DRAFT

Initial Study/Mitigated Negative Declaration

Hill Canyon Treatment Plant Stormwater Diversion Project

AUGUST 2023

Prepared for:

CITY OF THOUSAND OAKS
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARDR	Aquatic Resources Delineation Report
BMP	best management practice
BRAR	Biological Resources Assessment Report for the Hill Canyon Treatment Plant Stormwater Diversion Project
BSA	Biological Survey Area
CAAQS	California Ambient Air Quality Standards
Cal/OSHA	California Department of Industrial Relations Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
cfs	cubic feet per second
CH_4	methane
CHRIS	California Historical Resources Information System
City	City of Thousand Oaks
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	Ventura County
CRHR	California Register of Historical Resources
dB	decibels
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
ESCP	Erosion and Sediment Control Plan
FTA	Federal Transit Administration
GHG	greenhouse gas
IGP	Industrial General Permit
ips	inches per second
IS	Initial Study
LACM IP	Los Angeles County Museum Invertebrate Paleontology
LACM VP	Los Angeles County Museum Vertebrate Paleontology
L_{dn}	day/night average sound level

Acronym/Abbreviation	Definition
L_{eq}	energy-equivalent sound level
L_{xx}	statistical sound level
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHMLA	Natural History Museum of Los Angeles County
NO_2	nitrogen dioxide
NONA	Notice of Non-Applicability
NO_x	oxides of nitrogen
O_3	ozone
OPR	Governor's Office of Planning and Research
P-L	Public, Quasi-Public, and Institutional Lands and Facilities
PM_{10}	particulate matter less than 10 microns in diameter
PPV	peak particle velocity
PRC	California Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Program
project	Hill Canyon Treatment Plant Stormwater Diversion Project
RCNM	Roadway Construction Noise Model
ROC	reactive organic compound
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCAB	South-Central Coast Air Basin
SCCIC	South Central Coastal Information Center
SLF	Sacred Lands File
SR	State Route
SSC	Species of Special Concern
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
Treatment Plant	Hill Canyon Treatment Plant
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VCAPCD	Ventura County Air Pollution Control District
VCFD	Ventura County Fire Department
VMT	vehicle miles traveled
WEAP	Worker Environmental Awareness Program

1 Introduction

1.1 Project Overview

This Draft Initial Study (IS) was prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental effects associated with the Hill Canyon Treatment Plant Stormwater Diversion Project (project), proposed by the City of Thousand Oaks (City) and located within the City of Thousand Oaks. The project involves improvements to the Hill Canyon Treatment Plant (Treatment Plant), including the development of a new debris basin and storm drain improvements.

1.2 California Environmental Quality Act Compliance

The City is the lead agency responsible for the preparation of the environmental documentation and for the approval of the project. Based on the findings of this Draft IS, the City has made the determination that a Mitigated Negative Declaration (MND) is the appropriate environmental document to be prepared in compliance with CEQA (California Public Resources Code, Section 21000 et seq.).

This IS/MND has been prepared by the City and is in conformance with Section 15070(a) of the CEQA Guidelines (14 CCR 15000 et seq.). The purpose of the MND and the IS checklist is to determine any potentially significant impacts associated with the project and to incorporate mitigation measures into the project design, as necessary, to reduce or eliminate significant or potentially significant effects. As determined in this IS/MND, there is no substantial evidence, in light of the whole record before the agency, that the project would have a significant effect on the environment.

1.3 Public Review Process

This IS/MND has been made available for public review to potentially affected agencies and individuals for a period of 30 days, in accordance with Section 15073 of the State CEQA Guidelines. During review of the IS/MND, affected public agencies and the interested public have an opportunity to focus on the document's adequacy in identifying and analyzing the potential environmental impacts and the ways in which the potentially significant effects of the project can be avoided or mitigated.

Notices of the availability of the IS/MND for review and comment, as well as the environmental documentation, are available for review on the City's website:

https://www.toaks.org/departments/community-development/planning/environmental-impact

Comments on the IS/MND must be received by 5:00 p.m., September 14, 2023, and should be sent:

Via Email to:

nheydari@toaks.org

Via Mail to:

Nader Heydari, Deputy Public Works Director/City Engineer
City of Thousand Oaks
2100 Thousand Oaks Boulevard
Thousand Oaks, California 91362

Following the close of the public comment period, the City will consider this IS/MND and comments thereto in determining whether to approve the project.

Following receipt and evaluation of comments from agencies, organizations, and/or individuals, the City will determine whether any substantial new environmental issues have been raised. If so, further documentation—such as an environmental impact report (EIR) or an expanded IS/MND—may be required. If not, the project and the environmental documentation will be scheduled to be submitted to the City's Planning Commission for consideration.

1.4 Initial Study Checklist

Dudek, under the City's guidance, prepared the project's Environmental Checklist (i.e., IS) per CEQA Guidelines Sections 15063–15065. The CEQA Guidelines include a suggested checklist to indicate whether a project would have an adverse impact on the environment. The checklist is found in Section 3 of this document. Following the Environmental Checklist, Sections 3.1 through 3.21 include an explanation and discussion of each significance determination made in the checklist for the project.

For this IS/MND, the following four possible responses to each individual environmental issue area are included in the checklist:

1. Potentially Significant Impact
2. Less-than-Significant Impact with Mitigation Incorporated
3. Less-than-Significant Impact
4. No Impact

The checklist and accompanying explanation of checklist responses provide the information and analysis necessary to assess relative environmental impacts of the project. In doing so, the City will determine the extent of additional environmental review, if any, for the project.

2 Project Description

2.1 Project Overview

This Draft IS was prepared in accordance with CEQA to evaluate the potential environmental effects associated with the project, proposed by the City. The project involves improvements to the Treatment Plant, including the development of a new debris basin and storm drain improvements. See Section 2.5, Project Characteristics, for additional detail.

2.2 Project Location

The project site (Assessor's Parcel Numbers: 552-013-001 and 667-012-017) is located at the Treatment Plant (Figure 1, Project Location). The address for the Treatment Plant is 9600 Santa Rosa Road at the confluence of north and south Arroyo Conejo Creek and within the western limits of the City in Ventura County, California.

2.3 Environmental Setting

The project site is located within a 60-acre open space parcel that contains the Treatment Plant (Figure 2, Project Site). The Treatment Plant contains primary treatment facilities; secondary treatment facilities; tertiary treatment facilities; a receiving station to handle solids, fats, oil, and grease; energy facilities; and other facilities. The project site is located between two publicly owned open space systems, including Wildwood Regional Park, which is approximately 1,765 acres, and Conejo Canyons Open Space, which is approximately 1,430 acres. The project site is bound by Hill Canyon Fire Road to the northwest and undeveloped vegetated land to the north, east, and south. The area surrounding the project site is predominantly open space with residential and commercial properties approximately 0.25 miles south and east of the site.

The City of Thousand Oaks General Plan Land Use Element designates the project site as Institutional (City of Thousand Oaks 2018). The City's online zoning map designates the site as Public, Quasi-Public, and Institutional Lands and Facilities (P-L) (City of Thousand Oaks 2022). The land surrounding the project site has a land use designation of Existing Parks, Golf Courses, and Open Space (City of Thousand Oaks 2018). Additionally, the land surrounding the project site is zoned Open Space (OS) (City of Thousand Oaks 2022).

The project is located within the boundaries of the fully developed Treatment Plant and on land adjacent to the Treatment Plant. The Treatment Plant is surrounded by undeveloped habitats that are characteristic of the adjacent open space areas. The natural undeveloped habitats are composed of a combination of vegetation communities, including chamise chaparral (*Adenostoma fasciculatum*), California brittle bush (*Encelia* californica)–California sagebrush (*Artemisia californica*)–black sage scrub (*Salvia mellifera*), lemonade berry scrub (*Rhus integrifolia*), and lemonade berry scrub–California sagebrush scrub. Along with the scrub communities, several large shrubs of toyon (*Heteromeles arbutifolia*) and mature oak trees (California black oak [*Quercus kelloggii*], coast live oak [*Quercus agrifolia*]/interior live oak [*Quercus wislizeni*]) are present. California sycamore (*Platanus racemosa*)–arroyo willow (*Salix lasiolepis*) woodlands were mapped along Arroyo Conejo Creek. Based on the California Department of Fish and Wildlife (CDFW) California Natural Communities List, and under CEQA, most of these vegetation communities within the project site would be considered sensitive. These resources are shown on Figure 3, Biological Resources.

A number of special-status wildlife species are documented in the areas surrounding the project site and have a potential to occur in the undeveloped portions of the biological survey area. In the scrub areas, wildlife species include the coastal California gnatcatcher (*Polioptila californica californica*; federally threatened, CDFW Species of Special Concern [SSC]) and other CDFW SSC such as coast horned lizard (*Phrynosoma blainvillii*, CDFW SSC), San Bernardino ringneck snake (*Diadophis punctatus modestus*), legless lizards (*Anniella* sp.), and coastal whiptail (*Aspidoscelis tigris stejnegeri*). Along Arroyo Conejo Creek, special-status species may include the federally and State endangered least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*), as well as CDFW SSC species such as arroyo chub (*Gila orcuttii*), western pond turtle (*Emys marmorata*), and two-striped garter snake (*Thamnophis hammondii*). Refer to Section 3.4, Biological Resources, for further details regarding biological resources. The project site is not located within a Natural Community Conservation Plan/Habitat Conservation Plan.

2.4 Project Background and Need

The Treatment Plant, which is owned and operated by the City, provides wastewater treatment for the City. The Treatment Plant is a 14-million-gallon-per-day-capacity wastewater treatment plant and currently treats an average of 8 million gallons of wastewater per day generated from its domestic, commercial, and industrial customers.

The Treatment Plant is located at the confluence of two watersheds and experiences flooding in certain areas of the plant due to off-site run-on after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. These high runoff events are followed by a subsequent cleanup and debris removal associated with run-on flows from the tributary canyons that overflow into the Treatment Plant. Under existing conditions, flows are intercepted by a concrete swale that sits behind an existing reinforced concrete wall, directing flows to drain inlets that connect to an existing 30-inch storm drain system. To maintain compliance with the Industrial General Permit (IGP) and the City's Notice of Non-Applicability (NONA) for the IGP requirements, the City disconnected the 30-inch storm drain from outletting off site and added a sump pump system to divert on-site storm flows to an on-site basin. The maximum capacity of the existing 30-inch storm drain is 50 cubic feet per second (cfs). The 10-year combined peak flow rate of the two watersheds is 105 cfs. The City determined that it was not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant. Therefore, the proposed design flow is limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture, and contain stormwater flows is necessary. Implementation of the project would include the following: (1) re-establishing the existing 30-inch storm drain's connection to the original off-site outlet; (2) constructing new pipes to contain on-site flows within the site and maintain NONA status related to the IGP; and (3) constructing a debris basin to contain flooding and the accompanying debris after storm events associated with run-on flows from the tributary canyons that overflow onto the project site.

2.5 Project Characteristics

2.5.1 Proposed Components

Existing 30-inch Storm Drain

Under existing conditions, the existing 30-inch storm drain ties into a sump pump system that diverts flows to the adjacent sludge-drying beds. The diverted storm flows are combined with the wastewater flow through the Treatment Plant. The project would demolish the sump pump and re-establish the connection to the existing 30-inch

storm drain's original outfall to transport off-site flows from the adjacent canyon. The original outfall outlets to the South Arroyo Conejo Creek.

The maximum capacity of the existing 30-inch storm drain is 50 cfs. The City determined that is not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant. Therefore, the project would be limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture, and contain stormwater flows is necessary.

Proposed Storm Drain Pipes

Upstream of the demolished pipe segment, a proposed storm drain pipe (Pipe A) would divert on-site flows to the existing flow equalization basin's overflow structure that is routed to the sludge-drying beds. The alignment of Pipe A would be within the existing flow equalization basin's side slope. Pipe A would be 36 inches in diameter and have a full flow capacity of 55 cfs. The proposed Pipe A would be slightly larger in diameter by 6 inches and would increase flow by 5 cfs. This would allow for the preservation of the NONA status.

A second proposed storm drain pipe (Pipe B) would receive off-site flows from the proposed channel at the upstream end and tie into the existing 30-inch storm drain at the downstream end. Pipe B would be 24 inches in diameter and have a full flow capacity of 93 cfs. There would not be any on-site stormwater connections to this pipeline. It would only transport flows captured off site in Pipe C through the Treatment Plant to the existing outfall.

A third proposed storm drain pipe (Pipe C) would receive off-site flows from the proposed debris basin at the upstream end and outlet to the proposed channel at the downstream end. Pipe C would be 24 inches in diameter and would have a full flow capacity of 50 cfs.

Proposed Debris Basin

The proposed debris basin would be incorporated at the upstream end of the eastern side of the Treatment Plant to intercept all debris and allow clear water flows to continue downstream into the storm drain system pipe where it is routed to the outfall location.

Proposed Channel

The proposed channel would connect to the proposed debris basin at the upstream end by Pipe C. The proposed channel would convey 50 cfs flows.

Figure 4, Project Improvements, shows the proposed improvements to the Treatment Plant.

2.5.2 Project Operational Characteristics

Upon completion of construction, the project would continue providing off-site stormwater managment for the City. Similar to the existing conditions, staff would occasionally visit the project site for routine maintenance or in the event of an emergency. Operational impacts are considered to be minimal as operations would be very similar to the existing conditions.

2.5.3 Project Construction and Scheduling

Construction of the project is anticipated to occur over approximately 6 months. Project construction includes demolition of the sump pump associated with the existing 30-inch storm drain, demolition of the retaining wall structures, demolition of drainage features and vegetation in the area of the proposed debris basin, site preparation and grading, construction of three new storm drain pipes and concrete channel, a debris basin and retaining wall structures, and reconnection of the 30-inch storm drain pipe. Materials required for construction would include piping, concrete blocks for the walls, and concrete. Water for concrete installation, dust control, and erosion control would also be required. The heavy equipment listed in Table 3-1, Construction Scenario Assumptions, may be used during construction activities.

2.6 Project Approvals

Discretionary Actions

The actions and/or approvals that the City needs to consider for the project include, but are not limited to, the following:

- **Project Approval and Adoption of the IS/MND.** Following public review and comment of this IS/MND, the project and this IS/MND would require approval by the City Council.

Subsequent non-discretionary approvals would include:

- **Aquatic Resource Permits.** If required, based on aquatic resources delineation survey findings, the project would obtain permits pursuant to Section 404 and 401 of the Clean Water Act (U.S. Army Corps of Engineers [USACE]/Regional Water Quality Control Board [RWQCB]) and Section 1600 et. seq. of the California Fish and Game Code (CDFW).
- **Construction General Permit.** Because the project would involve ground disturbance greater than 1 acre, the project would require coverage under the General Permit for Construction Activities, which would involve the preparation of a stormwater pollution prevention plan (SWPPP).
- **Oak/Landmark Tree Permit.** If the project would remove an oak or landmark tree, then the project would require an Oak/Landmark Tree Permit from the City.

2.7 Cumulative Projects

The table below includes the cumulative projects within the City.

Table 2-1. Cumulative Projects

Project Name	Proposed Land Uses/Description	Location	Status/Operational Start Date
Calleguas – Las Virgenes Interconnection	Calleguas will construct a new pump station/pressure-reducing station (PS/PRS) and the North Interconnection Pipeline segment.	PS/PRS along Lindero Canyon Road just north of the Ventura	The project began construction in April 2022 and is expected to be completed in 2024.

Table 2-1. Cumulative Projects

Project Name	Proposed Land Uses/Description	Location	Status/Operational Start Date
		County/Los Angeles County line North Interconnection Pipeline segment along Lindero Canyon Road between the PS/PRS and Kanan Road	
Conejo Canyon Bridge	The project includes construction of a steel bridge across the Arroyo Conejo Creek.	Arroyo Conejo Creek southwest of Hill Canyon Road in the Conejo Canyons Open Space area	Construction is expected to begin in September 2023 and will be completed by February 2024.
Electric Vehicle (EV) Charging Station Project	The project installs four EV charging stations at the Grant Brimhall Library and three EV charging stations at the Newbury Park Library.	The Grant Brimhall Library at 1401 East Janss Road Newbury Park Library at 2331 Borchard Road	The project will begin in March 2023 and is expected to be completed by December 2023.
Flashing Yellow Arrow Traffic Signals Project	The City is in the process of installing flashing yellow arrow traffic signals at multiple intersections to improve traffic flow.	Throughout the City	Ongoing
Groundwater Recovery Project	The City is studying the feasibility of groundwater within the Conejo Valley as an alternative to imported water for irrigation and potable use.	The existing Los Robles Golf Course groundwater well, at 299 S Moorpark Road.	Prior to planning for the full-scale treatment facility, the City intends to complete additional testing to further evaluate the groundwater basin's characteristics and well's sustainable yield.
Janss Road Underground Project	As part of the Utility Undergrounding Master Plan, the utilities aboveground on Janss Road will be placed underground.	Janss Road	The project is currently in the design phase to develop final project plans by Southern California Edison and the telecom companies. Once all project plans have been completed, a final construction time frame will be

Table 2-1. Cumulative Projects

Project Name	Proposed Land Uses/Description	Location	Status/Operational Start Date
			developed, which is anticipated to be 2023. Construction is expected to begin in the first quarter of 2023.
Lawrence Drive and Teller Road Intersection Improvements	The project consists of widening and realigning Teller Road at Lawrence Drive to align the eastbound and westbound lanes; constructing roadway pavement, sidewalk, crosswalk, curb, gutter, and curb ramps; installing traffic signals, signing and striping; and landscaping and irrigation.	Teller Road and Lawrence Road intersection	Construction phase is expected to be completed in spring 2023.
Meadows Reservoir Emergency Repairs	Emergency work to repair unexpected failure at the Meadows Reservoir.	Meadows Reservoir site	In February 2022, the City Council approved the implementation of emergency remedial work. Upon completion of investigative and remedial work, staff will report back to the City Council with the required subsequent steps and the scope of required repairs.
State Route (SR) 23 Rehabilitation Project	A California Department of Transportation project, the SR-23 Rehabilitation Project will replace pavement on the outer two lanes from U.S. Highway 101 to SR-118. The on- and off-ramps, connectors, and adjacent shoulders also will be rehabilitated, and slabs will be replaced on the inner lane in both directions where needed. Existing curbs ramps will be upgraded where necessary to comply with the Americans with Disabilities Act, and approach slabs and bridge rails will be replaced at select locations.	In Ventura County, from U.S. Highway 101 to SR-118	The project is anticipated to start construction in summer 2020 and be completed fall 2023.
Unit-W	The Public Works Department seeks to rehabilitate various wastewater lines and maintenance holes throughout the City with a non-invasive lining product.	Throughout the City	Construction has begun.

3 Initial Study Checklist

1. **Project title:**

   Hill Canyon Treatment Plant Stormwater Diversion Project

2. **Lead agency name and address:**

   City of Thousand Oaks
   2100 Thousand Oaks Boulevard
   Thousand Oaks, California 91362

3. **Contact person and phone number:**

   Nader Heydari, Deputy Public Works Director/City Engineer
   805.449.2400

4. **Project location:**

   The project would be located at Hill Canyon Treatment Plant (Assessor's Parcel Numbers: 552-013-001 and 667-012-017), which is located in the City of Thousand Oaks (City), Ventura County (County), within southern California. The project site would be located within a 60-acre open space parcel.

5. **Project sponsor's name and address:**

   Nader Heydari
   City of Thousand Oaks
   2100 Thousand Oaks Boulevard
   Thousand Oaks, California 91362

6. **General plan designation:**

   Institutional

7. **Zoning:**

   Public, Quasi-Public, and Institutional Lands and Facilities (P-L)

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):**

   The project includes hydraulic improvements to the Treatment Plant's stormwater diversion system that would eliminate flooding and the accompanying debris experienced after storm events associated with flows from two tributaries that overflow onto the project site. Improvements would include re-establishing an existing 30-inch storm drain connection to its original off-site outlet and the development of a new debris basin, channel, and three storm drains. Project components are described in greater detail below.

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

The project site is located between two publicly owned open space systems including Wildwood Regional Park, which is approximately 1,765 acres, and Conejo Canyons Open Space, which is approximately 1,430 acres. The project site is bound by Hill Canyon Fire Road to the northwest and undeveloped vegetated land to the north, east, and south. The area surrounding the project site is predominantly open space with residential and commercial properties approximately 0.25 miles south and east of the site.

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

- Aquatic Resource Permits. If required, based on aquatic resources delineation survey findings, the project would obtain permits pursuant to Section 404 and 401 of the Clean Water Act (USACE/RWQCB) and Section 1600 et. seq. of the California Fish and Game Code (CDFW).
- Construction General Permit. Because the project would involve ground disturbance greater than 1 acre, the project would require coverage under the State RWQCB General Permit for Construction Activities, which would involve the preparation of a SWPPP.
- Oak/Landmark Tree Permit. If the project would remove an oak or landmark tree, then the project would require an Oak/Landmark Tree Permit from the City.

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 (PRC) Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Please see Section 3.18, Tribal Cultural Resources.

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. No boxes are checked because all project impacts would be no impact, less-than-significant impact, or less-than-significant impact with mitigation incorporated.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

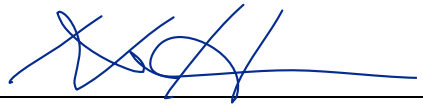
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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

8/11/2023

Date

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance

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?	☐	☐	☒	☐
b)	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, 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?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

a) Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. A scenic vista is typically defined as a public view of highly valued visual and scenic resources such as the ocean and distant mountain ranges, particularly from public vantage points. The project site is located between two publicly owned open space systems, including Wildwood Regional Park and Conejo Canyons Open Space, which both contain valuable scenic resources (City of Thousand Oaks 2013). The project, however, involves relatively minor improvements at an existing wastewater treatment plant to add a stormwater diversion basin. The proposed project would not substantially change the visual character of the project site. Therefore, the project would not have a substantial adverse effect on a scenic vista, and impacts would be **less than significant.**

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. The nearest State scenic highway is an eligible for designation stretch of U.S. Highway 101 located approximately 1.75-mile south of the project site (Caltrans 2018) and which is not visible from the project site. As such, the project would have **no impact** related to the damage of scenic resources 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?

Less-than-Significant Impact. In 2021, the City (which includes the project site) had a population of 125,754. As such, the City is considered an urbanized area pursuant to PRC Section 21071. Therefore, the first question of Threshold 3.1(c) does not apply to the proposed project, as it is directed at non-urbanized areas.

The proposed project would be located at the existing Treatment Plant, which is located on a 60-acre parcel between two publicly owned open space systems, including Wildwood Regional Park and Conejo Canyons Open Space. As previously discussed, the Treatment Plant, including the project site, has a zoning designation of Public, Quasi-Public, and Institutional Lands and Facilities (P-L). The facility is compliant with the zoning designation design standards listed in Section 9-4.3203 of the City's Municipal Code, and would maintain compliance upon project implementation.

The project site contains various undeveloped vegetation communities and Coast/interior live oak and California black oak trees. A portion of the project is proposed to be located within natural undisturbed habitat, which may result in impacts to sensitive and regulated resources such as sensitive vegetation communities, rare plants, special-status wildlife, nesting birds, oak trees, landmark trees, and aquatic resources. Although there would be some disturbance of natural undisturbed habitat, including permanent impacts to 0.09 acres of vegetation communities and potential removal of individual oak trees, the project site is situated at the junction of the existing developed Treatment Plant and a relatively small portion of the adjacent natural habitat. Under existing conditions, the wastewater treatment facility is developed with buildings, structures, and equipment associated with the facility's operations. As such, the proposed project, including the highly localized disturbances adjacent to the existing Treatment Plant, would not constitute a substantial degradation of the existing visual character or quality and impacts 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?

No Impact. Construction of the project would occur between the hours of 7:00 a.m. and 7:00 p.m. As such, no lighting would be needed for construction of the project. The project would not include any lighting components during operation and visible project components would be constructed of non-reflective materials such as concrete and concrete blocks. As such, the project would have **no impact** related to creation of a new source of light and glare.

3.2 Agriculture and Forestry Resources

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Dept. 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:				
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?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

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?***

No Impact. The project site and its vicinity is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as mapped by the Farmland Mapping and Monitoring Program (CDOC 2022). The site has a farmland designation of Urban and Built-Up Land (CDOC 2022). Therefore, the proposed project would not convert farmland to non-agricultural uses and there would be **no impact.**

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

No Impact. The project site is not zoned for agricultural use. The site has a zoning designation of Public, Quasi-Public, and Institutional Lands and Facilities (P-L). The project site is on publicly owned land that is not under a Williamson Act contract and would not be suitable for agricultural preservation. Therefore, the proposed project would not conflict with zoning for agricultural use or a Williamson Act contract, and there would be **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))?

No Impact. As previously mentioned, the project site is zoned for Public, Quasi-Public, and Institutional Lands and Facilities (P-L) in the City. Section 9-4.201 of the City's Municipal Code does not allow for forest land, timberland, or timberland production. As such, the project would not conflict with existing zoning or cause rezoning of forest land, timberland, or timberland production. There would be **no impact.**

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

No Impact. As previously stated, the project site does not contain forest land. Additionally, the project site is an operating wastewater Treatment Plant under existing conditions. As such, the project would not result in the loss of forest land or conversion of forest land to non-forest use. There would be **no impact.**

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?

