM-NOI-2 Blasting Requirements. Blasting for rock excavation shall be only be used by the contractor upon receipt of approval by Vista Irrigation District and after other non-explosive techniques have been exhausted, such as rock breaking attachments (both with and without pre-drilling), hydro-fracturing, and expansive chemical agents. If blasting is required for rock excavation, Vista Irrigation District or its contractor shall prepare a blasting plan that will reduce impacts associated with construction-related noise, drilling operations and vibrations related to blasting. The blasting plan shall be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan shall include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan shall account for blasting activities and all supplemental construction equipment. The final blasting plan and pre-blast survey shall meet the requirements provided below.</p> <ul style="list-style-type: none"> Prior to blasting, a qualified geotechnical professional shall inspect and document the existing conditions of facades and other visible structural features or elements of the nearest residential buildings. Should this inspector determine that some structural features or elements appear fragile or otherwise potentially sensitive to vibration damage caused by the anticipated blasting activity, the maximum per-delay charge weights and other related blast parameters shall be re-evaluated to establish 		x	x		Vista Irrigation District				

E Reservoir Replacement and Pump Station Project

Mitigation Measure	Time Frame of Mitigation				Monitoring Reporting Agency	Time Frame for Verification Frequency to		Date of Completion	Date of Verification
	<i>Planning</i>	<i>Pre-Construction</i>	<i>During Construction</i>	<i>Post-Construction</i>		<i>Monitor</i>	<i>Report</i>		
<p>appropriate quantified limits.</p> <ul style="list-style-type: none"> • All blasting shall be performed by a blast contractor and blasting personnel licensed to operate per appropriate regulatory agencies. • Each blast shall be monitored and recorded with an air-blast overpressure monitor and groundborne vibration accelerometer that is located outside the closest residence to the blast. This data shall be recorded, and a post-blast summary report shall be prepared and be available for public review or distribution as necessary. • Blasting shall not exceed 1 inch per second peak particle velocity (PPV) (transient or single-event), or a lower PPV determined by the aforesaid inspector upon completion of the pre-blast inspection, at the façade of the nearest occupied residence • To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 500 feet of the project at least 1 week prior to a scheduled blasting event. • Drilling operations associated with blasting preparations shall be performed in a manner consistent with adherence to guidance that emulates Sections 36.408, 36.409, and 36.410 of the San Diego County Code Noise Ordinance. 									