No Impact. As previously stated, the project site does not contain farmland or forest land. Additionally, the project site is an operating wastewater Treatment Plant under existing conditions. As such, the project would not result in the loss of forest land or conversion of farmland to non-agricultural use forest land to non-forest use. There would be **no impact.**

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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The analysis presented in this section is based upon information found in the Ventura County Air Quality Assessment Guidelines, adopted by the Ventura County Air Pollution Control District (VCAPCD) in 2003. The VCAPCD is required to monitor air pollutant levels to ensure National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met. If the standards are met, then the basin is classified as being in "attainment." If the standards are not met, then the basin is classified as being in "nonattainment," and the VCAPCD is required to develop strategies to meet the standards. According to the California Air Resources Board (CARB) Area Designation Maps, the project site is in a region identified as being in nonattainment for ozone (O_3) NAAQS and CAAQS and for particulate matter less than 10 microns in diameter (PM_{10}) CAAQS (CARB 2022a).

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

Less-than-Significant Impact. The project site is located in the South-Central Coast Air Basin (SCCAB), which covers Ventura, Santa Barbara, and San Luis Obispo Counties. The VCAPCD monitors and regulates the local air quality in the County and manages the Air Quality Management Plan (AQMP).

A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable VCAPCD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan, and is consistent with the growth forecasts in the applicable plan (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments, and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled (VMT) are also deemed to comply with the applicable air quality plan (VCAPCD 2003).

Consistency with land use and population forecasts in local and regional plans, including the AQMP, is required under CEQA for all projects. The VCAPCD further describes consistency with the AQMP for projects subject to these guidelines, which means that direct and indirect emissions associated with a project are accounted for in the AQMP's emissions growth assumptions and the project is consistent with policies adopted in the AQMP. The 2022 AQMP was adopted by the VCAPCD Board on December 13, 2022, and is the most recent applicable air quality plan. The 2022 AQMP is the 3-year update required by the State to show how VCAPCD plans to meet the 2015 federal 8-hour O_3 standard (VCAPCD 2022).

The AQMP relies primarily on the land use and population projections provided by the Southern California Association of Governments (SCAG) and the CARB on-road emissions forecast as a basis for vehicle emission forecasting. The current General Plan land use for the project site is Institutional and the zoning is Public, Quasi-Public, and Institutional Lands and Facilities (P-L). The project would occur entirely within the existing Treatment Plant property and does not propose changing the existing zoning or land use designations in the project area. Accordingly, the project is consistent with the SCAG Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) forecasts used in the VCAPCD 2022 AQMP development. As a result, the project would not conflict with or obstruct implementation of the AQMP, and associated potential impacts 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?

Less-than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and VCAPCD 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.

Construction Emissions

Proposed construction activities 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 reactive organic compound [ROC] off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

Emissions from the construction phase of the project were estimated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.7. For the purposes of modeling, it was assumed that construction of the project would commence in January 2025[1] and would last approximately 6 months, ending in June 2025. The analysis contained herein is based on the following schedule assumptions (duration of phases is approximate):

- Site Preparation and Vegetation Removal: January 2025–February 2025 (1.5 months)
- Demolition: January 2025–February 2025 (1 month)
- Grading: March 2025–April 2025 (1 month)
- Basin Construction: April 2025–June 2025 (2.5 months)
- Storm Drain/Outlet Pipe Construction: May 2025–June 2025 (1.5 months)
- Paving (Trench Repair and Patching): June 2025 (1 month)

[1] The analysis assumes a construction start date of January 2025, which represents the earliest year construction would initiate. Assuming the earliest start year 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 anticipated construction scenario assumptions, including phase type and duration, vehicle trips, and equipment mix, used for estimating the construction emissions of the project are based on information provided by the project engineering team and are shown in Table 3-1. Detailed construction equipment modeling assumptions are provided in Appendix A, Air Quality, Greenhouse Gas Emissions, Energy Calculations.

Table 3-1. Construction Scenario Assumptions

Construction Phase	Average Daily One-Way Vehicle Trips			Equipment		
	Workers	Vendor Trucks	Haul Trucks	Equipment Type	Quantity	Usage Hours
Demolition	8	4	4	Concrete/ Industrial Saws	1	8
				Excavators	1	8
				Tractors/Loaders/ Backhoes	1	8
Site Preparation and Vegetation Removal	6	4	2	Tractors/Loaders/ Backhoes	2	8
Grading	10	4	2	Excavators	1	8
				Graders	1	8
				Tractors/Loaders/ Backhoes	2	8
Basin Construction	8	2	0	Excavators	2	8
				Graders	1	8
				Tractors/Loaders/ Backhoes	2	8
Storm Drain/Outlet Pipe Construction				Excavators	1	8
				Graders	1	8
	16	2	0	Rough Terrain Forklifts	1	8
				Tractors/Loaders/ Backhoes	1	8
Paving	8	2	0	Pavers	1	8
				Rollers	1	8
				Tractors/Loaders/ Backhoes	1	8

Note: See Appendix A for details.

For the analysis, it was assumed that heavy construction equipment would be operating 5 days per week (22 days per month) during project construction. During demolition, the project would result in approximately 215 tons of demolition material. During the grading phase, project construction would include approximately 165 cubic yards of export. Construction worker trips were based on CalEEMod default assumptions and rounded up to the nearest whole number to account for whole round trips. Vendor trucks reflect either water trucks for fugitive dust control or material delivery.

The project would be required to comply with VCAPCD Rule 55 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive

dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions.

Table 3-2 presents the estimated maximum daily emissions generated during construction of the project during either "summer" or "winter."

Table 3-2. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	ROC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2025	1.98	17.00	25.30	0.03	1.20	0.79
Maximum Daily Emissions	**1.98**	**17.00**	**25.30**	**0.03**	**1.20**	**0.79**
VCAPCD Threshold	*25*	*25*	—	—	—	—
Threshold Exceeded?	**No**	**No**	—	—	—	—

Notes: ROC = reactive organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns; — = not available or applicable.
Results are the maximum daily "summer" or "winter" emissions.
See Appendix A for complete results.

As shown in Table 3-2, project construction would not exceed 25 pounds per day of ROC or oxides of nitrogen (NO_x) emissions. Therefore, per VCAPCD's guidelines, construction-related impacts would be less than significant.

Operational Emissions

Once project construction is complete, the project would continue providing stormwater management for the City. Similar to existing conditions, staff would occasionally visit the project site for routine maintenance or in the event of an emergency; however, no net increase in operational activities associated with the project would occur (e.g., no routine daily equipment operation, vehicle trips, or energy use would be required). Because the project would not result in a net increase in long-term operational activities, there would be no potential air quality impacts associated with operational air pollutant emissions.

Conclusion

Based on the previous considerations, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and cumulative impacts would be **less than significant**.

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

Less-than-Significant Impact.

Sensitive Receptors

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. The VCAPCD identifies sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air

pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and daycare centers (VCAPCD 2003).

Sensitive receptors in the vicinity of the project site consist of residential land uses (single-family and multifamily residences to the south and southeast) and the closest receptors are residences located approximately 1,700 feet south of the proposed improvements. These sensitive receptors represent the nearest sensitive land uses with the potential to be impacted by construction of the project. Other sensitive receptors are located farther away from the project site and would be less affected by on-site emissions.

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. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a TAC. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The State has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and has adopted appropriate control measures for sources of these TACs.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The VCAPCD recommends an incremental cancer risk threshold of 10 in a million (VCAPCD 2003). "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology.

The greatest potential for TAC emissions during construction would be from diesel particulate matter (DPM) emissions, which are characterized as a TAC by the State of California, from heavy equipment operations and on-site heavy-duty trucks during construction of the project. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts; however, no short-term, acute relative exposure level has been established for DPM. The following measures are required by State law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing), off-road, diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

Total project construction would last approximately 6 months, after which project-related TAC emissions would cease. A 6-month construction schedule represents a short duration of exposure (1.7% of a 30-year exposure period), while cancer and chronic risk from DPM are typically associated with long-term exposure. Thus, the project would not result in a long-term source of TAC emissions. In addition, the project would not require the extensive operation of heavy-duty diesel construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions and would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure. Furthermore, as shown in Table 3-2, maximum daily particulate matter (i.e., PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and haul-truck trips during construction (exhaust particulate matter or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, is minimal.

Of importance, the closest sensitive receptors to the project are single-family residences located approximately 1,700 feet south, which is a substantial distance between the sources and receptors, whereas potential generation of TAC emissions is anticipated to be largely dispersed. As such, the potential for the project to result in a long-term exposure of receptors to TACs is limited. Therefore, the exposure of project-related TAC emission impacts to sensitive receptors would be less than significant.

No residual TAC emissions and corresponding health risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. CARB has published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The Air Quality and Land Use Handbook is a guide for siting of new sensitive land uses, and CARB recommends that sensitive receptors not be located downwind or in proximity to such sources to avoid potential health hazards. Of note, the project is not considered an air quality sensitive receptor. The enumerated facilities or sources include the following: high-traffic freeways and roads, distribution centers, railyards, ports, refineries, chrome plating facilities, dry cleaners, and large gas-dispensing facilities. The project would not include any of the above-listed land uses associated with generation of TAC emissions. Potential impacts associated with exposure of sensitive receptors to TACs would be less than significant.

It is expected that operation of the project would not result in any non-permitted direct emissions (e.g., those from a point source such as diesel generators) that could be a TAC source and, as discussed previously, is not anticipated to result in any operational activity, including diesel vehicle travel. Therefore, the project would not result in exposure of sensitive receptors in the vicinity of the project site to substantial TAC concentrations due to either construction or operation and impacts would be **less than significant**.

Health Impacts of Carbon Monoxide

Mobile-source impacts occur on two basic scales of motion. Regionally, project-related travel would add to regional trip generation and increase the VMT within the local airshed and the basin. Locally, project-related traffic would 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, then there is a potential for the formation of microscale carbon monoxide (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.

The VCAPCD recommends conducting a CO hotspot screening analysis using the California Department of Transportation's (Caltrans) CO Protocol for any project that meets both of the following conditions:

1. The project would generate indirect CO emissions are greater than the applicable ozone project significance thresholds (i.e., 25 pounds per day).
2. The project would generate traffic that would significantly impact congestion levels at roadway intersections currently operating at, or that are expected to operate at, LOS [level of service] E or F.

Caltrans CO Protocol is intended to address operational CO impacts. Because the project would not result in operational vehicle trips, the project would not affect congestion levels at roadway intersections. As a result, the project does not trigger the need for a CO hotspot analysis and would not cause or contribute to a CO hotspot.

Regarding construction traffic CO emissions, the project would generate minimal traffic during construction. The project would add up to eight one-way truck trips per day during the demolition phase and up to 16 one-way worker trips during the storm drain/outlet pipe construction phase; all other phases would be fewer trips per day. Per the Caltrans CO Protocol, that level of traffic would not meet the criteria for worsening air quality and causing a CO hotspot (Caltrans 2010). Therefore, the project would not expose sensitive receptors to substantial CO concentrations and impacts would be **less than significant**.

Health Effects of Other Criteria Air Pollutants

Construction of the project would not result in emissions that exceed the VCAPCD's emission thresholds for any criteria air pollutants and the project is not anticipated to result in operational activity that would generate criteria air pollutant emissions. Regarding ROCs, the majority of construction-related ROCs are associated with motor vehicles, construction equipment, and pavement off-gassing, and the associated emissions of which would not result in the exceedances of the VCAPCD's thresholds.

In addition, ROC and NO_x are precursors to O_3, for which the SCCAB is designated as attainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SCCAB due to O_3 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 O_3 concentrations would also depend on the time of year that the ROC emissions would occur, because exceedances of the O_3 ambient air quality standards tend to occur between April and October when solar radiation is highest.

Regarding nitrogen dioxide (NO_2), according to the construction emissions analysis, construction of the project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects from exposure to NO_2 and NO_x are associated with respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment; however, nearby receptors are more than 1,700 feet from project construction activity, so any localized effects are unlikely and construction equipment operation would be short term. Additionally, off-road construction equipment would operate 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.

CO tends to be a localized impact associated with congested intersections and the most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. The associated CO hotspots were discussed previously as a less-than-significant impact.

Health effects associated with PM_{10} or $PM_{2.5}$ depending on short- or long-term exposure include premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, restricted activity days, and reduced lung function growth in children. Construction of the project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter.

Based on the preceding considerations, health impacts associated with criteria air pollutants would be **less than significant**.

Valley Fever

San Joaquin Valley Fever (formally known as coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is a disease of concern in the SCCAB. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes, such as wind or earthquakes, or by human-induced ground-disturbing activities, such as construction, farming, or other activities (VCAPCD 2003). The Valley Fever fungal spores are too small to be seen by the naked eye, and there is no reliable way to test the soil for spores before working in a particular place. Per the California Department of Public Health, the range over 8 years (2012–2020) for coccidioidomycosis cases in the County is 4.6–43.9 cases per 100,000 people per year. Statewide incidences in 2020 were 18.1 per 100,000 people (CDPH 2020). As such, it is considered endemic to the County.

The California Department of Industrial Relations Division of Occupational Safety and Health, better known as Cal/OSHA, has oversight for Valley Fever regulations as they pertain to workers with potential exposure. Applicable regulations regarding Valley Fever protection and exposure can be found in the California Code of Regulations, Title 8. Construction employers must train workers on Valley Fever prevention in counties where Valley Fever is considered endemic, which includes the County. The project would disturb a portion of undisturbed land, with other portions within the existing built and/or paved area; it is not anticipated to result in substantial ground disturbance or fugitive dust impacts. The project would comply with VCAPCD Rule 55, which would limit fugitive dust, which can be a source of Valley Fever. Additionally, fugitive dust impacts are highly localized and would not affect off-site receptors. The primary concern for impacts would be to construction workers. Project construction would be subject to Cal/OSHA requirements which prescribe measures that would be applicable to minimize release of potential Valley Fever spores. Based on compliance with applicable regulatory measures, impacts associated with Valley Fever would be **less than significant.**

Conclusion

Based on the previous considerations, the project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be **less than significant**.

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

Less-than-Significant Impact. Based on available information, the project is not anticipated to result in other emissions that have not been addressed under Thresholds 3.3(a) through 3.3(c), above. As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depend on numerous factors. The nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

Construction Emissions

During project construction, exhaust from equipment may produce discernible odors typical of most construction sites. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. However, such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be **less than significant**.

Operational Emissions

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 (VCAPCD 2003). The project includes improvements to the Treatment Plant, including the development of a new debris basin and storm drain improvements, which would not create new sources of odor during operation. Therefore, project operations would result in an odor impact that is **less than significant**.

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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒

3.4.1 Environmental Setting

Existing Conditions

The following discussion is based on the Biological Resources Assessment Report for the Hill Canyon Treatment Plant Stormwater Diversion Project (BRAR) (Appendix B1; September 2022) and the Aquatic Resources Delineation Report (ARDR) (Appendix B2; September 2022). The BRAR was prepared to identify existing conditions, potential

for sensitive biological resources to occur, impacts, and recommend measures to avoid and minimize impacts to biological resources within an adjacent the project. The ARDR was prepared to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act (33 USC 1344), RWQCB pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, and/or CDFW pursuant to Section 1602 of the California Fish and Game Code (CFGC; collectively defined as jurisdictional aquatic resources).

As part of the BRAR, Dudek biologist Melissa Blundell visited the site on February 8 and 17, 2021, to perform a biological site visit. During the visit, Ms. Blundell walked and examined areas within the Biological Survey Area (BSA), which included the project boundary and a 100-foot buffer. During the visit, Ms. Blundell mapped vegetation communities and used a GPS unit to delineate the located and boundaries of any potentially sensitive biological resources. Dudek biologist Heather Moine visited the site on March 21, 2022, primarily to perform an aquatic resources delineation survey and rare plant survey. Supplemental vegetation and oak tree mapping was also performed, which provided supplemental information related to slight project footprint changes and vegetation mapping refinement.

Vegetation Communities and Land Covers

A total of six vegetation communities and/or land cover types were mapped with the BSA as shown in Figure 5, Vegetation Communities and Land Cover Types. All four of the mapped vegetation communities are considered sensitive. Table 3-3 below lists descriptions of each of the vegetation community and land cover types within the BSA.

Table 3-3. Vegetation and Land Cover Types within the BSA

General Habitat	Vegetation Community	Global, State Rank[a]	CDFW Sensitive[b]	Acres
Native Scrub	California brittle bush–California sagebrush scrub Association	G3	Y	0.08
	Chamise–Black sage–Sugarbush scrub Association	G3, S3	Y	0.11
	Lemonade berry scrub Alliance	G3, S3	Y	0.44
	Lemonade berry scrub–California sage scrub Association	—	Y	1.56
Other Land Cover Types	Developed	N/A	N	2.87
	Disturbed	N/A	N	0.30
			Total	**5.36**

Notes: BSA = Biological Survey Area; CDFW = California Department of Fish and Wildlife; Y = yes; N/A = not applicable; N = no.
G3 and S3 are ranks considered vulnerable.

[a] For alliances with State Ranks of S1 to S3, all associations within them are considered highly imperiled. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank (CDFW 2022a).

[b] Sensitive based on CDFW (2022a). However, communities determined to not be sensitive may still be sensitive under local policies or provide suitable habitat for special-status plant and wildlife species.

Native Scrub

California Brittle Bush–California Sagebrush Scrub Association is considered vulnerable (G3) and a sensitive vegetation community by CDFW (2022a). Within this association, California brittle bush and California sagebrush

are co-dominant in the shrub layer. Some plant species associated with this association include coyote brush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), deer weed (*Acmispon glaber*), laurel sumac (*Malosma laurina*), lemonade berry, sage species (*Salvia* spp.), and blue elderberry (*Sambucus mexicana*). This scrub community provides suitable cover, nesting, and foraging opportunities for commonly occurring wildlife species, as described under Chamise–Black Sage–Sugarbush Scrub Association. In addition, the federally listed coastal California gnatcatcher is strongly associated with sage scrub habitats. Approximately 0.08 acres of this community was mapped near the proposed debris basin in the western portion of the BSA as shown in Figure 5.

Chamise–Black Sage–Sugarbush Scrub Association is considered vulnerable (G3, S3) and a sensitive vegetation community by CDFW (2022a). Within this association, chamise and black sage are co-dominant in the shrub layer with sugarbush (*Rhus ovata*) present at lower cover. Some plant species typically associated with the alliance level include *Arctostaphylos* spp., California sagebrush, ceanothus (*Ceanothus* spp.), California buckwheat, laurel sumac, hollyleaf redberry (*Rhamnus ilicifolia*), and sugarbush (Sawyer et al. 2009). This scrub community provides suitable cover, nesting, and foraging opportunities for commonly occurring birds such as house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), northern mockingbird (*Mimus polyglottos*), California towhee (*Melozone crissalis*), and wrentit (*Chamaea fasciata*); common mammals, such as rabbits and mice; and common reptile species, such as western fence lizard (*Sceloporus occidentalis*). Approximately 0.11 acres of this community was mapped near the proposed debris basin in the northeastern portion of the BSA as shown in Figure 5.

Lemonade Berry Scrub Alliance is considered vulnerable (G3, S3) and a sensitive vegetation community by CDFW (2022a). Within this association, lemonade berry is dominant in the shrub layer. Some plant species associated with this alliance include California sagebrush, bush monkeyflower (*Diplacus aurantiacus*), California brittle bush, buckwheat species (*Eriogonum* spp.), toyon, sage species, and blue elderberry. Wildlife found in lemonade berry scrub is similar to that found in Chamise–Black Sage–Sugarbush Scrub Association. Approximately 0.44 acres of lemonade berry scrub was mapped near the manhole work area and proposed debris basin in the southern and western portions of the BSA, respectively, as shown in Figure 5.

Lemonade Berry Scrub–California Sagebrush Association is considered a sensitive vegetation community by CDFW (2022a). Within this association, lemonade berry and California sagebrush are co-dominant in the shrub layer. This association contains a similar composition and similar species as found with lemonade berry scrub. In addition, the federally listed coastal California gnatcatcher is strongly associated with sage scrub habitats. Approximately 1.56 acres of the Lemonade Berry Scrub–California Sagebrush Association was mapped near the proposed debris basin in the western portion of the BSA as shown in Figure 5.

Other Land Cover Types

Developed areas are not listed in CDFW (2022a) and are not considered sensitive. Developed land refers to areas that have been constructed upon or otherwise physically altered to the extent that native vegetation communities are not supported. Developed areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation. Within the BSA, approximately 2.87 acres are mapped as developed areas, which include the entire Treatment Plant, including buildings, landscaping, access roads, and parking areas. Most of the developed areas in the BSA lack any vegetation to provide cover, feeding, or nesting opportunities for wildlife species. Limited ornamental landscaping may provide some temporary cover or nesting opportunities for common urban-adapted bird and reptile species.

Disturbed areas are not listed in CDFW (2022a) and are not considered sensitive. Disturbed habitat refers to areas where soils have been recently or repeatedly disturbed by grading, compaction, or clearing of vegetation. Structures are typically not present within disturbed habitats, and these areas provide relatively low value for most plant and wildlife species. Within the BSA, approximately 0.30 acres of disturbed habitat occurs adjacent to the existing Treatment Plant near the proposed debris basin, along an access road near the manhole work area and near existing equipment adjacent to the manhole work area, as shown in Figure 5. Disturbed areas provide very limited to no cover for birds, reptiles, and small mammals as they traverse between more suitable habitats, and very minimal to no food resources.

Soils

Soils within the natural landscape of the BSA consist mainly of Hambright very rocky loam (HaG; 15% to 75% slopes), a shallow, well-drained soil that typically occurs on plateaus, basalt flows, and hillslopes (USDA-NRCS 2022a). Vina gravelly loam (VnC; 2% to 9% slopes) occurs along the northwestern portions of the BSA and primarily within the existing Treatment Plant. A third soil type, Vina loam (VaC; 2 to 9% slopes), also occurs in a portion of the existing Treatment Plant. The Vina soil series consist of very deep, well-drained soils (USDA-NRCS 2022a). These soils are not considered hydric soils (USDA-NRCS 2022b).

City-Regulated Trees

Section 9-4.4201 of the City's Municipal Code establishes oak tree preservation and protection in the City. This regulation sets forth the policy of the City to require the preservation of all healthy oak trees, unless otherwise exempt and the conforming use of the property justifies removal, cutting, pruning, and/or encroachment into the protected zone of an oak tree. During the reconnaissance survey, approximately 19 oak tree species (*Quercus* sp.), great than 2 inches in diameter, were documented within the BSA (Figure 6, City-Regulated Trees). The majority of the oak trees were mapped near or within the proposed debris basin and pipeline work areas. Two additional oak trees occurred near, but outside the proposed footprint of, the manhole and inlet work area. Table 3-4 provides a summary of the City-regulated tree species encountered during the reconnaissance survey.

Table 3-4. Summary of City-Regulated Tree Species within the BSA

Tree No.	Tree Species	Approximate Diameter (inches)[a]
1	Coast/interior live oak	18, 17.5
3	Coast/interior live oak	35
4	Coast/interior live oak	20.8, 37.5 fused
5	Coast/interior live oak	16.2
6	Coast/interior live oak	7, 4, 5
7	Coast/interior live oak	14
8	Coast/interior live oak	9.3, 11
9	California black oak	>2
10	Coast/interior live oak	28.7
11	Coast/interior live oak	39
12	Coast/interior live oak	8.8
13	Coast/interior live oak	8
14	Coast/interior live oak	14.5, 12.9, 13
15	Coast/interior live oak	17

Table 3-4. Summary of City-Regulated Tree Species within the BSA

Tree No.	Tree Species	Approximate Diameter (inches)[a]
16	Coast/interior live oak	7.1
17	Coast/interior live oak	8.1
18	Coast/interior live oak	8.8
19	Coast/interior live oak	8.7
20	Coast/interior live oak	26.7

Notes: BSA = Biological Survey Area.
[a] Multiple measurements provided for multi-branched individuals. Measured at 4.5 feet above base of tree.

Common Plant and Wildlife Species

A total of 112 plant species were documented. In all, 72 (64%) were native and 40 (36%) were non-native. One special-status plant species, Conejo dudleya (*Dudleya parva*), was observed and is discussed further below. A total of 22 common wildlife species were observed during the site visit, including 1 reptile, 19 birds, and 2 mammals. Woodrat middens (presumably from the desert woodrat [*Neotoma lepida* ssp. *intermedia*], a CDFW SSC) were observed throughout the natural areas, and are described further below. Although ground squirrels (*Otospermophilus beecheyi*) were observed, areas of significant burrowing were not. In addition, one bird species, oak titmouse (*Baeolophus inornatus*), a U.S. Fish and Wildlife Service (USFWS) Bird of Conservation Concern, was observed. No fish or amphibians were observed during the field survey and the BSA lacks suitable aquatic habitat to support these species.

Special-Status Plants and Wildlife

Special-Status Plant Species

The literature and database views resulted in 60 special-status plant species that have been documented in the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the project site. Based on Dudek's habitat suitability analysis and rare plant surveys performed in 2022, 1 of the 60 special-status plant species, Conejo dudleya, was observed during the 2022 seasonally timed rare plant surveys. Table 3-5 provides a description of this special-status plant species.

The remaining 59 species are considered to have a low potential or not expected to occur. Several species are considered to have low to no potential to occur primarily due to the lack of observations within the BSA during the 2022 focused surveys.

Table 3-5. Special-Status Plant Species Observed within the Biological Survey Area

Scientific Name	Common Name	Status (Federal/ State/ CRPR)[a]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
Dudleya parva	Conejo dudleya	FT/None/1B.2	Coastal scrub, valley and foothill grassland; clay (sometimes), gravelly	**Observed.** This species was observed during 2022 rare plant surveys. Approximately 151 individuals were observed along the southeastern edge of the BSA, with the closest observations to

Table 3-5. Special-Status Plant Species Observed within the Biological Survey Area

Scientific Name	Common Name	Status (Federal/ State/ CRPR)[a]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
			(sometimes), rocky (sometimes), volcanic (sometimes)/ perennial herb/ May–June/ 195–1,475	impact areas about 25 feet uphill from the proposed debris basin. Suitable coastal scrub habitat and rocky, gravelly substrate are present to support this species within the BSA. Regionally, there are two occurrences observed in 2010 that are both mapped approximately 0.6 miles southeast of the project site (CDFW 2022b). In addition, there are numerous occurrences within 5 miles of the project site (CDFW 2022b).

Note:

[a] The federal and State status of species is based on the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022c).

Status Designations

Federal

FT: Federally listed as threatened

CRPR: California Rare Plant Rank

1B: Plants rare, threatened, or endangered in California and elsewhere

Threat Rank

0.2 Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

Special-Status Wildlife Species

The literature and database views resulted in 57 special-status wildlife species that have been documented in the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the project site. Based on Dudek's habitat suitability analysis, 6 of the 57 special-status wildlife species are expected to have a moderate to high potential to occur. In addition, direct sign (middens) for desert woodrat was observed within the BSA. Presumably these middens were established by the San Diego desert woodrat (*N. lepida intermedia*). Table 3-6 provides a description of these 7 special-status species.

Table 3-6. Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur

Species Name	Common Name	Status (Federal/State)[a]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Reptiles				
Anniella spp.	California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with	**Moderate** potential to occur. Sandy and loose loamy soils present within the BSA may be suitable to support this species. The nearest CNDDB occurrence was documented in 2014 approximately 2.7 miles north of the BSA, where the species was observed in the leaf litter of an

Table 3-6. Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur

Species Name	Common Name	Status (Federal/State)[a]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
			sparse vegetation and moist sandy or loose, loamy soils	avocado orchard across the street from a sandy slope dominated by coastal sage scrub (CDFW 2022b).
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas	**Moderate** potential to occur. Although the nearest CNDDB occurrence is from 2017 and mapped approximately 6.0 miles east of the BSA (CDFW 2022b), vegetated portions of the BSA are contiguous with a larger open space and contain the open scrub and sandy and/or gravel bottom habitats preferred by this species.
Phrynosoma blainvillii	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	**Moderate** potential to occur. Sandy and loose loamy soils present within the BSA may be suitable to support this species. In addition, the nearest CNDDB occurrence was observed in an agricultural field set for development in 2007 and mapped approximately 2.7 miles northwest of the BSA (CDFW 2022b).
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	**Moderate** potential to nest. The oak trees within the BSA provide suitable nesting substrates for this species. In addition, this species is regularly observed within the surrounding open space, including Wildwood Regional Park (eBird 2022), where there are abundant prey resources available for this species.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	**Moderate** potential to occur. Suitable scrub and chaparral habitat is present to support this species. In addition, this species is regularly observed within the surrounding open space, including Wildwood Regional Park (eBird 2022), where there are abundant prey resources available for this species.

Table 3-6. Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur

Species Name	Common Name	Status (Federal/State)[a]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Polioptila californica californica	coastal California gnatcatcher	FT, BCC/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	**Moderate** potential to occur. Suitable coastal sage scrub habitat dominated by California sagebrush is present within and adjacent to the BSA to support this species. In addition, the nearest CNDDB occurrence was observed in coastal sage scrub adjacent to a walking trail in 2016 and mapped approximately 0.6 miles southwest of the BSA (CDFW 2022b) and in 2019 approximately 0.9 miles southwest of the BSA (USFWS 2022a), and there are multiple and regularly occurring observations of this species in the adjacent Wildwood Regional Park (eBird 2022).
Mammals				
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	**Observed**. Multiple woodrat middens (*Neotoma* sp.) were documented throughout the BSA during field surveys. The BSA contains suitable coastal scrub and rocky outcrop habitat. In addition, the nearest documented occurrence was observed on a rocky outcrop in 2016 and is mapped approximately 4.3 miles south of the BSA (CDFW 2022b).

Notes: CNDDB = California Natural Diversity Database.

[a] The federal and State status of species is based on the Special Animals List (CDFW 2022d).

Status Abbreviations

Federal

BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern

FT: Federally listed as threatened

State

SSC: California Species of Special Concern

WL: California Watch List Species

Critical Habitat

A query of the Information for Planning and Consultation tool (USFWS 2022b) and review of the critical habitat mapper (USFWS 2022b) indicated that there is Lyon's pentachaeta (*Pentachaeta lyonii*) critical habitat within 5 miles of the project site; however, no critical habitat is within the project site as shown in Figure 7, USFWS Critical Habitat.

Jurisdictional Aquatic Resources

Potential jurisdictional aquatic features mapped include a concrete v-ditch, connecting swale, and an ephemeral channel. As described in the ARDR, of these features, only the ephemeral channel is anticipated to require additional permits pursuant to the Porter-Cologne Water Quality Control Act and California Fish and Game Commission for impacts to the channel. However, as recommended in the ARDR, written concurrence from the resource agencies (RWQCB, CDFW, and USACE) on the jurisdictional status for both features is highly recommended.

Concrete V-Ditch

The concrete v-ditch is an existing stormwater control feature within the Treatment Plant that directs flows to drain-inlets along the v-ditch as shown on Figure 8, Potential Jurisdictional Aquatic Resources. The drain inlets are regularly maintained by Treatment Plant staff as part of storm preparedness activities. These inlets capture storm flows and drain them to the sludge-drying beds as part of the stormwater capture program (Capron 2017; City of Thousand Oaks 2019). Because the flows associated with the v-ditch are currently subject to the adopted Waste Discharge Requirements and National Pollutant Discharge Elimination System permits for the Treatment Plant (Order No. R4-2019-0137, NPDES No. CA0056294), compliance with this existing permit should apply to this feature and further permits are not anticipated to be necessary from the RWQCB. The Treatment Plant had previously attained status as a zero-discharge facility. An IGP NONA was previously granted by the RWQCB, and the City is petitioning to retain this status with site modifications to re-route off-site flows from the natural canyon directly to Arroyo Conejo Creek (Capron 2017; City of Thousand Oaks 2019). In addition, the concrete v-ditch is unlikely to be jurisdictional to USACE under the Clean Water Act, as the feature is ephemeral and current flows lack a connection with a traditional navigable water. Similarly, the feature lacks a bed and bank often associated with CDFW jurisdictional rivers, stream, or lakes.

Ephemeral Channel

A narrow ephemeral channel is present in the BSA within and adjacent to the proposed debris basin, as shown in Figure 8. The channel is located within the natural canyon and extends to the existing concrete v-ditch. This channel is characterized by an ordinary high water mark and a bed, with portions of the channel containing a bank. Blue elderberry is present along this feature, providing limited riparian habitat. In addition, a short 12-foot swale connects the feature in the eastern portion of the BSA. These features are anticipated to be jurisdictional to CDFW and RWQCB. Given that the feature is ephemeral and lacks connection with a traditional navigable water, it is unlikely to be jurisdictional to USACE.

Waters of the United States

As discussed above, no features within the BSA are anticipated to be waters of the United States and, therefore, are not anticipated to be under the jurisdiction of the USACE. The concrete v-ditch is ephemeral and current flows lack a connection with a traditional navigable water. Additionally, the ephemeral channel does not have direct connection to a traditional navigable water, is characterized by low volume or infrequent flows, and flows through this feature are directed through the existing Treatment Plant.

Waters of the State

Regional Water Quality Control Board

The concrete v-ditch and ephemeral channel, as described above, are anticipated to be under the jurisdiction of RWQCB. Therefore, approximately 0.04 acres (534 linear feet) of features are anticipated to be subject to regulation by RWQCB under the Porter-Cologne Water Quality Control Act. Table 3-7 below provides a summary of these features. However, based on existing permits, only the ephemeral channel is anticipated to require permitting for project-related activities.

Table 3-7. RWQCB Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Non-Wetland Waters		
Ephemeral Channel (including top of bank)	34.210854; -118.920971	0.01 acres (530 square feet)/ 219 linear feet
Upland Swale	34.210701; -118.920611	<0.01 acres (12 square feet)[a]/ 12 linear feet
Concrete V-Ditch	34.211035; -118.921058	0.02 acres (758 square feet)/ 303 linear feet
Riparian		
Blue Elderberry (outside of ephemeral channel and bank)	34.210892; -118.920957	<0.01 acres (332 square feet)/ 23 linear feet[b]
	Total[c]	**0.04 acres (1,632 square feet)/ 534 linear feet[b]**

Notes:

[a] Swale width estimated at 1 foot.

[b] Riparian linear feet not included in total due to overlapping with the ephemeral channel.

[c] Totals may not sum due to rounding.

California Department of Fish and Wildlife

The ephemeral channel as described above is anticipated to be regulated by CDFW. Since CDFW regulates from bank to bank, certain portions of the BSA where the top of the channel bank extended beyond the ordinary high water mark are subject to regulation by CDFW as streambed. The oak trees adjacent to the channel feature may not be jurisdictional to CDFW (but will require confirmation by CDFW). The oak trees on site and along this channel feature do not readily appear to significantly benefit from the channel flows. The oaks trees near the channel originate uphill from the channel feature on upland slopes. Additionally, based on the surrounding environment, oak trees are scattered throughout the upland slopes and terrain, suggesting that the oaks along the channel would have been present irrespective of the channel's presence. Therefore, the oaks adjacent to the channel are unlikely to be categorized as riparian vegetation that is typically under CDFW jurisdiction. However, one blue elderberry plant is located along the channel and is mapped as riparian under CDFW jurisdiction.

Therefore, approximately 0.02 acres (231 linear feet) of features are subject to regulation by CDFW under CFGC Section 1600 et seq. However, the final determination will be made by this responsible agency. The full extent of areas are described in Table 3-8.

Table 3-8. CDFW Aquatic Resource Summary for the Biological Survey Area

Feature Name	Biological Survey Area (Acres/Linear Feet)
Streambed	
Ephemeral Channel (including top of bank)	0.01 acres (530 square feet)/ 219 linear feet
Upland Swale	<0.01 acres (12 square feet)[a]/ 12 linear feet
Riparian	
Blue Elderberry	<0.01 acres (332 square feet)/ 23 linear feet[b]
Total[c]	**0.02 acres (874 square feet)/ 231 linear feet[b]**

Notes:
[a] Swale width estimated at 1 foot.
[b] Riparian linear feet not included in total due to overlapping with the ephemeral channel.
[c] Totals may not sum due to rounding.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals and dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, which helps maintain genetic diversity.

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as stepping stones for dispersal and movement (especially for birds and flying insects). Wildlife corridors and habitat linkages provide avenues for dispersal or migration of animals that also contribute to population viability in several ways, including the following:

- Ensuring continual exchange of genes between populations to aid in maintaining genetic diversity
- Providing habitat for some species
- Providing access to adjacent habitat areas representing additional territory for foraging and mating
- Allowing for a greater carrying capacity
- Providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes

The project is located at the interface of existing development (Treatment Plant) and undeveloped open space. The Treatment Plant is located between two publicly owned open space systems, including Wildwood Regional Park, which is approximately 1,765 acres, and Conejo Canyons Open Space, which is approximately 1,430 acres. In addition, regional habitat connectivity and wildlife corridors are mapped in natural areas surrounding the Treatment Plant (SC Wildlands 2008; CDFW 2022c; Ventura County 2022).

However, the existing Treatment Plant is fully enclosed with a chain-link fence. Therefore, the Treatment Plant provides no opportunities for wildlife movement and project activities within the Treatment Plant are not expected to affect wildlife corridors. Although the proposed debris basin is located within undeveloped open space, the location and proposed disturbed areas are adjacent to the existing fenced facility (extending out to approximately 47 feet southeast of the fence line). With abundant surrounding open spaces and opportunities for movement, the construction of the debris basin at this location is not anticipated to impede, interfere, or significantly affect wildlife movement, corridors, or linkages.

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?

Less-than-Significant Impact with Mitigation Incorporated**.** The proposed project has the potential to impact candidate, sensitive, or special status species, as discussed below. With the incorporation of mitigation, however, impacts are less than significant.

Vegetation Communities

Direct Impacts

The project will permanently impact approximately 0.09 acres of sensitive vegetation communities. In addition, inadvertent direct (temporary) impacts to sensitive communities may occur if construction activities accidentally trim, clear, trample, or grade sensitive vegetation communities outside of the proposed work areas (i.e., permanent impact areas). Impacts to sensitive vegetation communities are considered potentially significant. However, implementation of Mitigation Measures (MMs) **MM-BIO-1** (Habitat Mitigation and Monitoring Plan), **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring and Reporting) would reduce potential direct impacts to sensitive vegetation communities to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to sensitive vegetation communities adjacent to and outside the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to sensitive vegetation communities are considered potentially significant. The implementation of **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Sediment Control Plan) would reduce potential indirect impacts to sensitive vegetation communities to **less than significant**.

City-Protected Trees

The proposed work areas will be located outside the tree trunk base of mapped oak trees; however, the project will encroach within the City-established oak tree protected zone requirements (i.e., within 5 feet of the oak tree canopy or within 15 feet from the base of the tree trunk) for an estimated 8 oak trees overlapping with 0.04 acres (11%, 1,640 square feet) of the 0.33-acre mapped overhead canopy, suggesting these oaks trees may experience injury or mortality of the root systems. Additionally, inadvertent impacts to protected trees may occur if construction activities accidentally trim oak trees outside of the proposed work areas (i.e., permanent impact areas). These impacts are considered potentially significant;

however, implementation of **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-6** (Protected Tree Removal, Replacement, and Protective Measures) would reduce potential direct impacts to individual oak trees to **less than significant.**

Special Status Plant Species

As previously discussed, one special-status plant species, Conejo dudleya, was observed within the BSA. Approximately 151 individuals were observed along the southeastern edge of the BSA, with the closest observations of impact areas about 25 feet uphill from the proposed debris basin.

Direct Impacts

The proposed work areas will be located outside the mapped Conejo dudleya population. However, inadvertent direct (temporary) impacts to Conejo dudleya may occur if construction activities accidentally trim, clear, trample, or grade individuals outside of the proposed work areas (i.e., permanent impact areas). Impacts to this special-status species are considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM BIO-4** (Biological Monitoring and Reporting) would reduce potential direct impacts to this species to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to Conejo dudleya adjacent to and outside of the proposed work areas to occur. Due to the species being located uphill from work areas, indirect impacts may occur as the result of fugitive dust. Impacts to this species is considered potentially significant. The implementation of **MM-BIO-5** (Erosion and Sediment Control Plan), however, would reduce potential indirect impacts to this species to **less than significant**.

Special-Status Wildlife Species

As previously discussed, there is the potential for seven special-status wildlife species to occur within the BSA. These include three reptiles (California legless lizard, San Diegan tiger whiptail [Aspidoscelis tigris stejnegeri], and Blainville's horned lizard), three birds (Cooper's hawk [Accipiter cooperii], Southern California rufous-crowned sparrow [Aimophila ruficeps canescens], and coastal California gnatcatcher), and one mammal (San Diego desert woodrat).

Reptiles

Direct Impacts

Project activities could result in direct permanent impacts to the California legless lizard, San Diegan tiger whiptail, and Blainville's horned lizard where activities occur in the natural undeveloped portions of the site. The project would result in permanent direct impacts to 0.09 acres of suitable on-site scrub habitat for these species. However, these impacts would be less than significant due to the abundant suitable habitat present in the vicinity of the project site.

Individuals are cryptic and slow moving on the surface or are otherwise underground and, therefore, are highly vulnerable to injury and mortality during construction. Therefore, direct permanent impacts may result in mortality of these species, from heavy construction equipment, vehicle collisions, inadvertently stepping on individuals, or crushing occupied burrows. Impacts to special-status reptile individuals is considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), **MM-BIO-4** (Biological Monitoring and Reporting), and **MM-BIO-7** (Reptile Pre-Construction Survey) would reduce potential direct impacts to these species to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to reptiles occurring adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to these species is considered potentially significant. The implementation of **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Sediment Control Plan) would reduce these impacts to **less than significant.**

Avian Species

Cooper's hawk, Southern California rufous-crowned sparrow, and coastal California gnatcatcher have a potential to occur in the undeveloped open space areas throughout the BSA for perching, nesting, or foraging. The abundant prey (bird and rodent) populations in the adjacent open space would provide hunting opportunities and oak trees would provide perching and nesting opportunities for Cooper's hawk. Similarly, the shrubs and vegetation in the BSA and greater open space would provide feeding, cover, and nesting opportunities for southern California rufous-crowned sparrow. Coastal California gnatcatcher are strongly associated with sage scrub habitats, which are present throughout the BSA. These habitats would provide feeding, cover, and nesting opportunities for this species, which is federally listed as threatened.

Cooper's Hawk

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of scrub habitat (for foraging) and an estimated 8 individual oak trees (associated with 0.04 acres of overhead canopy) are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by oak tree vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Survey) would reduce potential direct impacts to this species to **less than significant**.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting Cooper's hawk are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to **less than significant**.

Southern California Rufous-Crowned Sparrow

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of scrub habitat (for foraging) are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Survey) would reduce potential direct impacts to this species to **less than significant**.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting Southern California rufous-crowned sparrow are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to **less than significant**.

Coastal California Gnatcatcher

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of sage scrub-associated habitats are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, take in the form of harassment may occur if any individuals are present during construction activities. Additionally, take in the form of harm or mortality may occur if any individuals nest within or adjacent to the project site. Nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during

the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by sage scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-4** (Biological Monitoring and Reporting), **MM-BIO-8** (Pre-Construction Nesting Bird Survey), and **MM-BIO-9** (Coastal California Gnatcatcher Surveys and Avoidance) would reduce potential direct impacts to this species to **less than significant**.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting coastal California gnatcatcher are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to **less than significant**.

Nesting Birds

Removal of trees and vegetation associated with construction of the project have the potential to disturb nesting birds on and adjacent to the site, to the degree that the nests may be abandoned, resulting in a direct loss of an active bird nest. Bird nests with eggs or young of all migratory bird species are protected under the Migratory Bird Treaty Act (MBTA) and the CFGC. Active bird nests or nests with eggs or young of all native bird species are protected under the MBTA and the CFGC. Loss of active nests as a result of construction-related activities would conflict with these regulations and thus would be considered significant impacts.

Direct Impacts

Removal of vegetation associated with construction activities has the potential to disturb nesting birds on and adjacent to the site, to the degree that the nests may be abandoned, resulting in a direct loss of an active bird nest. Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should these species nest on site, nests, eggs, and young could be directly affected by scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of bird species protected under the MBTA and/or CFGC as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Survey) would reduce potential direct impacts to these species to **less than significant**.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting birds protected under the MBTA and/or CFGC are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to these species to **less than significant**.

MM-BIO-1 Habitat Mitigation and Monitoring Plan. Prior to issuance of a project grading permit, the City of Thousand Oaks (City) shall contract with a qualified botanist/biologist to develop a Habitat Mitigation and Monitoring Reporting Plan (Plan) to provide compensatory mitigation for permanent impacts to 0.03 acres of lemonade berry scrub (*Rhus integrifolia)* and 0.06 acres of lemonade berry scrub–California sagebrush scrub (*Artemisia californica)* (California Department of Fish and Wildlife sensitive vegetation communities). The Plan shall outline efforts to restore or enhance these sensitive vegetation communities and, therefore, preserve or provide wildlife habitat within similar upland habitats adjacent to the impacted biological resources. The Plan may focus on the following:

- In-kind restoration of lemonade berry scrub and/or lemonade berry scrub–California sagebrush scrub through incorporation of these communities
- Restoration of areas occupied by non-native habitats or native habitats with large components of non-native vegetation, within similar habitats adjacent to the impacted biological resources

Under the Plan, a total of 0.09 acres of permanently impacted upland vegetation communities shall be mitigated in-kind at a 2:1 ratio for a total of 0.18 acres of compensatory mitigation. A qualified biologist/botanist shall develop the Plan, which shall provide specific measures to restore or enhance habitat to replace the loss of permanently impacted communities. This Plan shall be focused on adaptive management principles and shall identify detailed enhancement areas and strategies based on the parameters outlined below, with long-term timing and monitoring requirements.

The Plan shall also address the approximately 0.01 acres (315 square feet; 105 linear feet) of non-wetland waters of the State, including up to mapped top of bank; and 0.01 acres (332 square feet) of riparian (blue elderberry scrub [*Sambucus mexicana]*) permanently impacted by the project. The Plan shall provide for compensatory mitigation at a minimum 3:1 ratio for in-kind or similar mitigation, or other compensatory mitigation approved by the regulatory agencies.

Specifically, the Plan will prescribe actions and measures to compensate for project impacts. The Plan will present project impacts, the site selection process, and a rationale for success; specifications regarding final mitigation acreages, site preparation, restoration implementation, plant and seed collection source and sizing; project implementation guidelines; interim and final ecological performance standards; requirements for long-term maintenance, monitoring, and reporting; and site protection and long-term management. The Plan will include the following elements:

- Mitigation ratios for permanent and temporary impacts (if any) to regulated aquatic resources including, but not limited to, riparian habitat, waters of the United States, waters of the State, and CDFW streambed and riparian habitat established in consultation with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife
- Provide site selection and justification

- Detailed descriptions of mitigation components proposed to achieve the compensatory mitigation requirements of the resource agency permits
- Plant palette(s) for each target vegetation community proposed to be restored to the mitigation site
- Defined attainable and measurable mitigation goals and objectives to be achieved through implementation of the Plan
- A restoration work plan that details the mitigation approach, a restoration schedule, plant materials (containers, seed), and implementation strategies
- A detailed maintenance plan to include removal of invasives and non-native species
- Defined ecological performance standards for determining the success of the mitigation program
- A monitoring plan that includes method and analyses of results, goals for success or failure, and an adaptive management plan and suggestions for failed restoration efforts
- Restoration activities using native riparian and wetland species from locally collected stock, if applicable
- A description of protection measures and an estimate of long-term management funding
- An estimate of implementation costs
- Annual reports and the final report shall be submitted to the City and applicable regulatory agencies

MM-BIO-2 Worker Education Awareness Program. Prior to the initiation of any site disturbance and/or construction activities, all personnel associated with the project shall attend a worker education awareness program (program) conducted by a qualified biologist. In general, it is recommended that the program discuss any potentially occurring sensitive biological resources or species and habitat preference(s), occupied habitat in the area, life histories, law and regulations, potential construction impacts and protection measures, and project limits. Protections and regulations for biological resources, special-status species, protection of aquatic resources and open space, and nesting birds shall also be included in the program. It is recommended that a species and habitat fact sheet also be developed prior to the training program and distributed at the training program to all contractors, employers, and other personnel involved with the construction of the project.

After the kickoff meeting, the project proponent shall notify the qualified biologist in advance if additional contractors are employed during construction. A sign-in sheet will be circulated for signatures to all personal that attend the workers educational training to confirm that program materials were received and that they understand information presented.

MM-BIO-3 Delimiting Construction Area. Prior to initiation of ground disturbance, grading, or equipment mobilization, the following measures shall be implemented to protect natural resources adjacent to construction areas:

- Temporary fencing or equivalent form of demarcation shall be installed along the perimeter of defined construction areas to protect natural resources.

- All construction-related activities shall be confined to the designated construction areas within the fenced/demarcated areas.
- Fencing/demarcation shall be maintained during the duration of the project, including fixing or replacing downed fence.
- Fencing/demarcation shall remain in place for the duration of the project until all project activities are complete.
- A qualified biological monitor shall monitor the condition of the fence to ensure avoidance of impacts to surrounding resources.
- When sizable construction equipment is working near oak trees, it is highly encouraged that flaggers are utilized to assist in equipment positioning to avoid impacts to oak tree canopies (not proposed for removal) during construction activities

MM-BIO-4 Biological Monitoring and Reporting. A qualified biologist shall be present during initial ground-disturbing activities (i.e., grading, trenching, vegetation trimming or clearing) occurring within undeveloped areas (i.e., not the existing developed Hill Canyon Treatment Plant areas). Each day prior to equipment mobilization, the biologist shall perform a clearance survey in which the work area and equipment within undeveloped areas is inspected for wildlife. The biologist shall provide guidance and ensure that biological resource protection measures are in place to the maximum extent feasible. The monitor shall be experienced in construction monitoring and be able to identify potentially occurring sensitive biological resources in the area, including the coastal California gnatcatcher (*Polioptila californica californica*). The monitor shall survey the construction project footprint and surrounding areas for compliance with all environmental specifications.

The biologist shall have authority to halt work if listed species are observed and immediately notify California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service (as applicable), and additional appropriate avoidance and minimization measures shall be implemented if determined necessary for the protection of special-status species. Sensitive wildlife species may only be moved from the work area by qualified biologists holding the required permits; however, endangered or threatened species will not be moved, harassed, or harmed and will be allowed to move out of harm on their own (unless other arrangements are approved by the regulatory agencies).

Daily biological construction monitoring reports shall be prepared by the biologist and submitted to the appropriate permitting and responsible agencies on a weekly basis (weekly reporting). In addition, at the completion of monitoring activities, the biologist will submit a final monitoring report to the appropriate permitting and responsible agencies to document compliance with environmental requirements.

MM-BIO-5 Erosion and Sediment Control Plan. Due to the project impact of less than 1 acre, the applicant shall prepare an Erosion and Sediment Control Plan (ESCP) to minimize the potential for discharge of pollutants during construction activities. The ESCP shall be designed to meet the local requirements and Ventura County permitting process (e.g., grading or building permit). The ESCP shall include both structural and non-structural best management practices (BMPs), including straw wattles around storm drains, silt fencing

and or other physical controls to divert flows from exposed soil, spill prevention methods, and clean housekeeping methods for storing and refueling machinery.

As part of the ESCP, the contractor shall include specifications, installation requirements, and locations of appropriate BMPs to control sediment, coarse particles, concrete, and other materials exposed during construction and drilling, to protect aquatic and riparian habitats adjacent to construction site. Erosion control measures shall be implemented to prevent runoff of these materials into potential jurisdictional aquatic features. Silt fencing, straw bales, and/or sandbags shall be used in conjunction with other methods to prevent turbid waters from entering the potential jurisdictional aquatic features. BMPs shall be implemented that minimize impacts from the generation of fugitive dust, fire hazards, and chemical pollutants.

During construction activities, washing of concrete or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Washing shall not be allowed in locations where the tainted water could enter potential jurisdictional aquatic features.

MM-BIO-6 Protected Tree Removal, Replacement, and Protective Measures. The City of Thousand Oaks requires a permit for removal, pruning, or encroachment into the protected zone of any oak tree or landmark tree, which are defined as:

- Oak Tree: Any oak tree of the genus Quercus including, but not limited to, valley oak (*Quercus lobata*), California live oak (*Quercus agrifolia*) and scrub oak (*Quercus berberidifolia*), regardless of size (Thousand Oaks Municipal Code, Title 5, Chapter 14: Oak Tree Preservation and Protection).
- Landmark Tree: Specimens of the following species that have reached the designated maturity: California sycamore (*Platanus racemosa*), which exceed 12 inches in diameter when measured at a point 4.5 feet above the natural grade at the base of the tree; California bay laurel (*Umbellularia californica*), which exceed 8 inches in diameter when measured at a point 4.5 feet above the natural grade at the base of the tree; California black walnut (*Juglans californica*), which exceed 8 inches in diameter when measured at a point 4.5 feet above the natural grade at the base of the tree; and toyon (*Heteromeles arbutifolia*), which exceed 8 inches in diameter when measured at a point 4.5 feet above the natural grade at the base of the tree. Trees with multiple trunks shall be deemed to have reached maturity if the sum of the diameters of the multiple trunks exceeds the required diameter plus 2 inches of a single trunked tree. Landmark trees shall also include all designated historic trees. (Thousand Oaks Municipal Code, Title 5, Chapter 24: Landmark Tree Preservation and Protection).

Prior to construction activities, an International Society of Arboriculture-certified arborist shall review the proposed construction plans, visit the project site, and assess the condition, health, and structure of oak and landmark trees with a potential to be directly (removed or encroached upon) impacted by project activities, including trees proposed to be trimmed or removed. Encroachment shall include project-related disturbances that will occur within the protected zone (a specifically defined area totally encompassing a

landmark or historic tree within which work activities are strictly controlled). When depicted on a map, the outermost edge of the protected zone will appear as an irregularly shaped circle that follows the contour of the dripline of the tree. Using the dripline as a point of reference, the protected zone shall commence at a point 5 feet outside of the dripline and extend inward to the trunk of the tree. In no case shall the protected zone be less than 15 feet from the trunk of a landmark tree (both code sections).

The certified arborist shall provide a letter/report (Oak Tree Report) containing specific information on the location, condition, potential impacts of development, recommended actions, and mitigation measures. At minimum, mitigation measures shall include requirements for arborist monitoring during work within the tree protected zone (i.e., within 5 feet of the oak tree canopy or within 15 feet from the base of the tree trunk) of any oak or landmark trees. The City of Thousand Oaks Oak Tree Preservation and Protection Guidelines mitigation requirements for tree removals associated with development projects are summarized as follows: one 15-gallon oak tree must be planted or donated for each dead or hazardous oak tree removed; two 24-inch box trees and one 36-inch or 60-inch box tree must be planted for each healthy oak tree removed for commercial, industrial, and new residential development projects; and, in the case of removal of oak trees larger than 48 inches in diameter, the applicant is required to obtain the largest nursery-grown oak tree available or plant two 60-inch box trees.

MM-BIO-7 Reptile Pre-Construction Survey. A pre-construction survey for California legless lizard (*Anniella* sp.), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), and Blainville's horned lizard (*Phrynosoma blainvillii*) shall be conducted 30 days prior to the initiation of project activities. If these species are observed, a salvage and relocation plan shall be implemented to allow a qualified biologist to capture and relocate the species away from ground disturbance and into protected open space. These survey and reporting measures are often a condition of the California Department of Fish and Wildlife's Streambed Alteration Agreement.

MM-BIO-8 Pre-Construction Nesting Bird Survey. A pre-construction survey for nesting birds shall be conducted by a City of Thousand Oaks-approved biologist to determine if active (nests containing eggs, nestlings, or associated with dependent fledglings) of special-status birds, or common bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code, are present in the construction zone or within 300 feet of the construction zone. The survey shall be conducted within 1 week prior to construction or site preparation activities that will occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February 1 through August 31). The pre-construction nesting bird survey shall be repeated if there is a delay in the start of construction activity or if a lapse in construction activity of 2 weeks or greater has occurred.

Within 1 week before the start of construction activities, a City of Thousand Oaks-approved biologist shall conduct the nesting bird survey. A pre-construction nesting bird report shall be completed and submitted to the City of Thousand Oaks within 48 hours of the survey.

If active nests are found, a no-construction buffer shall be established at a minimum of 50 feet for non-raptor bird species and 200 feet for raptor species (this distance may be greater depending on the bird species and construction activity, as determined by the City of Thousand Oaks-approved biologist) around the nest site where it overlaps with work areas. Tree and vegetation clearing and construction within the no-construction buffer shall be postponed or halted, at the discretion of the City of Thousand Oaks-approved biologist, until the nest is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. In addition, all active nests shall be mapped with a GPS unit and nest locations with 100-foot buffers overlain on aerial photographs to provide regular updated maps to inform the project manager/engineer and construction crew of areas to avoid. The City of Thousand Oaks-approved biologist shall also serve as a construction monitor during the breeding season to ensure that there are no inadvertent impacts to nesting birds.

Bird nest surveys shall be conducted every 14 days following identification of an active bird nest until all birds have fled the nest and the nest is deemed inactive by the City of Thousand Oaks-approved biologist. A bird nest monitoring report shall be completed and submitted to the City of Thousand Oaks.

MM-BIO-9 Coastal California Gnatcatcher Surveys and Avoidance. Prior to construction, protocol-level surveys for the coastal California gnatcatcher (*Polioptila californica californica*) shall be performed within 500 feet of proposed temporary and permanent impact areas. If any individuals are detected during the surveys, the results shall be communicated to the U.S. Fish and Wildlife Service for approvals prior to construction.

In the absence of protocol surveys, the U.S. Fish and Wildlife Service shall be consulted for further guidance.

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?

Less-than-Significant Impact with Mitigation Incorporated**.** As previously discussed, four sensitive vegetation communities (California brittle bush–California sagebrush scrub, chamise–black sage–sugarbush scrub, lemonade berry, and lemonade berry–California sagebrush scrub) were identified within the BSA. Of these four sensitive communities, permanent impacts will occur to 0.03 acres of lemonade berry scrub and 0.06 acres of lemonade berry scrub–California sage brush scrub. Permanent impacts to lemonade berry scrub would include the removal of <0.01 acres (332 square feet) of blue elderberry, which is present along the existing ephemeral channel and provides limited riparian habitat. As previously mentioned, the ephemeral waterway is located within the proposed debris basin.

Direct Impacts

As shown in Figure 9, Impacts to Biological Resources, and Table 3-9, the project will permanently impact approximately 0.09 acres of sensitive vegetation communities, including 0.01 acres of riparian habitat. In addition, inadvertent direct (temporary) impacts to sensitive communities may occur if construction activities accidentally trim, clear, trample, or grade sensitive vegetation communities outside of the proposed work

areas (i.e., permanent impact areas). Impacts to sensitive vegetation communities are considered potentially significant. However, implementation of **MM-BIO-1** (Habitat Mitigation and Monitoring Plan), **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring and Reporting) would reduce potential direct impacts to riparian and other sensitive vegetation communities to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to sensitive vegetation communities adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to sensitive vegetation communities are considered potentially significant. Therefore, **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Sediment Control Plan) are recommended to avoid potential indirect impacts to sensitive vegetation communities. The implementation of these mitigation measures would reduce potential indirect impacts to riparian habitat or other sensitive natural communities to **less than significant**.

Table 3-9. Proposed Impacts to Vegetation and Land Cover Types within the BSA

General Habitat	Vegetation Community	Global, State Rank[a]	CDFW Sensitive[b]	Permanent Impacts acres (square feet)
Native Scrub	California brittle bush–California sagebrush scrub Association	G3	Y	None
	Chamise–Black sage–Sugarbush scrub Association	G3, S3	Y	None
	Lemonade berry scrub Alliance	G3, S3	Y	0.03
	Lemonade berry scrub–California sage scrub Association	—	Y	0.06
Other Land Cover Types	Developed	N/A	N	0.19
	Disturbed	N/A	N	0.06
			Total	**0.35**

Notes: BSA = Biological Survey Area; CDFW = California Department of Fish and Wildlife; Y = yes; N/A = not applicable; N = no. G3 and S3 are ranks considered vulnerable.

[a] For alliances with State Ranks of S1 to S3, all associations within them are considered highly imperiled. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank (CDFW 2022a).

[b] Sensitive based on CDFW (2022a). However, communities determined to not be sensitive may still be sensitive under local policies or provide suitable habitat for special-status plant and wildlife species.

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?

Less-than-Significant Impact with Mitigation Incorporated**.** As previously discussed, non-wetland waters are present within the BSA and project impact areas. This includes approximately 0.03 acres of non-wetland waters of the State and less than 0.01 acres (332 square feet) of riparian habitat that are regulated

by the RWQCB and/or CDFW. None of the features on or within the project site are anticipated to be under the jurisdiction of the USACE.

Direct Impacts

The project will permanently impact approximately 0.01 acres (315 square feet; 105 linear feet) of non-wetland waters of the State, including up to mapped top of bank; and less than 0.01 acres (332 square feet) of riparian habitat would be directly (permanently) impacted as a result of the construction of the debris basin. This area is regulated by the RWQCB and/or CDFW, and final determination of the extent of jurisdictional impact is determined by these responsible agencies. In addition, inadvertent direct (temporary) impacts to jurisdictional waters may occur if construction activities accidentally grade or remove soils outside of the proposed work areas. Direct impacts to jurisdictional aquatic resources are considered potentially significant. However, implementation of **MM-BIO-1** (Habitat Mitigation and Monitoring Plan), **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring and Reporting) would reduce potential direct impacts to jurisdictional aquatic resources to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to jurisdictional aquatic resources adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, and fugitive dust. Impacts to jurisdictional aquatic resources are considered potentially significant. Therefore, **MM-BIO-2, MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Sediment Control Plan) are recommended to avoid potential indirect impacts to jurisdictional aquatic resources. The implementation of these mitigation measures would reduce indirect impacts to State or federally protected wetlands to **less than significant.**

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?

Less-than-Significant Impact**.** As previously discussed, the Treatment Plant and project site are located between two large open space systems that provide regional habitat connectivity for a variety of wildlife. However, the existing Treatment Plant is fully enclosed with a chain-link fence. Therefore, the Treatment Plant provides no opportunities for wildlife movement and project activities within the Treatment Plant are not expected to affect wildlife corridors. Although the proposed debris basin is located within undeveloped open space, the location and proposed permanent impact areas (0.09 acres of scrub within the open space area) are adjacent to the existing fenced facility (extending out to approximately 47 feet southeast of the fence line). In addition, no new lighting is proposed within or adjacent to open space for this project. With abundant surrounding open spaces and opportunities for movement, the construction of the debris basin at this location is not anticipated to impede, interfere, or significantly affect wildlife movement, corridors, or linkages.

Due to the relatively small size of the proposed project, direct impacts to wildlife corridors and habitat connectivity are not anticipated to occur and indirect impacts to wildlife corridors and habitat connectivity are anticipated to be minor. Therefore, impacts to wildlife corridors and habitat connectivity 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?

Less-than-Significant Impact with Mitigation Incorporated. Approximately 19 oak trees larger than 2 inches in diameter were identified within the BSA. The City protects oak trees and landmark trees through City ordinances. Municipal Code Section 9-4.42 provides the Oak Tree Preservation and Protection Ordinance and Municipal Code Section 9-4.42 provides the Landmark Tree Preservation and Protection Ordinance. In addition, all work involving impacts to oak trees within the City is required to abide by the provisions of the Oak Tree Ordinance, Title 5, Chapter 14 of the Thousand Oaks Municipal Code, and the Oak Tree Preservation and Protection Guidelines Res. No. 2010-014. The City requires a permit for removal, pruning, or encroachment into the protected zone of any oak tree or landmark tree, which are defined below.

Direct Impacts

As shown in Figure 9, the proposed work areas will be located outside the tree trunk base of mapped oak trees. However, the project will encroach within the City-established oak tree protected zone requirements (i.e., within 5 feet of the oak tree canopy or within 15 feet from the base of the tree trunk) for an estimated 8 trees and overlap with 0.04 acres (11%, 1,640 square feet) of the 0.33-acre mapped overhead canopy, suggesting these oak trees may experience injury or mortality of the root systems. In addition, inadvertent direct (temporary) impacts to sensitive communities may occur if construction activities accidentally trim oak trees outside of the proposed work areas (i.e., permanent impact areas). Impacts to oak trees are considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education Awareness Program), **MM-BIO-3** (Delimiting Construction Area), **MM-BIO-4** (Biological Monitoring and Reporting), and **MM-BIO-6** (Protected Tree Removal, Replacement, and Protective Measures) would reduce potential direct impacts to individual oak trees to **less than significant**.

Indirect Impacts

There is potential for indirect impacts to oak trees adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills or discharge of materials from the use of concrete, oil/gas, water runoff, or on-site fueling stations. Impacts to oak trees are considered potentially significant. Therefore, **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** are recommended to avoid potential indirect impacts to oak trees. The implementation of these mitigation measures would reduce potential indirect impacts to oak trees to **less than significant**.

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?

No Impact. According to the CDFW, there is no Natural Communities Conservation Plan on or within the vicinity of the project site. As such, there is no adopted, approved, or proposed Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan that covers habitats located within the project's vicinity (CDFW 2019). Therefore, **no impact** would occur.

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?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

A Phase 1 cultural resources investigation was conducted in support of the IS for the project (Appendix C1 to this IS/MND) and a built environment inventory and evaluation report (Appendix C2) was prepared. The cultural resources investigation included a cultural resources site records and literature search at the South Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton, and an intensive surface survey covering the project site to document existing conditions and to assess the potential impacts of the project on cultural resources. In addition to the California Historical Resources Information System (CHRIS) records search at the SCCIC, the Phase 1 cultural resources investigation included a review of the California Native American Heritage Commission (NAHC) Sacred Lands File (SLF) and background research.

California Historical Resources Information System Records Search

On March 24, 2022, staff at the SCCIC provided the results of a CHRIS records search for the project site and a 0.5-mile radius. Due to COVID-19, the SCCIC notified researchers that they were only able to provide data for the County that have already been digitized. As such, not all available data known to CHRIS may be provided in the records search. The CHRIS records search results provided by the SCCIC included their digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources, Department of Parks and Recreation site records, technical reports, archival resources, and ethnographic references. Additional consulted sources included historical maps of the project site, the National Register of Historic Places, the California Register of Historical Resources (CRHR), the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. The SCCIC records were reviewed to determine whether the implementation of the project would have the potential to impact known cultural resources. The confidential records search results are also provided in Confidential Attachment C to the cultural resources report (Appendix C1).

Previously Conducted Cultural Resource Studies

Results of the cultural resources records search indicate that 19 previous cultural resource studies have been conducted within 0.5 miles of the proposed project site between 1975 and 2006. Of these studies, five overlap the

proposed project site: VN-84, -101, -1527, -1573, and -1593. Table 3-10 lists all 19 previous cultural resources studies, followed by a brief summary of the available reports for sites overlapping the proposed project site.

Table 3-10. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
00033	Maxwell, T.J.	1975	Environmental Impact Report Sch. No. 75051421 Unit "y" Sewer Replacement I.D. No. 76-1258, F.Y. 1975-76	No
00059	Rosen, M.D.	1977	Evaluation of the Archaeological Resources and Potential Impact of Proposed Development of 632 Acres in Thousand Oaks, California	No
00084	Clewlow, W.C. Jr.	1977	An Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California	Yes
00101	Rosen, M.D.	1976	Conejo Canyons Study	Yes
00103	Clewlow, W.C. Jr.	1978	Preliminary Archaeological Investigations on MGM Ranch: 4-VEN-170, 4-VEN-171, 4-VEN-272, 4-VEN-437, 4-VEN-449	No
00231	Lopez, R.	1980	A Re-evaluation of the Archaeological Resources Contained Within and Directly or Indirectly Impacted by the 633 Acres Proposed for Tract 3465 Thousand Oaks, Ventura County, California	No
00403	Dillon, B.D.	1977	CA-VEN-171: Boundary Test Report	No
00914	Whitley, D.S.	1985	Archaeological Survey of Portions of the Northrop Corporation Property, Newbury Park, Ventura County, California	No
01087	Clewlow, W.C. Jr.	1991	Letter Report on Preliminary Archaeological Mitigative Procedures at Site CA-VEN-170	No
01088	Clewlow, T.A., and C.W. Clewlow	1991	Archaeological Investigations at CA-VEN-445 City of Thousand Oaks, California	No
01130	Drover, C.E.	1988	Environmental Impact Evaluation: An Archaeological Assessment of Vesting Tentative Tract Map 4366--Rancho Conejo City of Thousand Oaks, California	No
01419	Maxwell, T.J.	1976	Unit "Y" Sewer Replacement Sch. No. 75051421 City of Thousand Oaks	No

Table 3-10. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
01527	Allen, P.A.	1978	An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc.	Yes
01573	Maki, M.K.	1997	Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California	Yes
01593	Bonner, W.	1997	Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca	Yes
01864	Maki, M.K.	2000	Cultural Resource Monitoring Results for the Dewatering and Generator Building at the Hill Canyon Wastewater Treatment Plant	No
01866	Romani, J.F.	2000	Results of Archaeological Phase II/phase III Excavations Damage Assessment and Repatriation of Disinterred Native American Remains in Accordance With the Requirements of NAGPRA at CA-VEN-1602 Hill Canyon Waste Water Treatment Plant	No
02505	Maki, M.K.	2006	Phase 1 Cultural Resources Investigation of Approximately 0.8 Ac for the Mesa Feeder Crossing Relocation Project Arroyo Conejo, Thousand Oaks, Ventura Co.	No
02637	Whitley, D.S.	2002	Extended Phase I Archaeological Survey for the Hill Canyon Wetlands Mitigation Study Area, Thousand Oaks, Ventura County, California	No

Note: SCCIC = South Central Coastal Information Center.

Report No. VN-84. Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California (Clewlow 1977) documents the results of an archaeological survey and impact assessment consisting of archival record search, literature review, and pedestrian survey. The area of study overlaps the southwest area of the current proposed project site, as well as the southernmost extent of the larger, primary section. The report relocated and re-evaluated five previously recorded sites and identified 21 new archaeological sites. None of the sites overlaps the current proposed project site. A variety of mitigations measures was recommended, including testing, capping, and the creation of open space to preserve the cultural resources

noted. It was further recommended that a general research design be created for the area to carry out any mitigation efforts within the framework of a comprehensive research design.

Report No. VN-101. Conejo Canyons Study (Rosen 1977) documents the results of a study to address existing environmental resources of the Conejo Canyons and to suggest planning policy, criteria, and standards for the future use of and conservation of those resources. The area of study overlaps all areas of the current proposed project site. The goal of the survey was to record existing resources; the archaeology analysis component included archival research and recounting of known resources. The records search indicated there were 26–32 known sites recorded, of which 21 were either disturbed or destroyed. The large number of known sites led the study to indicate the area has a high degree of archaeological sensitivity.

Report No. VN-1527. An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc. (Allen 1978) documents the results of a historic study of the M.G.M. Ranch property as part of a greater study for a planned development. The area of study overlaps the southwest area of the current proposed project site, as well as the southernmost extent of the larger, primary section. The primary focus of the report, formally recorded by Patricia Allen, is the historic record of the M.G.M. Ranch property as documented through grants and purchases. Included in the appendix are records of three archaeological resource surveys, although the reports are not attached. The reports indicated that there were 24 known archaeological sites within the boundaries of the specific plan and made mitigation recommendations including avoidance, excavation, and cultural monitoring.

Report No. VN-1573. Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California (Maki 1997) documents the results of a Phase I cultural resources investigation in the Arroyo Conejo and selected tributary canyons, consisting of archival record research, literature review, consultation with local Native Americans, and a pedestrian survey. The area of study overlaps the southwestern area of the current proposed project site. The study referenced multiple archaeological sites located on the bluffs and hills above the Arroyo Conejo, but none within the project's Phase I construction zone. Mitigation recommendations included archaeological monitoring and a temporary work halt order should archaeological resources or human remains be unearthed.

Report No. VN-1593. Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca (Bonner 1997) documents the results of a Phase I cultural resources assessment of the Acacia Hill Canyon Regional Recreational Facility, consisting of archival records research, literature review, and a pedestrian survey of the subject property. The area of study overlaps the southwest area of current proposed project site and is adjacent to the larger, primary section. Mitigation recommendations included archaeological monitoring during any construction activity, including vegetation clearance near known prehistoric sites. The author further recommended subsurface testing should any buried midden component be encountered.

Previously Recorded Cultural Resources

The SCCIC records indicate that eight cultural resources have been previously recorded within 0.5 miles of the project site, none of which overlap or are adjacent to the project site; however, at least one of the prehistoric archaeological sites is located within 50 meters (165 feet) of the project site. Of these resources, seven are prehistoric-era archaeological sites and one is a historic-era archaeological site. Table 3-11 summarizes all previously recorded cultural resources identified within the search area.

Table 3-11. Previously Recorded Cultural Resources within a 0.5-Mile Radius of the Proposed Project Site

SCCIC ID	Trinomial	Description	Recording Events	NRHP Status	Located within Project Site (Yes/No)
P-56-000170	CA-VEN-000170	Prehistoric Site: Lithic scatter	1967 (C. King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-000171	CA-VEN-000171	Prehistoric Site: Lithic scatter; ground stone	1967 (C. King); 1981 (B.D. Dillon); 1989 (R. Angula and K. Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-000172	CA-VEN-000172	Prehistoric Site: Lithic scatter	1967 (C. King); 1989 (R. Angula and K. Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-000173	CA-VEN-000173	Prehistoric Site: Lithic scatter; ground stone	1967 (C. King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-000445	CA-VEN-000445	Prehistoric Site: Lithic scatter	1977 (Whitley and Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-000446	CA-VEN-000446	Prehistoric Site: Small lithic scatter	1977 (Whitley and Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-001602	N/A	Prehistoric Site: Marine shell scatter, fire affected rock and projectile point	2000 (M. Maki)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No
P-56-100078	N/A	Historic Site: Steel plate storage tank	1997 (W. Bonner); 2001 (D. Whitley)	7R: Identified in Reconnaissance Level Survey: Not evaluated	No

Notes: SCCIC = South Central Coastal Information Center; NRHP = National Register of Historic Places; N/A = not applicable.

Pedestrian Survey

Methods: The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 5 meters apart (approximately 15 feet), where feasible. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent burrows, cut banks, trails, and drainages were also visually inspected for exposed subsurface materials. No artifacts were collected during the survey.

All fieldwork was documented using field notes, an Apple Generation 7 iPad equipped with Esri Collector and Avenza PDF Maps software with close-scale georeferenced field maps of the proposed project site, and aerial photographs. Location-specific photographs were taken using the iPad's 12-mega-pixel resolution camera. Cultural resources identified during this inventory within the proposed project site were to be recorded on Department of Parks and Recreation forms, using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995). All field notes, photographs, and records related to the current study are on file with the City. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

Results: An intensive-level archaeological pedestrian survey of the 0.5-acre proposed project site was completed on March 21, 2022. Careful attention was given to barren ground, including at the base of trees and bushes, within paths/trails, and any subsurface soils exposed by burrowing animals. Ground surface visibility within the proposed project site was variable and as such, in areas of dense ground coverage, surface scrapes were occasionally implemented, when necessary, to enhance detection of archaeological materials that may have been obscured on the surface. Survey results for the project site are detailed below.

The proposed project site is currently partially developed and in use as a wastewater Treatment Plant. The majority of the proposed project area is undeveloped open space that borders the existing Treatment Plant. Two separate areas were surveyed on March 21, 2022. The small area near Edison Gate was surveyed first. The exposed ground area provided good to excellent visibility, but only comprised 10% of the whole area; the remaining 90% was paved, providing none to poor ground surface visibility. No cultural material was observed. The other survey area included two expanded locations, as well as linear sections connecting the two. Portions of the survey area were behind a chain-link fence, so both sides of the fence were surveyed where possible.

The open space area was covered in oak and chapparal, as well as poison oak and non-native grasses. The edges of the proposed project site included slopes greater than 30 degrees where survey was not possible; all other areas were surveyed, including two drainages and a knoll above the southern drainage. More than 98% of the proposed project site is within the open space; 2% is north and west of the chain-link fence and has retaining walls and paved sections. Ground surface visibility within the proposed project site ranged from fair to good, depending on density of ground cover. Basalt bedrock outcrops and weathering volcanic rocks are abundant throughout the proposed project site. No cultural material was observed.

Soils observed consist of brown to dark gray-brown sandy loams, with abundant angular rock and gravels. These soils appear consistent with the U.S. Department of Agriculture's description of Hambright very rocky loam, 15% slopes.

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

No Impact. As part of the cultural resources study prepared for the proposed project (Appendix C1), the results of a CHRIS records search of the project site and a 0.5-mile radius were reviewed. The CHRIS record search results included the SCCIC's digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources, Department of Parks and Recreation site records, technical reports, archival resources, and ethnographic references. The SCCIC records were reviewed to determine whether the implementation of the project would have the potential to impact known and unknown cultural resources. With respect to historical resources, the SCCIC records indicate that no built environment resources or known archaeological resources meeting the criteria of a historical resource pursuant to Section 15064.5 have been previously recorded within 0.5 miles of the project site.

Although CEQA includes archaeological resources in the definition of historical resources, for purposes of this analysis, impacts to archaeological resources not meeting the criteria of a historical resource pursuant to Section 15064.5 are not addressed in Threshold 3.5(a). Please see Threshold 3.5(b) for analysis and findings addressing the potential for impacts to known unique archaeological resources, unidentified unique archaeological resources, and unidentified archaeological resources that may have the potential to meet the criteria of a historical resource pursuant to Section 15064.5.

Background analysis revealed that the Treatment Plant property was originally developed in 1961 and several buildings and structures within the Treatment Plant property are over 45 years old. Therefore, the property as a whole was evaluated for historical significance, by Secretary of Interior-qualified architectural historians, in order to determine if there would be an impact to historical resources under CEQA. Efforts to identify historical resources within and adjacent to the project site, in addition to a review of the CHRIS records search results, included the following components: study area delineation; an intensive-level survey of the study area for built environment resources; archival and building development research; and the evaluation of properties for the National Register of Historic Places, CRHR, and City of Thousand Oaks Landmark and Point of Historical Interest eligibility criteria and integrity requirements. The investigation resulted in conclusion that the Treatment Plant property does not meet any eligibility requirement under national, State, or local designation criteria and the property is not considered a historical resource under CEQA. Therefore, determination of whether the project may cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 is **no impact**.

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

Less-than-Significant Impact with Mitigation Incorporated**.** As mentioned previously, a CHRIS records search of the project site and a 0.5-mile radius was conducted, the results of which revealed that that 19 previous cultural resource studies have been conducted within 0.5 miles of the proposed project site between 1975 and 2006. As a result of these studies stored in the CHRIS database and additional studies, eight cultural resources, including seven prehistoric archaeological resources and one historic archaeological resource, have been previously recorded within 0.5 miles of the project site. Although none of these resources are located within or adjacent to the project site, at least one of the prehistoric archaeological sites is located within 50 meters (165 feet) of the project site. The areas proposed for ground-disturbing improvements were surveyed for archaeological resources and evidence for the potential presence of archaeological resources. As mentioned previously, the results of the pedestrian survey conducted under less-than-reliable conditions (due to lack of access and existing pavement) were negative. The project site was constructed in 1961 prior to the enactment of cultural resource laws requiring the assessment of impacts to cultural resources; as a result, no pedestrian survey allowing for observation of native soils prior to development of the plant was conducted and the presence of cultural deposits is unknown. Given the presence of known archaeological sites within close proximity of the project site, the obscured nature of surface soils within the proposed improvement areas preventing the observation of native soils, and that portions of the proposed improvement areas area located within previously undisturbed soils, the potential to encounter unknown intact subsurface archaeological deposits and/or features is moderate during ground-disturbing activities within native soil. Additionally, this determination is consistent with previously conducted cultural assessments of the project property and surrounding area. In the event that unanticipated archaeological resources are encountered during project implementation, impacts to these resources would be potentially significant. Therefore, **MM-CUL-1** (Cultural Resource

Monitoring and Inadvertent Discovery Plan), **MM-CUL-2** (Worker Environmental Awareness Program Training), **MM-CUL-3** (Archaeological Monitoring), and **MM-CUL-4** (Inadvertent Discovery Clause) shall be implemented to reduce potential impacts to unanticipated archaeological resources. Implementation of **MM-CUL-1** through **MM-CUL-4** would reduce potential impacts pertaining to the inadvertent discovery of archaeological resources to **less than significant with mitigation incorporated.**

Mitigation

Prior to commencement of construction activities for all phases of project implementation, the City shall retain a qualified archaeological principal investigator who meets the Secretary of the Interior's Professional Qualification Standards for Archaeology, is approved by the City, and has experience and is well-acquainted with the history of the ancestral tribes geographically connected to the project site (referred to here on as "Principal Investigator/ Archaeologist").

MM-CUL-1 Cultural Resource Monitoring and Inadvertent Discovery Plan. The City of Thousand Oaks shall retain a Principal Investigator/Archaeologist to assess information available (final grading and construction plans, geotechnical testing results, as-built plans, etc.) and determine the depth at which native soils exist and would be impacted by project implementation. The depth of native soils shall be included in the cultural resource monitoring and inadvertent discovery plan (Plan) so as to guide when monitoring is required. Impacts to cultural resources shall be minimized through implementation of pre- and post-construction tasks. Tasks pertaining to cultural resources include the development of the Plan. The purpose of the Plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing activities and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the project. This Plan shall define the process to be followed for the identification and management of cultural resources in the project area during construction. Existence of and importance of adherence to this Plan shall be stated on all project site plans intended for use by those conducting the ground-disturbing activities. The Plan shall also include the conditions under which monitoring is required pursuant to MM-CUL-3 and the manner of facilitation.

MM-CUL-2 Worker Environmental Awareness Program Training. Prior to commencement of construction activities for all phases of project implementation, the City of Thousand Oaks shall retain a Principal Investigator/Archaeologist to prepare a Worker Environmental Awareness Program (WEAP). The WEAP shall be submitted to the City of Thousand Oaks for review and approval. All construction personnel and monitors who are not trained archaeologists shall be briefed regarding inadvertent discoveries prior to the start of construction activities. A basic presentation and handout or pamphlet shall be prepared to ensure proper identification and treatment of inadvertent discoveries. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials and Tribal Cultural Resources that may be identified during construction of the project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker shall also learn the proper procedures to follow in the event that cultural resources, Tribal Cultural Resources, or human remains are uncovered during ground-disturbing activities. These procedures shall include work curtailment or redirection, and the immediate

contact of the site supervisor and archaeologist retained for the project. This requirement shall be noted on all construction plans to ensure implementation.

MM-CUL-3 Archaeological Monitoring**.** An archaeological technician/monitor overseen by a Principal Investigator/Archaeologist shall observe ground-disturbing activities during initial excavation in native soils. Initial excavation is defined as initial construction-related earthmoving of sediments from their place of deposition. As it pertains to archaeological monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by project-related construction. A Principal Investigator/ Archaeologist shall oversee and establish monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits or material. The archaeological monitor shall be responsible for maintaining daily monitoring logs. This requirement shall be noted on all construction plans to ensure implementation.

Upon completion of all ground-disturbing activities, an archaeological monitoring report shall be prepared within 60 days following completion of ground disturbance and submitted to the City of Thousand Oaks for review. This report shall document compliance with approved mitigation, all conducted monitoring efforts, and include an appendix with daily monitoring logs. The final report shall be submitted to the City of Thousand Oaks and the applicable California Historical Resources Information System information center.

MM-CUL-4 Inadvertent Discovery Clause. In the event that potential prehistoric or historic-era archaeological resources and/or Tribal Cultural Resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring not less than 50 feet of the find shall immediately stop and the Principal Investigator/Archaeologist must be notified immediately to assess of the discovery and determine whether additional study is warranted. Depending upon the nature of the discovery, the Principal Investigator/Archaeologist may simply record the find and allow work to continue. If the discovery proves potentially significant under the California Environmental Quality Act (CEQA), additional work such as subsurface testing may be warranted. If the discovery is determined significant under CEQA and avoidance is not feasible, data recovery will be required.

In the event that human remains are inadvertently encountered during construction activities, the remains and associated resources shall be treated in accordance with State and local regulations that provide requirements with regard to the accidental discovery of human remains, including California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and CEQA Guidelines Section 15064.5(e). In accordance with these regulations, if human remains are found, the County Coroner must be immediately notified of the discovery. No further excavation or disturbance of the project site or any nearby (no less than 100 feet) area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined if the remains are potentially human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she is required to immediately notify the Native American Heritage Commission (NAHC). The NAHC must immediately notify those persons it believes

to be the most likely descendant from the deceased Native American. The most likely descendant must then complete their inspection and determine, in consultation with the property owner, the treatment and disposition of the human remains.

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

Less-than-Significant Impact with Mitigation Incorporated**.** No prehistoric or historic burials were identified within the project site as a result of the CHRIS records search, NAHC SLF search, or pedestrian survey, nor are there any dedicated cemeteries within or surrounding the project site. The project site was constructed in 1961 prior to the enactment of cultural resource laws requiring the assessment of impacts to cultural resources; as a result, no pedestrian survey allowing for observation of native soils prior to development of the Treatment Plant was conducted and the presence of cultural deposits is unknown. Given the presence of known archaeological sites within close proximity of the project site, the obscured nature of surface soils within the proposed improvement areas preventing the observation of native soils, and that portions of the proposed improvement areas area located within previously undisturbed soils, the potential to encounter previously unknown human remains exists. Therefore, **MM-CUL-1** (Cultural Resource Monitoring and Inadvertent Discovery Plan), **MM-CUL-2** (Worker Environmental Awareness Program Training), **MM-CUL-3** (Archaeological Monitoring), and **MM-CUL-4** (Inadvertent Discovery Clause) shall be implemented to reduce potential impacts to human remains. Implementation of **MM-CUL-1** through **MM-CUL-4** would reduce potential disturbance to any human remains to **less than significant with mitigation incorporated**.

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?	☐	☐	☒	☐
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

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?

Less-than-Significant Impact.

Construction Energy Use

Electricity

Temporary electric power for as-necessary lighting and electronic equipment would be provided by the existing Treatment Plant site. The amount of electricity used during construction would be minimal because typical demand would stem from electrically powered hand tools and no trailers are anticipated. The electricity used for construction activities would be temporary and minimal.

Natural Gas

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, which are discussed under the subsection "Petroleum." Any minor amounts of natural gas that may be consumed as a result of proposed project construction would be temporary and negligible.

Petroleum

Petroleum would be consumed throughout construction. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. Transportation of construction materials and construction workers would also result in petroleum consumption. Heavy-duty construction equipment, vendor trucks, and haul trucks would use diesel fuel. Construction workers would likely travel to and from the project area in gasoline-powered vehicles. Construction is expected to take approximately 6 months during 2025. While construction petroleum consumption is temporary and short, it was estimated for disclosure as shown in Table 3-12. Petroleum emissions associated with the use of construction equipment and vehicles, which were used to calculate gallons of petroleum consumed, were calculated using CalEEMod and are provided in Appendix A. Fuel consumption from construction equipment and vehicles was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton (MT) CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO_2 per gallon (The Climate Registry 2022).

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as the estimated gasoline fuel usage from worker vehicles, is shown in Table 3-12. Appendix A A lists the assumed equipment usage and vehicle trips.

Table 3-12. Total Project Construction Petroleum Demand

Project	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)	Vendor Trucks (Diesel)	Worker Vehicles (Gasoline)
	Gallons			
2025	8,344	673	726	1,093
Total	8,344	673	726	1,093

Source: Appendix A.

In total, project construction fuel consumption would be approximately 1,093 gallons of gasoline and 9,743 gallons of diesel.

Because of the short-term nature of construction and relevantly small scale of the project, project construction would not result in wasteful, inefficient, or unnecessary consumption of electricity, natural gas, or petroleum, and impacts related to construction would be less than significant.

Operational Energy Use

As discussed in Section 3.3, Air Quality, once project construction is complete, the project would continue providing wastewater treatment services for the City. No net increase in operational activities associated with the project would occur (i.e., no routine daily equipment operation, vehicle trips, or energy consumption would be required). Because the project would not result in any long-term operational activities, there would be no potential impact associated with operational energy.

Conclusion

Based on the previous considerations, the project would result in a **less-than-significant** energy impact.

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

Less-than-Significant Impact**.** The project would be subject to State regulations for energy efficiency to the extent applicable. Because the project does not include newly constructed structures or alterations of existing buildings, the California Building Energy Efficiency Standards and California Green Building Standards, both of which are set forth in the California Code of Regulations, Title 24, would not apply. Because the project does not include routine operational vehicle trips, at a regional level, the project would be also not be subject to the policies set forth in SCAG's RTP/SCS, Connect SoCal. Nonetheless, to the extent applicable, construction of the project would follow relevant energy standards and regulations. As such, the proposed roject would not conflict with existing energy standards and regulations and impacts would be **less than significant**.

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.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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.

Less-than-Significant Impact. The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest Alquist-Priolo Earthquake Fault Zone is the Simi-Santa Rosa Fault Zone, which runs in a generally east-west direction approximately 1.75 miles north of the project site at its nearest point (CGS 2023). Due to the distance of the active faults from the site, fault rupture is not anticipated. As such, impacts would be **less than significant.**

ii) Strong seismic ground shaking?

Less-than-Significant Impact. Like the rest of Southern California, the project site is located in a seismically active region and, as such, would be subject to seismic ground shaking. As described in Threshold 3.7a(i) above, the closest fault zone to the project site is the Simi-Santa Rosa Fault Zone, which has the potential to produce an estimated maximum moment magnitude (M_w) 6.8 earthquake (DeVecchio et al. 2012). However, the project involves stormwater conveyance infrastructure improvements to an existing wastewater treatment facility and would not involve the construction of habitable structures that would put people at risk of collapse during a seismic event or increase the number of people exposed to existing seismic hazards. Additionally, the project would be designed and constructed to resist seismic forces in accordance with the criteria contained in the California Building Code. Through compliance with the relevant building standards, the hazards associated with strong seismic ground shaking would be minimized to the extent practical. Furthermore, the implementation of the proposed project would not increase the probability of or exacerbate the potential for strong seismic ground shaking to occur. As such, impacts would be **less than significant.**

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. The project site is located in a liquefaction zone (CGS 2023). However, the project involves stormwater conveyance infrastructure improvements to an existing wastewater treatment facility. The project would not involve the construction of habitable structures that would put people at risk of ground failure or increase the number of people exposed to ground failure risk. Additionally, the project would be designed and constructed in accordance with applicable standards based on the site's specific soil conditions to resist the effects of liquefaction. Through compliance with the relevant building standards, the hazards associated with ground failure and liquefaction would be minimized to the extent practical. Furthermore, the implementation of the proposed project would not increase the probability of or exacerbate the potential for seismic-related ground failure to occur. As such, impacts would be **less than significant.**

iv) Landslides?

Less-than-Significant Impact. The project site is located in a landslide zone (CGS 2023). However, the project involves stormwater conveyance infrastructure improvements to an existing wastewater treatment facility. The project would not involve the construction of habitable structures that would put people at

landslide risk or increase the number of people exposed to landslide risk. Additionally, the project would be designed and constructed in accordance with applicable standards based on the site's specific soil conditions taking into account its location within a landslide zone. Through compliance with the relevant building standards, the hazards associated with landslide would be minimized to the extent practical. Furthermore, the implementation of the proposed project would not increase the probability of or exacerbate the potential for a landslide to occur. As such, impacts would be **less than significant.**

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

Less-than-Significant Impact. Under existing conditions, the project site is located at the confluence of two watersheds and experiences flooding after large storm events. These storm events result in soil erosion upstream of the project site, which is transported to the project site where it collects behind a concrete swale and requires subsequent removal. The project would modify the Treatment Plant's facilities to better accommodate storm flows and the associated debris, including eroded soil. It would include a debris basin at the upstream end of the eastern side of the Treatment Plant to intercept all debris and allow clear water flows to continue downstream into the storm drain system. As such, the project would accommodate existing soil erosion occurring upstream of the project site and would not contribute to additional erosion or loss of topsoil. As such, impacts 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?

Less-than-Significant Impact. As described in Threshold 3.7a(iii) and Threshold 3.7a(iv) above, the project site is located within a liquefaction and landslide zone. However, as described throughout this section, the project would not involve the construction of habitable structures that would put people at risk, would not increase the number of people exposed to geologic hazards, would not exacerbate or contribute to existing instability, and would be designed and constructed in accordance with applicable standards based on the specific geologic conditions of the project site to minimize geologic hazard risks. As such, impacts 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?

Less-than-Significant Impact. The project site is in an area identified as having moderate expansive soils (City of Thousand Oaks 2014). However, the project is limited to drainage improvements at an existing wastewater treatment facility and would not involve the construction of habitable structures or increase the number of people exposed to expansive soils. As such, impacts would be **less than significant.**

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?

No Impact. The project would not include septic tanks or alternative wastewater disposal systems. As such, **no impact** would occur.

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

Less-than-Significant Impact With Mitigation Incorporated. Paleontological resources are the remains or traces of plants and animals that are preserved in earth's crust and, per the Society of Vertebrate Paleontology (SVP 2010) guidelines, are older than written history or older than approximately 5,000 years. They are limited, nonrenewable resources of scientific and educational value, which are afforded protection under State laws and regulations.

The project site is located within the Transverse Ranges Geomorphic Province, which extends from Point Conception in the west to the San Bernardino Mountains in the east. The province also includes the San Gabriel, Santa Monica, and Santa Ynez Mountains and the offshore San Miguel, Santa Rosa, and Santa Cruz Islands (CGS 2002; Morton and Miller 2006). This geomorphic province structure is east-west trending and is oblique to the normal northwest trend of coastal California. More specifically and according to surficial geological mapping by Dibblee and Ehrenspeck (1990) at a 1:24,000 scale and the International Chronostratigraphic Chart of Cohen et al. (2022), the project site is underlain by Holocene (<11,700 years ago) alluvial deposits (map unit Qa) and middle Miocene (approximately 11.63 to 15.97 million years ago) Conejo Volcanics (map unit Tcvb). Holocene alluvial deposits are typically an unconsolidated mixture of clay, silt, sand, and gravel; and the Conejo Volcanics is composed of extrusive basalts in this area (Dibblee and Ehrenspeck 1990).

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County (NHMLA) on February 21, 2023, and the results were received on March 5, 2023. The NHMLA reported no fossil localities from within the project site; however, they did report nearby Pleistocene (approximately 11,700 years ago to 2.6 million years ago) vertebrate fossil localities and invertebrate localities from the Conejo Volcanics (NHMLA 2023). While Pleistocene sedimentary deposits are not mapped on the surface of the project site, they often underlie Holocene sedimentary deposits at variable depths. The closest locality (LACM VP [Los Angeles County Museum Vertebrate Paleontology]) 1680) produced a fossil mammoth (*Mammuthus*) and horse (*Equidae*) from 14 to 15 feet below ground surface within silty clay Pleistocene deposits in the Conejo Valley, approximately 1 mile northwest of Newberry Park (NHMLA 2023). A fossil mastodon (*Mammut americanum*) (LACM VP 7660) was collected on the surface of a stream bed near the Lakes at Thousand Oaks. Fossil locality LACM VP 3213, consisting of ground sloth (*Paramylodon*) and other vertebrates, was recovered from an unknown depth below ground surface within Pleistocene alluvial deposits along Westlake Boulevard (NHMLA 2023). Finally, the LACM reported unspecified invertebrates (LACM IP [invertebrate paleontology] 16924–16926 and 16927) from an unknown depth below ground surface within the Cities of Calabasas and Agoura Hills and oyster beds (LACM IP 17148), also from an unknown depth, in the western Simi Hills. Both invertebrate localities were discovered in areas underlain by Conejo Volcanics.

The surficial Holocene alluvial deposits, aged less than 11,700 years ago, have not been shown to produce any fossil resources and therefore have low paleontological sensitivity on the surface that increases with depth, where they can become old enough to preserve significant paleontological resources. While volcanic rocks do not normally preserve fossils, sedimentary portions of the Conejo Volcanics have produced significant paleontological resources.

No paleontological resources were identified within the project site as a result of the institutional records search and desktop geological and paleontological review, and the project site is not anticipated to be

underlain by unique geologic features. The Holocene alluvial deposits mapped within the project site are not known to produce significant paleontological resources because of their young age and are considered to have low paleontological resource sensitivity at shallow depths that increases to high with depth where they become old enough to contain fossils. Sedimentary portions of the Conejo Volcanics have produced invertebrate fossils and have high paleontological resource sensitivity. Artificial fill, if present, has no paleontological resource sensitivity. In the event that intact paleontological resources are located on the project site, ground-disturbing activities associated with construction of the project, such as grading during site preparation and trenching for pipelines or utilities, have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. However, upon implementation of **MM-GEO-1** (Paleontological Resources Impact Mitigation Program and Paleontological Monitoring), impacts would be reduced to below a level of significance. Impacts of the proposed project are considered **less than significant with mitigation incorporated** during construction**.**

MM-GEO-1 Paleontological Resources Impact Mitigation Program and Paleontological Monitoring**.** Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the Society of Vertebrate Paleontology (2010) guidelines and outline requirements for pre-construction meeting attendance and worker environmental awareness training. The PRIMP shall include where paleontological monitoring is required within the project site based on construction plans and/or geotechnical reports and also include procedures for adequate paleontological monitoring and discoveries treatment, paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting and a qualified paleontological monitor shall be on site during initial rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed Conejo Volcanics and below a depth of 5 feet below the surface in areas underlain by Holocene alluvial deposits. The qualified paleontological monitor shall also be on site during excavations to determine if the sedimentary portion of the Conejo Volcanics is being exposed and/or the Holocene alluvial deposits are old enough at depth to contain fossils. The qualified paleontologist shall determine how much monitoring is necessary based on subsurface conditions. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

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?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

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

Less-than-Significant Impact. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature, and it creates a livable environment on Earth. Human activities that emit additional greenhouse gas (GHG) emissions to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the State's primary GHG emissions reduction programs, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The four GHGs evaluated for GHG emission impacts are CO_2, CH_4, N_2O, and refrigerants. Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride were not evaluated or estimated in this analysis because the project would not generate them in measurable quantities.

Individual projects do not generate sufficient GHG emissions to influence climate change directly. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution toward an impact would be cumulatively considerable. "Cumulatively considerable" means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (14 CCR 15064[h][1]).

While the City has taken steps toward development of a Climate Action Plan, the City has not formally adopted a Climate Action Plan or other GHG reduction plan that addresses community-wide emissions to date, which individual projects could use to tier from per CEQA Guidelines Section 15183.5(b). The VCAPCD

has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses, but it recommends using the CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act white paper (CAPCOA 2008) and other resources when developing GHG evaluations (VCAPCD 2006). The CEQA and Climate Change paper provides a common platform of information and tools to support local governments and was prepared as a resource, not as a guidance document. CEQA Guidelines Section 15064.4 expressly provides that a "lead agency shall have discretion to determine, in the context of a particular project," whether to "quantify greenhouse gas emissions resulting from a project" and/or "rely on a qualitative analysis or performance-based standards." Updates to CEQA Guidelines Section 15064.4 that took effect in December 2018 further state that a lead agency should "focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change" and that the analysis should "reasonably reflect evolving scientific knowledge and state regulatory schemes."

In light of the lack of a specific GHG threshold or qualified GHG reduction plan recommended or adopted by the City or VCAPCD, it is appropriate to refer to guidance from other agencies when discussing GHG emissions. The City generally refers to the South Coast Air Quality Management District (SCAQMD) methodology for GHG significance analysis. The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until Statewide significance thresholds or guidelines are established. In December 2008, the SCAQMD adopted an interim 10,000 MT of CO_2 equivalent (CO_2e) per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. From December 2008 to September 2010, the SCAQMD hosted Working Group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.[2]

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency

[2] To evaluate whether a project may generate a quantity of GHG emissions with the potential to have a significant impact on the environment, some local air districts have developed bright-line significance thresholds. Bright-line significance thresholds are numeric mass emissions thresholds that identify the level at which additional analysis of project GHG emissions is necessary. If project emissions are equal to or below the significance threshold, with or without mitigation, the project's GHG emissions would be less than significant.

targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The City understands that the Tier 3 numeric thresholds were proposed a decade ago and were never adopted. However, the 3,000 MT CO_2e per year threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (SCAQMD 2008) and subsequent Working Group meetings (latest in 2010). This threshold uses the Executive Order S-3-05 goal as the basis, so it is not tied to only the 2020 target year and is thus not outdated. This threshold is also based on the 90% capture rate methodology, which means that 90% of total emissions from all new or modified projects would be subject to some type of CEQA analysis, which was the approach taken by SCAQMD to establish the stationary/industrial source threshold, as well as by CARB (for interim threshold for stationary source projects); it was also one of the options suggested by the California Air Pollution Control Officers Association (quantitative threshold based on market capture). Further, this threshold has been used for hundreds, if not thousands, of GHG analyses performed for projects located within the SCAQMD jurisdiction.

The project is not residential or commercial, and it is also not an industrial project where the SCAQMD is the lead agency; as such, the recommended SCAQMD threshold to apply to the project is the 3,000 MT CO_2e per year for all non-industrial projects. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor and haul trucks, and worker vehicles. As previously stated, SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime. CalEEMod was used to estimate GHG emissions during construction. Construction of the project is anticipated to last approximately 6 months. Table 3-13 shows the estimated annual GHG construction emissions associated with the project and the amortized construction emissions over a 30-year project life.

Table 3-13. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons per Year				
2025	109	<0.01	<0.01	0.03	110
				Total	**110**
				Amortized 30-Year Construction Emissions	*3.67*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerant; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
See Appendix A for complete results.

As shown in Table 3-13, the estimated total GHG emissions during construction would be approximately 110 MT CO_2e over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 4 MT CO_2e per year. As with project-generated construction air 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, and would not represent a long-term source of GHG emissions. As there is no construction GHG threshold, the amortized construction emissions are considered collectively with operation, below.

Operational Emissions

Once project construction is complete, the project would continue providing wastewater treatment services for the City. Similar to existing conditions, staff would occasionally visit the project site for routine maintenance or in the event of an emergency; however, no net increase in operational activities associated with the project would occur (no routine daily equipment operation, vehicle trips, energy consumption, water use or wastewater generation, solid waste generation, or refrigerants would be required). Because the project would not result in a net increase in long-term operational activities, there would be no potential GHG emissions impacts associated with operational GHG emissions.

Conclusion

As shown in Table 3-13, amortized project-generated construction emissions would be approximately 4 MT CO_2e per year, which would not exceed the 3,000 SCAQMD threshold. Therefore, GHG emissions impacts would be **less than significant**.

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

Project's Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

Less-than-Significant Impact. The California State Legislature passed Assembly Bill (AB) 32 to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the State's long-range climate objectives. Since the passage of AB 32, the State of California has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. CARB is required to develop the Scoping Plan, which provides the framework for actions to achieve California's GHG emission targets. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations,[3] it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the applicable Scoping Plan policies and would not impede attainment of the goals therein.

For the project, the relevant GHG emissions reduction targets include those established by Senate Bill (SB) 32 and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85%

[3] The Final Statement of Reasons for the amendments to the State CEQA Guidelines reiterates the statement in the Initial Statement of Reasons 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).

below 1990 levels by 2045, respectively. In addition, AB 1279 requires the State achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter. CARB's 2017 Climate Change Scoping Plan Update was the first to address the State's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017). The most recent 2022 Scoping Plan for Achieving Carbon Neutrality outlines the State's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress toward the 2030 SB 32 target (CARB 2022b). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets are the most applicable to the project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), measures to increase stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and measures to increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas for heating homes and buildings; reducing chemicals and refrigerants with high global warming potential; providing communities with sustainable options for walking, biking, and public transit; and displacing fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022b). The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that only reduce anthropogenic sources of GHG emissions.

Many of the measures and programs included in the Scoping Plan would result in the reduction of project-related GHG emissions with no action required at the project level, including GHG emission reductions through reduction in carbon intensity of transportation fuels (Low Carbon Fuel Standard) and the accelerated efficiency and electrification of the Statewide vehicle fleet (Mobile Source Strategy). Given that the project would generate no net increase in operational vehicle trips and associated mobile source GHG emissions, the project would also not conflict with the Scoping Plan's goal of reducing GHG emissions through reductions in VMT Statewide. Overall, the project includes a short duration of construction associated with proposed improvements and no operational activity that would result in a long-term source of GHG emissions. Accordingly, the project would not conflict with the State of California's ability to achieve its GHG reduction goals.

Of note, the 2022 Scoping Plan emphasizes that reliance on carbon sequestration in the State's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the project's role in supporting the Statewide goal would be speculative and cannot be wholly identified at this time.

Overall, the project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. The project would neither conflict with CARB's 2017 or 2022 Scoping Plan updates nor with the State's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

Project's Potential to Conflict with SCAG's Connect SoCal

SCAG's 2020–2045 RTP/SCS, also referred to as Connect SoCal, is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region (SCAG 2020). The RTP/SCS strives to integrate land use and transportation strategies that are forecasted to achieve reduction in GHG emissions to achieve the State's 2045 GHG reduction goals. Connect SoCal incorporates local land use projections and circulation networks in city and county general plans. The following strategies are intended to be supportive of implementing the 2020–2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region. Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS and would support the overall applicable goals of the RTP/SCS. Because the project requires short-term construction activities only with no routine, operational activities, including operational vehicle trips, the project would neither conflict with the RTP/SCS strategies listed above that are applicable to land use development operation, nor would it represent a net increase in VMT. Therefore, the project would not conflict with implementation of the strategies identified in the 2020 RTP/SCS that would reduce GHG emissions.

Conclusion

Based on the previous considerations, the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and impacts would be **less than significant**.

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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

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

Less-than-Significant Impact. Construction of the project would involve the use of small amounts of hazardous materials typically used for construction, such as fuels and greases, to fuel and service construction equipment. The small quantities of chemicals to be stored at the site during construction would be stored in appropriate containers in an enclosed and secured location, such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The use, storage, transport, and disposal of hazardous materials used in construction would be completed in accordance with federal, State, and County regulations. Construction of the project is not anticipated to produce, use, store, transport, or dispose of extremely hazardous substances (i.e., those governed pursuant to 40 CFR 335). Material Safety Data Sheets for all applicable materials present on site would be made readily available to on-site personnel. Throughout construction, waste materials would be sorted on site and transported to appropriate waste management facilities. Nonhazardous construction materials that cannot be reused or recycled would likely be disposed of at municipal county landfills. Although not anticipated for the project, any hazardous waste and electronic waste would not be placed in a landfill but would be transported to a hazardous waste handling facility (e.g., electronic-waste recycling). Operation of the project would not involve the use of any hazardous materials. Therefore, through compliance with applicable regulations, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and impacts 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?

Less-than-Significant Impact. As noted above, construction of the proposed project would involve the use of small amounts of hazardous materials, such as fuels and greases to fuel and service construction equipment. Improper handling and storage of these hazardous materials could result in accidental release if not managed appropriately. The small quantities of chemicals to be stored at the project site during construction would be stored in appropriate containers, in an enclosed and secured location, such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. Additionally, a SWPPP would be required for construction of the project, which would include a list of potential pollutants (i.e., hazardous materials, fugitive dust, sediment, concrete waste) and also include best management practices (BMPs) to prevent and limit these pollutants from reaching stormwater runoff. See Section 3.10, Hydrology and Water Quality, for a detailed discussion of SWPPPs. Operation of the project would not involve the use of any hazardous materials. Therefore, through compliance with SWPPP BMPs during construction, the proposed project would not create a significant hazard to the public or the environment through the reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment and 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?

No Impact**.** The project site is not located within 0.25 miles of an existing or proposed school. The nearest school to the site is Passageway School, located approximately 1.25 miles southwest of the site. As such, there would be **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?

No Impact**.** A search of the regulatory database listings of hazardous materials sites was conducted by accessing the California Department of Toxic Substances Control (DTSC) EnviroStor Hazardous Waste and Substances Sites (Cortese) List (DTSC 2022). The project site is not listed on the Hazardous Waste and Substances Sites List from DTSC (DTSC 2022). The site did contain a leaking underground storage tank, according to the List of Leaking Underground Storage Tank Sites from the State Water Resources Control Board (SWRCB 2022a). However, the site has been remediated and the case was marked closed as of 2004 (SWRCB 2022b). Further, the project site is not listed on the list of solid waste disposal sites, nor is it listed on the list of active Cease and Desist Orders and Cleanup and Abatement Orders.

Therefore, the project would not create a significant hazard to the public or the environment due to being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and there would be **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?

No Impact. The project site is not located within 2 miles of a public airport or public use airport. The nearest airport is the Camarillo Airport located approximately 8.3 miles east of the project site. As such, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area. There would be **no impact.**

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

No Impact. The project site is within the coverage area for several City and County emergency plans including the 2022 Ventura County Multi-Jurisdictional Hazard Mitigation Plan, the 2021 Ventura County Emergency Operations Plan, and the City of Thousand Oaks 2020 Emergency Operations Plan. As previously discussed, the project would involve drainage improvements on an existing stormwater treatment facility. These improvements would not impact circulation on the site. Additionally, the project site is not accessible to the public and does not contain any adjacent public rights-of-way. As such, the project would not impact any evacuation routes. Further, the project would be constructed and operated in compliance with all applicable local and State regulations. Therefore, the project would not physically interfere with an adopted emergency response plan or emergency evacuation plan, and there would be **no impact.**

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

Less-than-Significant Impact with Mitigation Incorporated. The project is located in a Very High Fire Hazard Severity Zone in a Local Responsibility Area (CAL FIRE 2022). Construction would involve the temporary deployment of construction personnel to the project site and the use of combustion engine-powered equipment that has the potential to produce sparks that could ignite a fire, the spread of which could have significant impacts related to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The incorporation of **MM-FIRE-1** (Construction Fire Prevention Plan) would reduce the potential impacts to **less than significant**. During operation, the project would not result in increased on-site employees and would not involve the operation of any mechanical equipment with the potential to produce sparks. As such, impacts associated with wildfire during operations would be **less than significant with mitigation incorporated.** See Section 3.20, Wildfire, for additional discussion and analysis related to wildfire impacts and for the full language of **MM-FIRE-1**.

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?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
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?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

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

Less-than-Significant Impact. Construction of the proposed project would include earthwork activities that could potentially result in erosion and sedimentation, which could subsequently degrade downstream

receiving water and violate water quality standards. Stormwater runoff during the construction phase may contain silt and debris, resulting in a short-term increase in the sediment load of the on-site storm drain system. Substances such as oils, fuels, and solvents may be inadvertently spilled on the project site and subsequently conveyed via stormwater to nearby drainages, watersheds, and groundwater. However, because the project would result in more than 1 acre of ground disturbance, it would be subject to the National Pollutant Discharge Elimination System stormwater program, which includes obtaining coverage under the State Water Resources Control Board's Construction General Permit. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation. The Construction General Permit requires development and implementation of a SWPPP. Among the required items that must be included within a SWPPP are project design features intended to protect against substantial soil erosion as a result of water and wind erosion, commonly known as BMPs. The implementation of a Construction General Permit, including preparation of a SWPPP and implementation of BMPs, would reduce stormwater runoff during project construction impacts to acceptable levels. It follows that because construction of the project would not violate any water quality standards or waste discharge requirements, the project would not otherwise substantially degrade surface or groundwater quality. Therefore, short-term construction impacts associated with water quality would be **less than significant**.

During operation, the project would operate as flood control infrastructure for improved handling of existing periodic flows to the Treatment Plant. Operation of the project would not involve the use of chemicals, result in any new discharges, or otherwise degrade surface water or groundwater quality. The project would result in some increase in impervious surface area within the project site. The increase of impervious surfaces would be minimal, however, and the stormwater captured by the project improvements would be outlet to the South Arroyo Conejo Creek, located to the west of the facility. Further, implementation of the proposed project is not anticipated to violate any water quality standards or waste discharge requirements, nor degrade surface water or groundwater quality. Therefore, impacts would be **less than significant.**

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

Less-than-Significant Impact. The proposed project would result in the development of improved flood control infrastructure at an existing wastewater treatment facility. Operation of the project would not involve the use of groundwater and would thus not decrease groundwater supplies. A portion of the project site is within the boundary of a paved, operating wastewater treatment facility. The project, however, does include development within an adjacent, undeveloped area. As such, the project would result in an increase of impervious surfaces on the site, when compared to existing conditions. Although the project would involve paving of some currently unpaved areas and thus increase the imperviousness of the project site, the increase would be minimal and would not interfere substantially with groundwater recharge. Upon project implementation, the proposed project's drainage features would outlet off-site flows to the South Arroyo Conejo Creek, as under existing conditions. Therefore, 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?

Less-than-Significant Impact. The Treatment Plant is located at the confluence of two watersheds and experiences flooding after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. The project would alter the drainage pattern within the limited footprint of the project site, including slightly increasing the amount of impervious surface. However, the project would not impact upstream drainage patterns and would improve flooding conditions and flows into the existing Treatment Plant. Construction activities would have the potential to cause ground surface disruption during grading and excavation, which could create the potential for erosion to occur. Construction would be required to implement erosion and sediment control BMPs. Implementation of required BMPs would minimize erosion during construction to the extent feasible. As such, construction impacts would be less than significant.

During operation, the project would provide improved flood control on the site. As such, the project would not result in increased erosion or siltation on or off site. Additionally, the proposed project would allow for improved stormwater management on the site, which would therefore decrease the likelihood of on- and off-site erosion and siltation from occurring. As such, impacts would be **less than significant**.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

No Impact. The proposed project would introduce improved drainage management infrastructure at a primarily developed site associated with an existing water Treatment Plant. The introduction of the project's components would result in a slight increase in the amount of impervious surface but would not increase the rate or amount of surface runoff. Alternatively, the project would serve to decrease flooding at the site during high runoff events, which would also decrease the likelihood of flooding occurring adjacent to the wastewater facility. Therefore, the project would not increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, and there would be **no impact.**

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?

Less-than-Significant Impact. As addressed under Threshold 3.10(b)(ii), the proposed project would not increase the amount of on-site runoff at the project site. The proposed project would introduce improved stormwater drainage infrastructure at the site that would serve to better manage stormwater during high runoff events. The project would also not introduce substantial sources of pollution to the project site. Therefore, impacts would be **less than significant.**

iv) Impede or redirect flood flows?

Less-than-Significant Impact. As described above, the project would redirect flows within the limited footprint of the project site, including slightly increasing the amount of impervious surface. However, the project would

not impact upstream drainage patterns and would improve flooding conditions and flows into the existing Treatment Plant. As previously discussed, the project site experiences flooding after large storm events, which requires subsequent cleanup and debris removal at the site. The project would increase the flood control capacity of the Treatment Plant and decrease the likelihood and intensity of flooding during storm events. Therefore, impacts associated with impeding or redirecting flood flows would be **less than significant**.

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

Less-than-Significant Impact**.** The project site is not located near the coast and would therefore not be subject to tsunamis. Additionally, the project site is not in close vicinity to a body of water that would be subject to seiche. The site does experience occasional flooding due to it being located at the confluence of two watersheds. These flood events result in debris buildup on the site, which must be cleaned up and removed. The project, however, would develop new pipes to improve on-site flows and decrease flooding within the site and a debris basin to contain flooding and the accompanying debris experienced after storm events. As such, the project would not risk release of pollutants due to project inundation in the event of floods, tsunamis, or seiche, and 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?

Less-than-Significant Impact**.** As discussed throughout Section 3.10, the proposed project would not result in substantial impacts to water quality and would not result in impacts to groundwater recharge or groundwater supplies. Therefore, the proposed project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be **less than significant.**

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

a) Would the project physically divide an established community?

No Impact**.** The project site consists of drainage improvements at an existing wastewater treatment facility. The facility contains no adjacent development and is surrounded on all sides by open space. The project would not include the development of any on- or off-site infrastructure that would physically divide any

nearby communities. Further, the project would not permanently affect or impede the movement of pedestrians or vehicles. As such, **no impact** would occur.

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?***

No Impact**.** The project site is located in the municipal boundaries of the City. It has a zoning designation of Public, Quasi-Public, and Institutional Lands and Facilities (P-L) and the General Plan Land Use designation of Institutional. Under existing conditions, the project is a publicly owned and operated wastewater treatment facility, which is an allowed use under its zoning and land use designation. With the implementation of the project, the site would continue to operate as a wastewater treatment facility, and there would no changes to the site's land use. As such, the project would not conflict with a land use plan, policy, or regulation, and there would be **no impact.**

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

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?***

No Impact. According to the City's General Plan Conservation Element, there are no significant mineral resources within the City's planning area (City of Thousand Oaks 2013). Additionally, the California Geologic Energy Management District's WellFinder indicates the project site is not located within an oil or gas field, nor is there an active or plugged well on site. The closest wells are located approximately 3,000 and 4,700 feet northwest, both of which are plugged (CalGEM 2022). Given this, the implementation of the project would not 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. As such, **no impact** would occur.

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?***

No Impact. As stated under Threshold 3.12(a), the City's General Plan Conservation Element indicates that there are no significant mineral resources within the City's planning area (City of Thousand Oaks 2013).

Additionally, the project site is zoned as Institutional and has a land use designation of Public, Quasi-Public, and Institutional Lands, which precludes mining activities. Therefore, the implementation of the proposed project would not 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. **No impact** would occur.

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

Noise and Vibration Characteristics

Noise

Noise is defined as unwanted sound. Sound may be described in terms of level or amplitude (measured in decibels [dB]), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the energy-equivalent sound level over a given period (L_{eq}), the statistical sound level (L_{xx}, where "xx" is a cumulative percentage of time within the measurement period for which the indicated level is exceeded), the day/night average sound level (L_{dn}), and the Community Noise Equivalent Level (CNEL). Table 3-14 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Table 3-14. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	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 kilometers per hour (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area Heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 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)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.
Note: dBA = A-weighted decibel.

L_{eq} is a sound energy level averaged over a specified period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from L_{eq} because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). "Time weighted" refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 dB to 1 dB and, as such, are often treated as equivalent to one another.

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, piledriving, and heavy earthmoving equipment.

Several different methods 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 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 is commonly used to measure root mean square. The decibel notation acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is 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, the vibration from traffic is rarely perceptible.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. According to the City's General Plan, residences, schools, hospitals, guest lodging, churches, and some passive recreation areas would typically be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise (City of Thousand Oaks 2000). Sensitive receptors in the vicinity of the project site consist of residential land uses (single-family and multifamily residences to the south), approximately 1,700 feet or more away. These sensitive receptors represent the nearest sensitive land uses with the potential to be impacted by construction of the proposed project. Other noise-sensitive receptors are located farther away from the project site and would be less affected by on-site noise.

Existing Noise Conditions

Noise level measurements were conducted in the vicinity of the project site on January 20, 2023, to quantify and help characterize the existing outdoor ambient sound environment. Table 3-15 provides the locations, dates, and times the noise measurements were taken. The noise measurements were taken using a SoftdB Piccolo sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (General Grade) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 3-15. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	South of project site adjacent to residence at 24 Rancho Conejo Boulevard	1/20/2023	11:30 a.m.–11:51 a.m.	64.3	73.7

Table 3-15. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST2	North of project site, along Hill Canyon Fire Road	1/20/2023	10:44 a.m.–11:59 a.m.	54.7	64.4

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

Short-term noise measurement at two locations (ST1 and ST2) were conducted in the vicinity of the project site, as shown in Figure 10, Noise Measurement Locations. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 3-15. The field noise measurement data sheets are provided in Appendix D, Noise Modeling Results. The primary noise sources at the sites identified in Table 3-15 consisted of traffic on local and distant roadways; secondary noise sources included distant aircraft noise and bird song. As shown in Table 3-15, the measured sound levels ranged from approximately 55 dBA L_{eq} at ST2 to approximately 64 dBA L_{eq} at ST2.

Applicable Noise Regulations and Standards

Federal

There are no federal noise regulations applicable to the project. However, various federal agencies have established rules and guidelines addressing noise and vibration. For example, in its Transit Noise and Vibration Impact Assessment Manual (FTA 2018), the Federal Transit Administration (FTA) offers guidance on the estimation of construction noise levels from a construction project site. It also provides suggested thresholds that include no more than 80 dBA L_{eq} (over an 8-hour daytime period) as received at a residential land use. Since the City does not provide a quantified construction noise limit, this analysis adopts the 80 dBA L_{eq8h} FTA guidance for quantitative construction noise impact assessment.

With respect to vibration, the same abovementioned FTA manual provides guidance for the assessment of vibration impacts on people (i.e., potential annoyance), building damage risk, and disruption of vibration-sensitive processes. Vibration impact criteria suggested by the FTA vary both with the frequency of vibration event occurrence and the sensitivity of the building or process that may be exposed to groundborne vibration. By way of example, a modern commercial building constructed from reinforced concrete or steel would have a vibration impact threshold of 0.5 ips PPV, while a non-engineered timber or masonry structure more akin to a typical single-family or multifamily residence may have a more stringent 0.2 ips PPV vibration impact criteria against which project-attributed vibration due to construction could be assessed for the nearest such receptors in the surrounding community.

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a Noise Element in a community general plan, which shall identify and appraise the noise problems for the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for major noise sources such as highways and freeways, primary arterials and major local streets, rail lines, airports, and industrial plants.

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of specific land use types within areas of specific noise exposure. OPR guidelines are advisory in nature. Local jurisdictions, including the City, have the responsibility to set specific noise standards based on local conditions (OPR 2017).

Local

City of Thousand Oaks General Plan Noise Element

The project site is located within the City, as are the existing residences and other noise-sensitive land uses in the surrounding area. The noise criteria identified in the Noise Element of the Thousand Oaks General Plan are guidelines to evaluate the land use compatibility of outdoor environmental noise levels. The land use compatibility guidelines indicate that low-density and multifamily residential land uses are considered normally acceptable with noise levels below 60 dBA CNEL and conditionally acceptable with noise levels below 65 dBA CNEL (City of Thousand Oaks 2000).

Furthermore, the Noise Element of the Thousand Oaks General Plan, Chapter 4.6, Noise Considerations in Environmental Impact Reports and Negative Declarations, Section 4.6.1, identifies standards for operational noise in which a significant impact would occur at receiving sensitive land uses (i.e., residences to the south and southeast of the project site) (City of Thousand Oaks 2000):

- Project-related increase of greater than 1.0 dBA at residences in areas where annual average noise level at General Plan buildout would be between 55 and 60 dBA CNEL
- Project-related increase of greater than 0.5 dBA at residences in areas where the annual average noise level at General Plan buildout would be greater than 60 dBA CNEL

For purposes of this noise assessment, and consistent with the "all sources" phrasing in Table 9 of Section 4.6.1 of the Noise Element, the project-attributed increase to the outdoor ambient sound environment (expressed as CNEL) encompasses both changes to local surface transportation noise (roadway noise) and on-site operation of stationary sources (e.g., rooftop heating, ventilation, air conditioning systems, standby generators, etc.).

City of Thousand Oaks Municipal Code

The Noise Ordinance presented in Title 5, Chapter 21, Noise, does not provide quantitative standards for noise regulation. However, Section 8-11.01 of the City's Municipal Code currently limits construction activity to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday, unless permission is specifically granted by the Public Works Department for work outside these hours (i.e., 7:00 p.m. to 7:00 a.m. Monday through Saturday and anytime on Sundays).

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 Noise

Less-than-Significant Impact. Noise generated by project construction equipment would include a combination of heavy equipment including dozers, front end loaders, backhoes, and air compressors that, when combined, can reach relatively high levels. The number and mix of construction equipment would likely vary during the following phases: demolition, site preparation, grading, basin construction, storm drain/outlet pipe construction, and paving. No blasting or piledriving is anticipated as part of the proposed project.

Using specific construction equipment assumptions similar to those as used for the air quality analysis (Section 3.3), a noise analysis was performed using a model emulating the Roadway Construction Noise Model (RCNM) that was developed by the Federal Highway Administration (FHWA 2008). Input variables for the RCNM consist of the receiver/land use types, the equipment type (i.e., backhoe, crane, truck, etc.), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of each time period the equipment typically is in operation and operating at full load or power level), and the distance between the construction noise source and the sensitive receiver. 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 adopted for this noise analysis.

Table 3-16 provides a summary of the predicted construction noise exposure levels by each phase at the nearest noise-sensitive receptor locations. The input and output data are provided in Appendix D. Noise-sensitive land uses in the vicinity of the project site include existing single-family and multifamily residences to the south. Consequently, project construction noise exposure levels at other receivers farther away from the site would be less, due primarily to natural distance-dependent attenuation factors such as geometric divergence, air absorption, ground surface absorption, and potential path-occluding structures and topography.

Table 3-16. Construction Noise Model Results Summary

Land Use	Off-site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA L_{eq8h})					
			Demolition	Site Preparation	Grading	Basin Construction	Storm Drain/ Outlet Pipe Construction	Paving
Residential	South of the project	Nearest Construction Activity/ Receiver Distance (1,700 feet)	54	51	53	54	52	48

Source: Appendix D.
Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level.

As shown in Table 3-16, typical construction noise levels at the nearest noise-sensitive land uses (residences to the south) are estimated to range from approximately 48 dBA L_{eq} during the paving phase to approximately 54 dBA L_{eq} during the demolition and basin construction phases. Table 3-16 and Appendix D worksheets show construction noise level predictions at distances between the noise-sensitive receptor position and the anticipated nearest boundary associated with a construction phase. These noise levels would be well below the FTA-suggested threshold of 80 dBA L_{eq8h} for construction noise.

As discussed previously, City Municipal Code Section 8-11.01 does not permit construction noise that would create a noise disturbance between the hours of 7:00 p.m. and 7:00 a.m. or on Sunday. Construction during these hours is not expected to occur for the proposed project. During allowed construction hours, the estimated noise levels would be well below the FTA's advisory noise standard of 80 dBA L_{eq8h}. Therefore, noise from project construction would be **less than significant**. There are no cumulative projects with overlapping construction schedules within the vicinity of the project site.

Although the predicted impact due to construction noise is less than significant, good construction practice (or as required by City regulations, policies, or expectations) would include providing off-site residences advance notice of expected construction periods.

Long-Term Operational Noise

No Impact. During operation, the proposed project would convey existing storm flows and would not include any pumps, motors, or other noise-producing mechanical equipment. As such, there would be no impact related to a permanent increase in ambient noise levels.

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

Less-than-Significant Impact**.** The main concern associated with groundborne vibration is annoyance; however, in extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. Some common sources of groundborne vibration are trains and construction activities such as blasting, piledriving, and heavy earthmoving equipment. No blasting or piledriving is anticipated as part of the proposed project; thus, the primary source of groundborne vibration from the proposed project is heavy earthmoving equipment during construction activity.

Groundborne vibration information related to construction/heavy equipment activities has been collected by Caltrans. Information from Caltrans indicates that continuous/intermittent vibrations (such as from construction activity) with approximately 0.1 ips PPV may be characterized as "strongly perceptible" (Caltrans 2020). The heavier pieces of construction equipment, such as large bulldozers or hoe rams, would register up to approximately 0.089 ips PPV at a distance of 25 feet per FTA guidance (FTA 2018).

Groundborne vibration is typically attenuated over relatively short distances. At the nearest existing noise/vibration-sensitive use distance to the nearest construction boundary (approximately 1,750 feet) and with the anticipated construction equipment, the vibration level would be approximately 0.0002 ips PPV and therefore would be well below the Caltrans guidance standard of 0.1 ips PPV. There would not be significant groundborne vibration impacts associated with annoyance. Construction vibration from construction equipment (an intermittent or continuous type of vibration) as a result of the proposed project would not result in structural building damage, which typically occurs at vibration levels of 0.2 ips PPV or

greater for buildings of non-engineered timber and masonry buildings. Thus, impacts related to groundborne vibration would be **less than significant.**

During operation, the proposed project would not include any pumps, motors, or other mechanical equipment that would produce vibrations. As such, there would be no impact related to groundborne vibration.

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?***

No Impact**.** No private airstrips exist in the vicinity of the project site. The project site is not located within 2 miles of a public airport or public use airport, nor is it located within the boundaries of any airport land use plans. The nearest airport is the Camarillo Airport, which is located approximately 8.3 miles east of the project site. As such, the proposed project would not result in excessive noise for people residing or working in the project area. There would be **no impact.**

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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

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)?***

No Impact. The proposed project involves the implementation of drainage infrastructure improvements at an existing wastewater treatment facility. The project does not involve the development of new housing or infrastructure that may result in indirect population growth. Additionally, the construction of the project would not require a substantial number of construction workers. The construction demand created by the project is anticipated to be fulfilled by the existing local labor force. The project would not result in an increase in operational employees at the wastewater treatment facility. As such, there would be **no impact.**

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

No Impact. As discussed above, the proposed project involves the implementation of drainage infrastructure improvements at an existing wastewater treatment facility. The project would not displace people or housing, and there would be **no impact.**

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?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

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?

No Impact. The project site is located in the City, which receives fire protection services, medical aid, rescue, hazardous materials response, and a variety of other services from the Ventura County Fire Department (VCFD). The nearest fire station to the site is Ventura Fire Station 30, which is located approximately 2.75 miles southeast of the project site at 325 West Hillcrest Drive.

The need for new or altered fire station facilities is usually associated with substantial population growth such that existing facilities cannot meet the increased demand for fire protection services. As mentioned in Section 3.14, Population and Housing, the proposed project would not require a substantial number of construction workers, nor would it result in an increase of operational employees at the site. The project's construction activities, however, may temporarily increase the likelihood of emergency calls coming from the site to VCFD. This increase would be nominal and would be adequately served by existing fire resources. Once operational, the project site would continue to operate as a wastewater treatment facility and would not see an increase in the demand for VCFD services when compared to existing conditions. Therefore, the

project would not facilitate the need for new or physically altered fire protection facilities and there would be **no impact.**

Police protection?

No Impact. The project site receives police protection services from the Thousand Oaks Police Department, located at 2101 East Olsen Road approximately 5.5 miles northeast of the site. As previously discussed, the project would not result in population growth in the area, nor would it result in an increase of operational employees at the Treatment Plant. The project would continue to operate as a wastewater treatment facility after project implementation and would not see an increase in the demand for police protection services when compared to existing conditions. Therefore, the project would not facilitate the need for new or physically altered police protection facilities, and there would be **no impact.**

Schools?

No Impact. The proposed project would include the development of drainage infrastructure improvements at an existing wastewater treatment facility and would not induce population growth. As such, the proposed project would place no demand on local schools and would not facilitate the need for new or physically altered schools. There would be **no impact.**

Parks?

No Impact. The proposed project would include the development of drainage infrastructure improvements at an existing wastewater treatment facility and would not induce population growth. As such, the proposed project would place no demand on parks near the project site. Therefore, it would not facilitate the need for new or physically altered parks and there would be **no impact.**

Other public facilities?

No Impact. The proposed project would include the development of drainage infrastructure improvements at an existing wastewater treatment facility and would not induce population growth. As such, the proposed project would place no demand on libraries or other public facilities near the project site. Therefore, it would not facilitate the need for new or physically altered public facilities and there would be **no impact.**

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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

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?***

No Impact. The project would involve the development of drainage infrastructure improvements at an existing wastewater treatment facility. It would not include population growth and as such, would have **no impact** on the use of parks or recreational facilities.

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?***

No Impact. The project would not involve the development of recreational facilities. Therefore, the proposed project would have **no impact** related to adverse physical effects on the environment from the construction or expansion of such facilities.

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?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

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

No Impact. The proposed project would involve the development of drainage improvements on a wastewater treatment facility that is not accessible to the public and contains no public rights-of-way. Therefore, the project would not impact transit, roadway, bicycle, or pedestrian facilities. Therefore, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, and there would be **no impact.**

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

Less-than-Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The updated CEQA Guidelines state that "generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts," and define VMT as "the amount and distance of automobile travel attributable to a project." "Automobile" refers to on-road passenger vehicles, specifically cars and light trucks. The OPR has clarified in its Technical Advisory (OPR 2018) that heavy-duty truck VMT is not required to be included in the estimation of a project's VMT. Other relevant considerations may include the effects of a project on transit and non-motorized traveled.

The City has established an interim Citywide policy using VMT as the metric to measure transportation impacts from proposed development projects and determine thresholds of significance on a case-by-case basis pursuant to Section 15064(b)(2). Hence this section uses VMT as the basis for evaluating transportation impacts of the proposed project under CEQA. However, it should be noted that the guidelines and thresholds apply to land use and transportation projects that are subject to CEQA analysis. The proposed project is not a land use or transportation project, and therefore neither Section 15064.3(b)(1) nor Section 15064.3(b)(2) of the CEQA Guidelines applies. Instead, the proposed project would be categorized under Section 15064.3(b)(3) qualitative analysis. The updated CEQA Guidelines do not establish a significance threshold; however, they recommend a threshold of significance for land use development (residential, office, and other land uses) and transportation projects. It should be noted that there is no significance threshold for construction or maintenance projects.

The project would involve construction that would generate temporary construction-related traffic for approximately 6 months and no operational traffic. The highest number of construction workers is estimated at 16 and this is during the storm drain/outlet pipe construction phase. Every other phase will have 10 or fewer workers. The highest number of trucks will be 8 during the demolition phase. Measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction-related VMT. The project's construction would be generally consistent with common construction activities in terms of the temporary nature of activities, trip generation characteristics, and the types of vehicles and equipment required. Even though worker and haul trips would generate VMT, once construction is completed, the construction-related traffic would cease and would return to pre-construction conditions. The increase in VMT associated with the project's construction is expected to be temporary and would therefore have a **less-than-significant** VMT impact.

The City considers any project that generates less than 100 p.m. peak hours trips based on the Institute of Transportation Engineers' Trip Generation Manual (10th Edition; ITE 2017) to be screened out of

conducting a detailed VMT analysis. During operation, the proposed project would consist of drainage infrastructure improvements at an existing wastewater treatment facility and would not result in an increase of employees at the Treatment Plant or generate new trips. Therefore, the proposed project would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) and 15064.3(b)(3), and there would be no 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)?

No Impact. The project involves the development of drainage improvements on a site that is not accessible to the public and contains no adjacent public rights-of-way. The proposed project would not result in any circulation changes. Additionally, the project site is currently an operational wastewater treatment facility and would continue to operate as such under project conditions. Therefore, the project would not substantially increase hazards due to a geometric design features or incompatible uses, and there would be **no impact.**

d) Would the project result in inadequate emergency access?

No Impact. As previously discussed, the proposed project would not result in changes to circulation on or within the vicinity of the site. The project would not have an effect on access to and from the site. The project would also comply with the standards set forth in the City's Emergency Operations Plan (City of Thousand Oaks 2020). Therefore, there would be **no impact** to emergency access.

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	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

The evaluation of potential impacts to Tribal Cultural Resources is based on the findings resulting from the Phase I cultural resources assessment conducted in 2022 (Appendix C1) and the findings resulting from the City's efforts pursuant to AB 52. Background research conducted to inform this analysis included an NAHC SLF search, ethnographic research, archival research, and CHRIS database records search, all of which are briefly summarized in this section and more fully summarized in Section 3.5, Cultural Resources, and in the Phase I cultural resources assessment (Appendix C1). To date, no Tribal Cultural Resource has been identified.

Existing Setting—Ethnohistoric

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European colonizers. These short, and generally peripheral, accounts were predominantly prepared with the direct or indirect purpose of furthering colonial and economic aims and should not be viewed as unbiased descriptions of Native American groups. Though the establishment of the missions in the region resulted in more documentation of Native American communities, these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Geiger and Meighan 1976; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963).

The principal intent of these early researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. Though many informants for early ethnographies provided first-hand knowledge about native life before European contact, the majority of the informants were born many years post-contact and were therefore relying on secondary or tertiary sources on indigenous lifeways, experiences, and culture (Heizer and Nissen 1973). As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the California/Oregon border at the time of Spanish contact (Johnson and Lorenz 2006). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007). The project site is located within territory attributed to the

Ventureño Chumash, less than 6 miles west of currently understood Fernandeño territory (Golla 2011) and approximately 30 miles east of currently understood Barbareño Chumash territory (Golla 2011). The position of the project site likely led to increased interaction between the two groups, conceivably realized through trade, intermarriage, or other means (Golla 2011). It is important to acknowledge that territorial borders of the local Native American groups are currently understood through limited information and that it is likely they were implicitly utilized in prehistoric times, employing different social constructual lenses than those that exist today. A brief ethnographic summary of the Ventureño Chumash is provided below.

Ventureño Chumash

The project site was occupied by speakers of Ventureño Chumash, a variety of Central Chumash spoken within the eastern third of the Central Chumash territory encompassing the area from Santa Maria in the north, Malibu in the south, the Pacific Ocean to the west, and Kern County to the east. The Central Chumash language includes three other linguistic-geographic entities—Purisemeño, Inezeño, and Barbareño—and is itself a subset of the larger Chumash language group, which contains two other linguistic-geographic entities, Obispeño and Island Chumash. Chumash was formerly considered a Hokan language, but is now thought of as a distinct language group (Golla 2011). Central Chumash linguistic-geographic entities are a result of the mission-era restructuring of the dialect continuum within the region and all share a phonological and grammatical system (Golla 2011). Ventureño Chumash includes several dialectic entities, including Venutura, Mugu, Malibu, Matilija, Castac, Interior Venturño, Vayetano, and El Conejo. The language variety associated with the project site was El Conejo (Golla 2011).

The area inhabited by the Ventureño Chumash extended from the west of modern-day City of Ventura throughout the Oxnard Plains, the Santa Monica Mountains, and the Conejo Valley, and south along the coast to Point Dume. The neighboring Native American groups were the Barbareño Chumash to the west, the Tongva to the east, and the Tatavium to the north (Golla 2007; Moratto 1984). The diverse ecological environment and plentiful resources in the area put the Ventureño Chumash in a position to facilitate complex trade networks with island Chumash, as well as their Barbareño, Tongva, and Tatavium neighbors (Grant 1978).

The earliest European visits to the Chumash region began with the expeditions of Cabrillo, Vizcaíno, and other naval explorers to the Southern California coast in the 1500s. The first land expedition through the study area occurred in AD 1769 when Gaspar de Portolá led an overland expedition from the newly established settlement at San Diego to San Francisco Bay. Ventureño place-names were recorded very early on due to Spanish exploration throughout Alta California. The Spaniards first arrived in the study area in 1542 near the village of šišolop, present-day Ventura. In 1762, members of the Portolá expedition traveled through the study area and noted that their residential structures resembled those of the nearby Tongva and were rectangular and covered with mats made of natural plant materials. One difference noted by the explorer and his companions was the multitude of artifact types existent along the coast. The rectangular residential structural form was later determined to be associated with small, inland villages. The Portolá expedition eventually made its way to šišolop, where they noted the presence of 30 large residential structures and 15 canoe-like watercraft being utilized by the inhabitants where Mission San Buenaventura would eventually be established in 1783 (Heizer 1978). Large, permanent Chumash villages, such as šišolop, were noted to contain hemispherical dwellings covered by grass or tule mats arranged in close proximity to one another. These were described as “spacious and fairly comfortable” by the Spanish, with light coming in through the top hole where smoke could also exit. Residences were usually very large (15 meters in diameter) and “able to lodge 60 persons and more without hindrance” (Brown 2001).

The villages also contained storehouses, one or more subterranean sweat lodges, and a semi-circular dance ground and associated sacred ceremonial enclosure, with a nearby game field surrounded by low walls (McCall and Perry 1986). Satellite gathering or processing areas include earth ovens used to roast yucca and other foods, rock shelters, quarries, and bedrock mortars for processing acorns and similar plant resources (King 1994). Each Chumash village had a formal cemetery, generally separate from the village proper. Ethnographic records indicate that cemeteries were marked by tall painted poles and frequently had an entrance area where ceremonies were performed. Within the cemetery, stone, wood, or bone markers identified burial sites.

Chumash subsistence varied between coastal and inland resources, but like many indigenous Californian groups, the acorn was a dietary staple, especially for Chumash peoples residing inland without immediate access to marine resources. Acorns were harvested in the autumn and stored in the villages where they were ground to a meal, leached, and then cooked daily. In addition to acorns—mainly from the coast live oak—other nuts, such as pine nuts and walnuts, were collected. Chumash diet also included cattail roots, fruits and pads from Opuntia cactus, and bulbs and tubers of plants such as amole (Miller 1988). Yucca stalks were harvested and roasted, and the buds and flowers were also gathered. Staples included small hard seeds of several annual and perennial plants such as grass, chia and other sages, and buckwheat. Seasonal resources included berries (blackberry, elderberry, grape, madrone, laurel, wild cherry), mushrooms, and cress.

The Ventureño region was well populated at the time of Portolá's expeditions, particularly in close proximity to water sources such as rivers, creeks, and tributaries and along the coast. King (1969) located 41 settlements within the Ventureño territory and estimated that the population was between 2,500 and 4,200 in 1770. Many modern towns took their names from Ventureño Chumash place-names, such as matilja (Maticoyu), kayewaš (Calleguas), šimiyi (Simi), and muwu (Mugu) (Heizer 1978). Archaeological investigations in the area indicate that coastal settlements have much higher quantity of material culture and that there is a direct relationship between proximity to the coast and amount of material culture within a site. Additionally, excavations have indicated that inland sites have tools of a generally lower quality than those produced on the coast (Heizer 1978).

As mentioned previously, the protohistoric culture of the Chumash was terminated by the arrival of a Spanish expedition led by Gaspar de Portolá in 1769. Chumash culture changed dramatically with the establishment of the Missions of San Buenaventura and San Fernando Rey de España. The San Buenaventura Mission was established in 1782 located near the sizable village of Mitsquanaqa'n, which is estimated to have had approximately 500 inhabitants.

With the secularization of mission lands after 1834, traditional Chumash lands were distributed among grants to private owners. Only in the areas of Mission Santa Barbara and Mission San Fernando del Rey were several small ranchos granted to neophytes of these missions, providing a secure home and gardens for a few people. Most Chumash managed to maintain a presence in the study area into the early twentieth century as cowboys, farm hands, and town laborers. The Catholic Church provided some land near Mission Santa Ynez for ex-neophytes. This land near Mission Santa Ynez was eventually deeded to the U.S. government in 1901 as a 127-acre reservation. This is the sole Chumash reservation, with a recent enrollment of 249 residents and 97 homes (SYBCI 2009). Since the 1970s, Chumash descendants living in the City of Santa Barbara and the rural areas of San Luis Obispo, Santa Barbara, and Ventura Counties have formed social and political organizations to aid in cultural revitalization, to protect sacred areas and archaeological sites, and to petition for federal recognition. Today, the Santa Ynez Band of Chumash Indians is the only federally recognized Chumash tribe.

Regulatory Framework

Assembly Bill 52

AB 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that Tribal Cultural Resources must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. PRC Section 21074 describes a Tribal Cultural Resource as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe. A Tribal Cultural Resource is either:

- On the CRHR or a local historic register
- Eligible for the CRHR or a local historic register
- 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 PRC Section 5024.1

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with a project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, MND, or EIR.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on Tribal Cultural Resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to Tribal Cultural Resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Sacred Lands File Search

A search of the NAHC SLF was conducted on December 6, 2022, to determine the presence of any reported Native American cultural resources within the project site as listed in the NAHC-maintained SLF (see Confidential Attachment C to Appendix C1). The NAHC SLF records search result was negative. The SLF maintained by the NAHC represents a curation of "ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California" (NAHC 2021) provided by tribal entities and Native American representatives. For various reasons, tribal entities and Native American representatives do no not always report sacred lands or Tribal Cultural Resources to the NAHC; as such, the NAHC's SLF is not necessarily a comprehensive list of known Tribal Cultural Resources and searches of the SLF must be considered in concert with other research and not used as a sole source of information regarding the presence of Tribal Cultural Resources. Additionally, results of the SLF provided relate to the general regional area within and surrounding the project site and do not necessarily equate to the existence of resources within the specific area occupied by the project site.

Assembly Bill 52 Outreach/Consultation

The project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to Tribal Cultural Resources as part of the CEQA process, and that the lead agency provide tribes who have requested notification with early notice of the proposed project and, if requested, consultation to inform the CEQA process with respect to Tribal Cultural Resources. No California Native American tribes have requested notification for projects within the City's jurisdiction. As such, no notification letters pursuant to AB 52 were sent and no Tribal Cultural Resources were identified as a result of the AB 52 tribal outreach/consultation process.

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)?***

Less-than-Significant Impact**.** As described in Section 3.5 and in Appendix C1, a CHRIS records search, NAHC SLF search, and pedestrian survey were conducted for the project site. The SLF search was completed with negative results. The CHRIS records search identified eight cultural resources, including seven prehistoric archaeological resources and one historic archaeological resource, that have been previously recorded within 0.5 miles of the project site. However, no cultural resources listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), were identified within the project site as a result of either (1) several previous investigations or (2) the current investigation. Therefore, the project would not adversely affect Tribal Cultural Resources that are listed or eligible for listing in the State or local register. Impacts would be **less than significant**.

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.***

No Impact. No California Native American tribes have requested notification for projects within the City's jurisdiction. As such, no notification letters pursuant to AB 52 were sent and no Tribal Cultural Resources were identified as a result of the AB 52 tribal outreach/consultation process. Therefore, the project would not adversely affect Tribal Cultural Resources 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 PRC Section 5024.1. There would be **no impact.**

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?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

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?***

Less-than-Significant Impact. The project would result in the development of a new debris basin and storm drainage improvements at an existing stormwater treatment facility in order to prevent future flooding at the site. As such, the project involves the construction stormwater drainage facilities. The impacts of this development, however, are addressed throughout this IS/MND and are less than significant. The proposed project would not require or result in the relocation or construction of expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities. Therefore, impacts would be **less than significant.**

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?

No Impact. Minimal use of water during construction of the project may be required for dust suppression. However, this demand would be nominal and temporary and would not significantly impact water supplies. The project proposed to develop stormwater drainage improvements at an existing stormwater treatment facility, which would not involve demand on water supplies during operation. As such, the project would not result in an increased need for water supplies. Therefore, there would be **no impact.**

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?

No Impact. The proposed project would not result in an increased need for wastewater treatment services. Alternatively, the project proposed to develop drainage improvements at an existing stormwater treatment facility, which would assist the facility in managing existing flows. As such, there would be **no impact.**

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?

No Impact. The proposed project would generate some waste during construction; however, the amount of waste generated would be limited due to the nature of the project and the lack of extensive demolition. Additionally, the project would be subject to the 2019 California Green Building Standards Code Construction Waste Management Requirements and the City's Construction and Demolition Debris Recycling Ordinance (No. 1639-NS) (City of Thousand Oaks 2021), which require recycling and/or salvage of a minimum 65% of the nonhazardous construction and demolition waste. As such, the amount of demolition and construction debris requiring disposal at a landfill would represent a tiny fraction of the permitted capacity of nearby landfills and would not significantly impact capacity. The proposed project would not generate solid waste during operation. The project would develop drainage improvements at a stormwater treatment facility. Therefore, the project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, and there would be **no impact.**

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

No Impact. Except for a nominal amount of construction debris, the project would not result in the generation of solid waste. Waste generated during construction would comply with applicable statutes and regulations, as discussed under Threshold 3.19(d) above. Therefore, the project would not conflict with federal, State, or local management and reduction statutes and regulations related to solid waste and there would be **no impact.**

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?	☐	☐	☐	☒
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐

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

No Impact. As discussed in Section 3.9, Hazards and Hazardous Materials, the project site is located at an existing stormwater Treatment Plant. The plant is not accessible to the public. Therefore, construction would not require the closure of any public rights-of-way. Additionally, the project is not located in the vicinity of a designated evacuation route (City of Thousand Oaks 2014). As discussed in Section 3.15, the City would continue to provide an adequate level of emergency response service. Therefore, the project would not result in impairment of an adopted emergency response plan or an emergency evacuation plan, and there would be **no impact.**

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?

Less-than-Significant Impact with Mitigation Incorporated. The project site is located in a Very High Fire Hazard Severity Zone in a Local Responsibility Area (CAL FIRE 2022). The proposed project involves the construction of drainage improvements within an existing wastewater Treatment Plant and within an immediately adjacent undeveloped hilly area. Building materials used for the storm drain basin

improvements would be non-flammable and the project does not entail the construction of habitable structures. Construction would involve the temporary deployment of construction personnel to the project site and the use of combustion engine-powered equipment that has the potential to produce sparks that could ignite a fire, the spread of which could have significant impacts on pollution concentrations and uncontrolled spread of wildfire. The incorporation of **MM-FIRE-1** (Construction Fire Prevention Plan) would reduce the potential impacts.

MM-FIRE-1 Construction Fire Prevention Plan. The City of Thousand Oaks shall prepare and implement a Construction Fire Prevention Plan (Plan) to ensure the safety of workers and the public during construction of the proposed project. The applicant must submit the Plan to the Ventura County Fire Department for review and approval prior to construction. The Plan shall include, but not be limited to, the following elements:

- Procedures for minimizing potential ignition, including vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, and hot work restrictions.
- Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days.
- All internal combustion engines used at the proposed project site shall be equipped with spark arrestors. Spark arrestors shall be in good working order.
- Fire rules shall be posted and visible all to employees at the contractor's field office and in other common areas.
- Equipment parking areas and small stationary engine sites shall be cleared of all flammable materials.
- Smoking shall be prohibited in all vegetated areas and within 50 feet of combustible materials storage and shall be limited to paved areas or areas cleared of all vegetation.
- During construction, fire extinguishers and fire-fighting equipment sufficient to extinguish small fires shall be available on site and all construction vehicles shall be equipped with a fire extinguisher.
- All construction workers visiting the project site shall receive training on fire prevention procedures, the proper use of fire-fighting equipment, and procedures to be followed in the event of a fire.
- Fires ignited on site shall be immediately reported to the Ventura County Fire Department.
- The engineering, procurement, and construction contract(s) for the proposed project shall provide reference to or clearly state the requirements of this mitigation measure.

With the incorporation of **MM-FIRE-1**, impacts associated with pollutant concentrations from a wildfire and the uncontrolled spread of a wildfire during project construction would be reduced to **less than significant with mitigation incorporated.**

During operation, the project would not result in increased on-site employees and would not involve the operation of any mechanical equipment with the potential to produce sparks. As such, impacts associated with pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire during operations 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?

Less-than-Significant Impact with Mitigation Incorporated. The proposed project would involve the development of drainage improvements at an existing wastewater treatment facility and would not include installation or maintenance of roads, fuel breaks, emergency water sources, power lines, utilities, or other associated infrastructure. As discussed under Threshold 3.20(b) above, construction of the project would involve the use of combustion engine construction equipment that could temporarily exacerbate fire risk. However, adherence to **MM-FIRE-1** during construction would reduce such impacts to **less than significant.** Also discussed under Threshold 3.20(b) above, operation of the project would not result in increased fire risk. All temporary or ongoing impacts to the environment have been addressed and mitigated throughout this MND. Therefore, impacts related to exacerbated fire risk during operation 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?

Less-than-Significant Impact. There have been no known landslides on the project site; however, as discussed in Section 3.7, Geology and Soils, the project site is located in a landslide zone (CGS 2023). Additionally, landslides have occurred in the vicinity of the site (USGS 2022). However, the project would reduce flooding and improve drainage into an existing wastewater Treatment Plant and would not include elements that would increase the risk of landslide. Additionally, as discussed under Threshold 3.20(b), the project would not result in a significant increase in fire risk and as such would not contribute to a significant risk related to post-fire slope instability.

The project would be constructed within and immediately adjacent to an existing water Treatment Plant that is located at the confluence of two watersheds and experiences flooding after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. The project would include highly localized drainage improvements that would allow the plant to better handle existing flows that occur after such storm events under existing conditions. As such, these drainage changes would reduce risks associated with flooding.

Therefore, the project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes, and impacts would be **less than significant**.

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

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?***

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section 3.4, through compliance with **MM-BIO-1** through **MM-BIO-9**, project impacts to biological resources would be less than significant. As discussed in Section 3.5, through compliance with **MM-CUL-1** through **MM-CUL-4**, project impacts to cultural resources and Tribal Cultural Resources would be less than significant. As discussed in Section 3.7, through compliance with **MM-GEO-1**, impacts to paleontological resources would be less than significant. As discussed in Section 3.20, through compliance with **MM-FIRE-1,** project impacts related to wildfire would be less than significant. Therefore, with mitigation incorporated, the project would not 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, 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. Impacts would be **less than significant with mitigation incorporated.**

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.)

Less-than-Significant Impact with Mitigation Incorporated. When evaluating cumulative impacts, it is important to remain consistent with Section 15064(h) of the CEQA Guidelines, which states that an EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Alternatively, a lead agency may determine a project's incremental contribution to a cumulative effect is not cumulatively considerable through mitigation measures set forth in an MND or if the project will comply with the requirements in a previously approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.

The proposed project would potentially result in project-related impacts to biological resources, cultural resources, geology and soils, and wildfire that could be potentially significant without the incorporation of mitigation. Thus, when coupled with potential impacts related to the implementation of other related projects throughout the broader project area, the project would potentially result in cumulative-level impacts if these significant impacts were left unmitigated.

However, with the incorporation of mitigation identified throughout this MND, the project's impacts to biological resources, cultural resources, geology and soils, and wildfire would be reduced to less-than-significant levels and would not considerably contribute to cumulative impacts in the greater project region. In addition, any other nearby projects would presumably be bound by their applicable lead agency to (1) comply with all applicable federal, State, and local regulatory requirements; and (2) incorporate all feasible mitigation measures, consistent with CEQA, to further ensure that their potentially cumulative impacts would be reduced to less-than-significant levels.

Although cumulative impacts are always possible, the proposed project, by incorporating all mitigation measures outlined herein, would reduce its contribution to any such cumulative impacts to less than cumulatively considerable. Therefore, the project would result in individually limited, but not cumulatively considerable, impacts that are **less than significant with mitigation incorporated**.

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

Less-than-Significant Impact with Mitigation Incorporated. As evaluated throughout this IS/MND, with incorporation of the mitigation measures identified herein, all environmental impacts associated with the project would be less than significant. Thus, the project would not directly or indirectly cause substantial adverse effects on human beings. Impacts would be **less than significant with mitigation incorporated**.

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4.2 List of Preparers

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Felisa Pugay – Formatting Specialist

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SOURCE: Source

FIGURE 1

Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

DUDEK

0 1,000 2,000 Feet

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SOURCE: NAIP 2020

DUDEK

0 150 300 Feet

FIGURE 2

Project Site

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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- Project Boundary
- Biological Survey Area
- Topological Contours (5-foot interval)
- Photo Point (Direction)

Vegetation Communities and Land Covers

- CC : Chamise chaparral
- CBB-CSS-BSS : California brittle brush - California sagebrush - black sage scrub
- CBS : California brittle brush scrub
- LB-CSS : Lemonade berry - California sagebrush scrub
- LBS : Lemonade berry scrub
- DIST : Disturbed
- DEV : Developed

Individual Oak Trees (> 2" diameter)

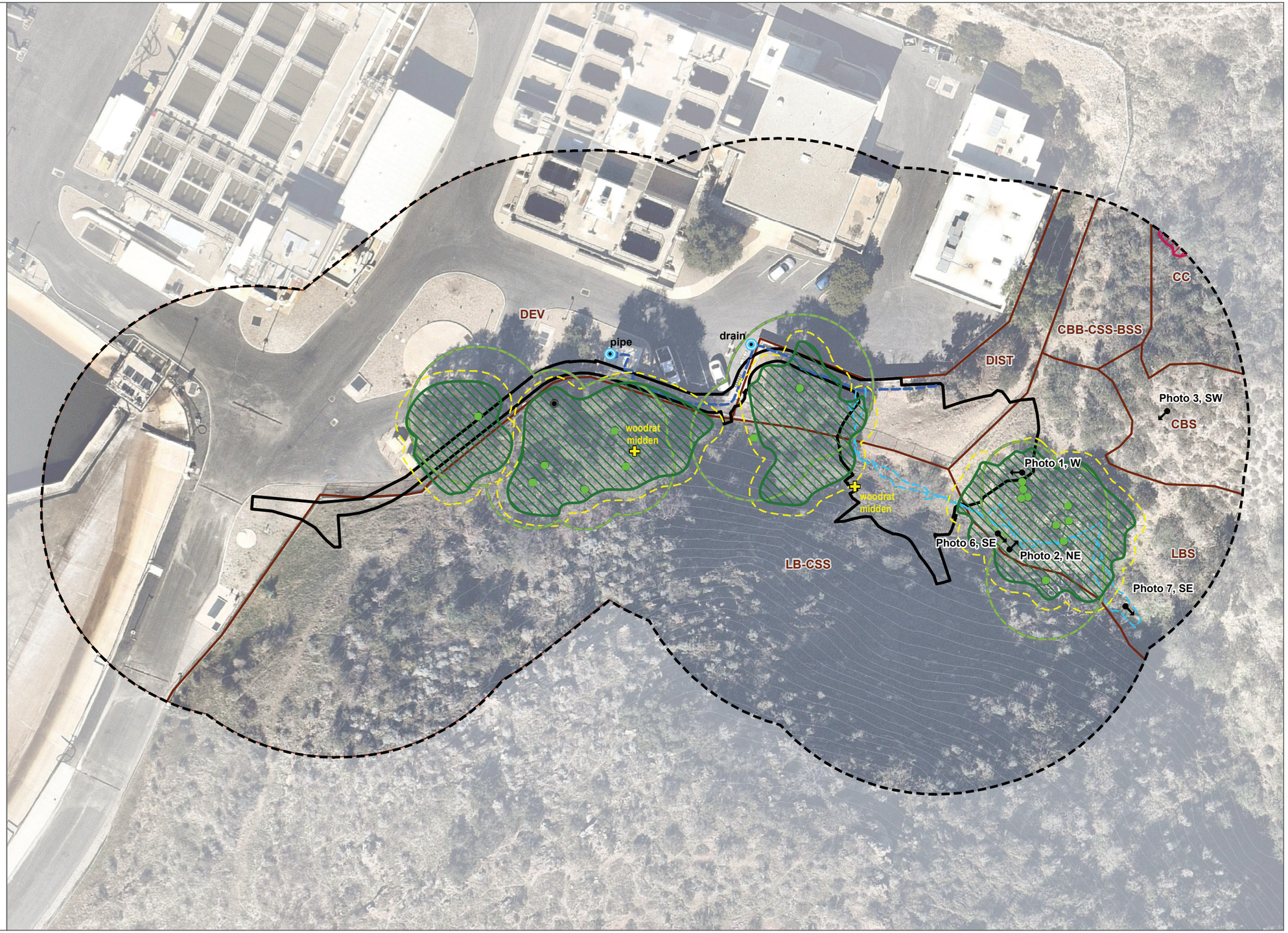
- Coast/interior live oak
- California black oak
- Oak Canopy
- Oak Protection Zone (5' outside dripline)
- Oak Protection Zone (15' from trunk)
- Toyon Canopy

Aquatic Resource Features

- Channel (varying width)
- Trapezoid channel (30" wide)
- Pipe/drain

Wildlife Resources

- Woodrat *(Neotoma sp.)* midden



SOURCE:

DUDEK 0 20 40 Feet

FIGURE 3

Biological Resources

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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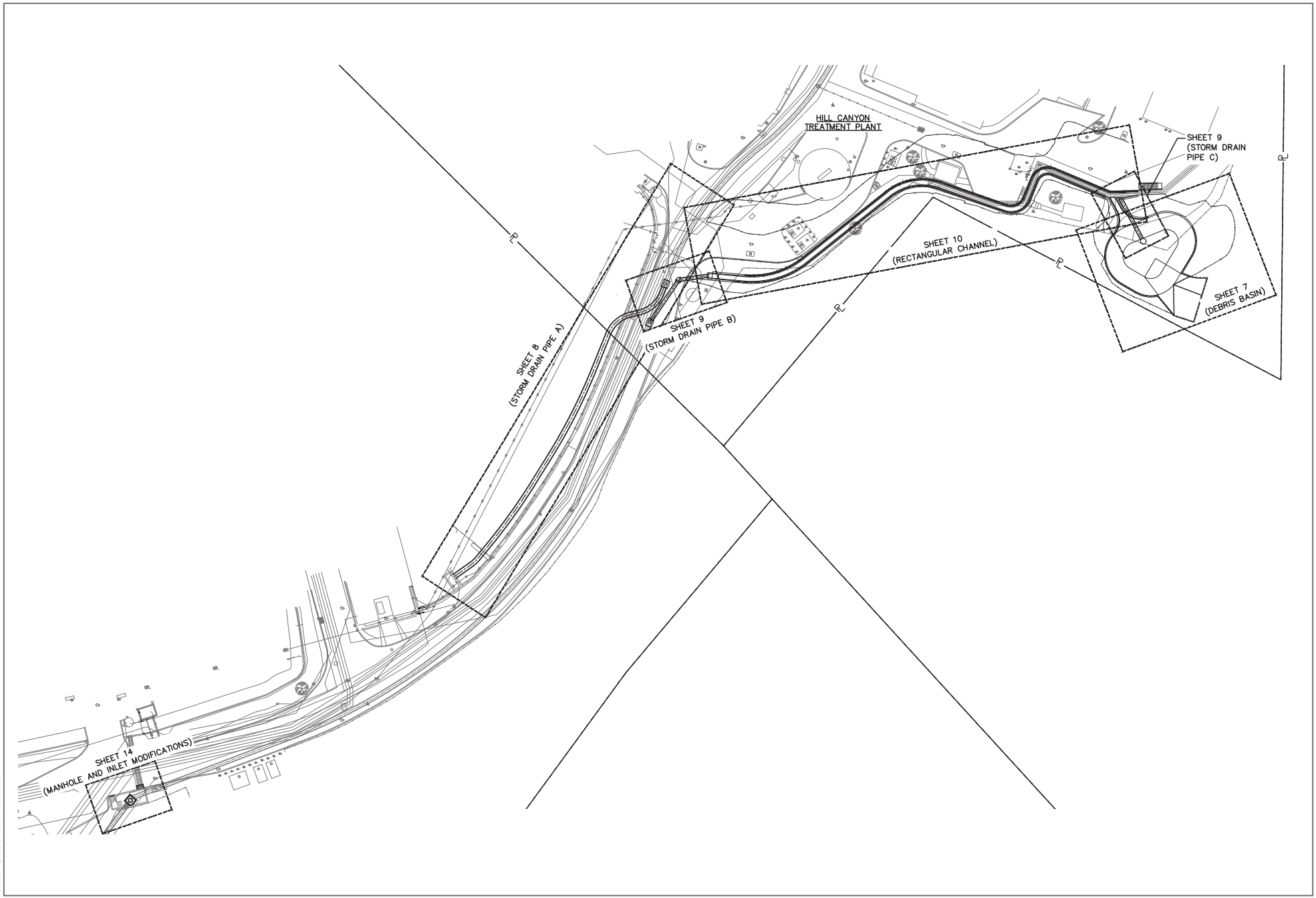


FIGURE 4

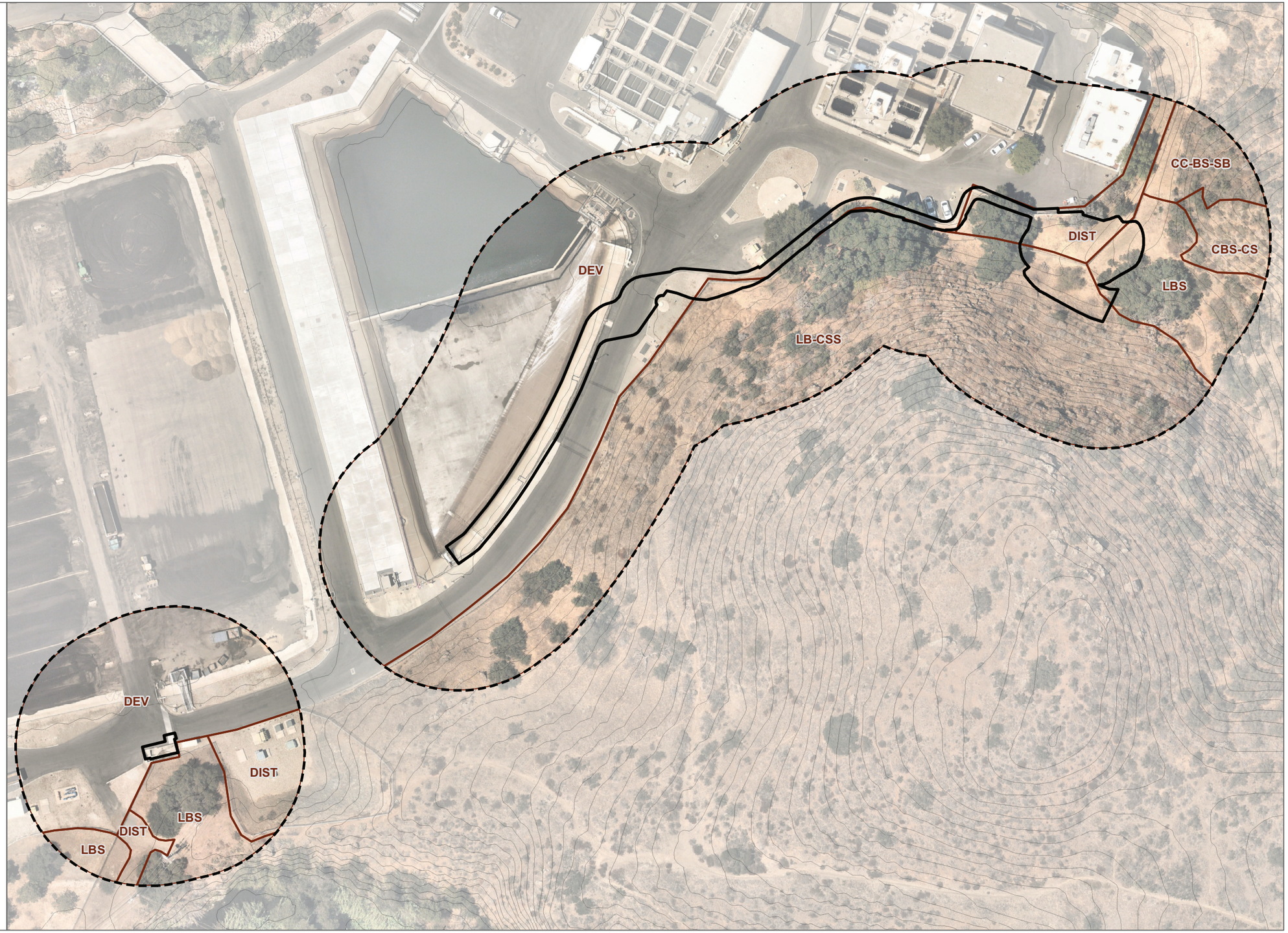
Project Improvements

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

DUDEK

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- Project Boundary
- Biological Survey Area
- Topological Contours (5-foot interval)
- **Vegetation Communities and Land Cover Types**
  - CBS-CS : California brittle brush - California sagebrush scrub
  - CC-BS-SB : Chamise - Black sage - Sugarbush scrub
  - LB-CSS : Lemonade berry - California sagebrush scrub
  - LBS : Lemonade berry scrub
  - DIST : Disturbed
  - DEV : Developed



SOURCE: NearMap 2022

DUDEK 0 37.5 75 Feet

FIGURE 5

Vegetation Communities and Land Cover Types

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

INTENTIONALLY LEFT BLANK

Project Boundary

Biological Survey Area

Individual Oak Trees (> 2" diameter)

Coast/interior live oak

California black oak

Oak Canopy

Oak Protection Zone (5' outside dripline)

Oak Protection Zone (15' from trunk)

SOURCE: NearMap 2022

DUDEK

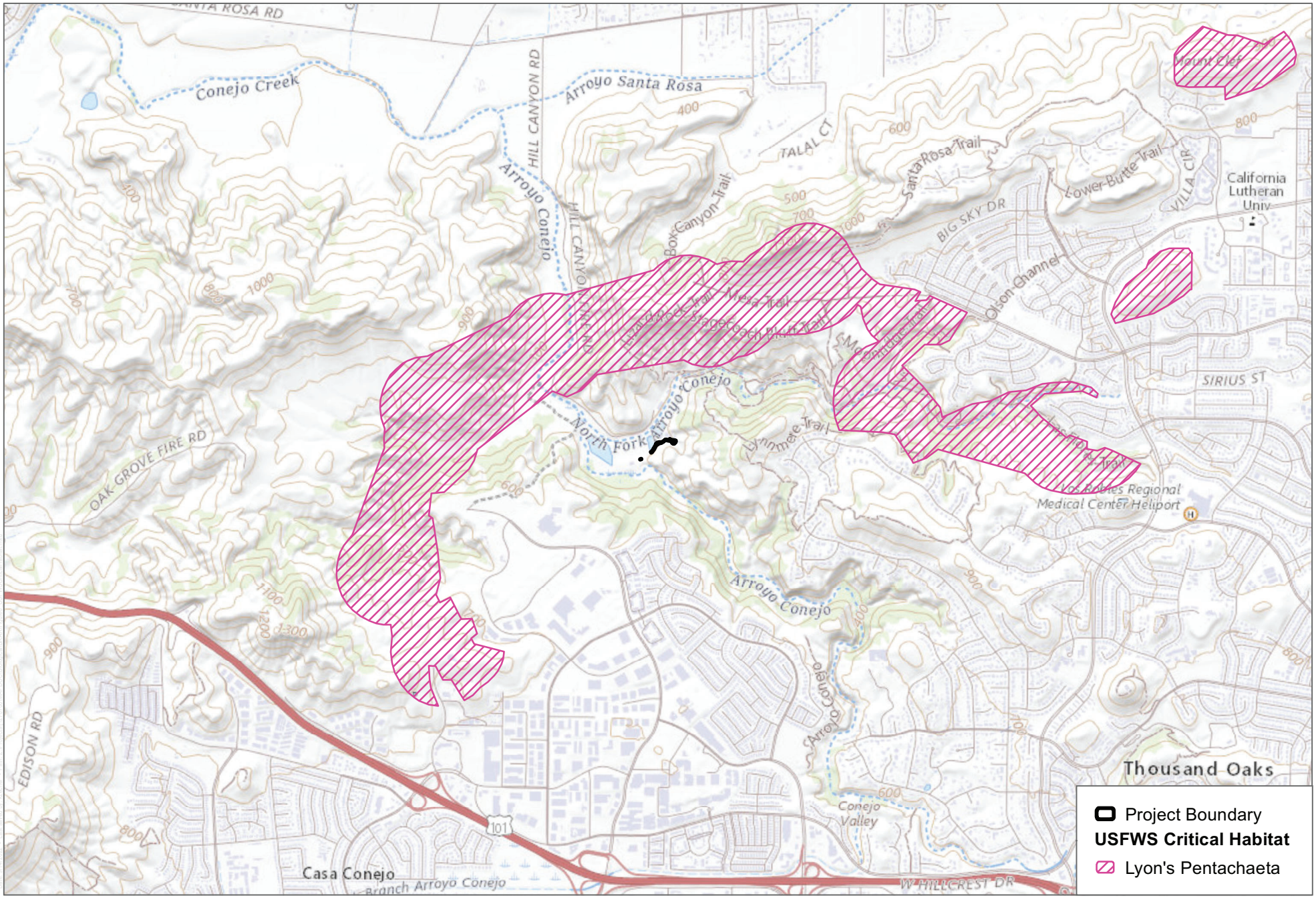
0 20 40 Feet

FIGURE 6

City-Regulated Trees

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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SOURCE: NearMap 2022

DUDEK

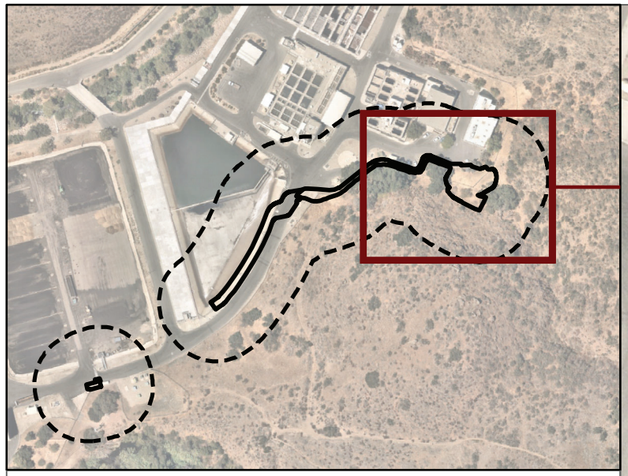
0 1,400 2,800 Feet

FIGURE 7

USFWS Critical Habitat

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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Project Site
Biological Survey Area
Wetland Sampling Point
Transect
12-inch Corrugated Metal Pipe
6-inch PVC Pipe
Non-Wetland Waters of the State - Concrete V-ditch

Potential Jurisdictional Aquatic Resources

Regional Water Quality Control Board

Non-Wetland Waters - Ephemeral Channel
Non-Wetland Waters - Ephemeral Channel (bank)
Riparian
Non-Wetland Waters - Swale

California Department of Fish and Wildlife

Streambed
Streambed and Bank
Riparian
Swale

NWI Wetland

Freshwater Forested/Shrub Wetland

Vegetation Communities and Land Covers

CBS-CS : California brittle brush - California sagebrush scrub
CC-BS-SB : Chamise - Black sage - Sugarbush scrub
LB-CSS : Lemonade berry - California sagebrush scrub
LBS : Lemonade berry scrub
DIST : Disturbed
DEV : Developed

SOURCE: NearMap 2021, USFWS NWI Wetland

DUDEK

0 15 30 Feet

FIGURE 8

Potential Jurisdictional Aquatic Resources

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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- Project Boundary
- Project Impact Area
- Biological Survey Area

Vegetation Communities and Land Covers

- CBS-CS : California brittle brush - California sagebrush scrub
- CC-BS-SB : Chamise - Black sage - Sugarbush scrub
- DEV : Developed
- DIST : Disturbed
- LB-CSS : Lemonade berry - California sagebrush scrub
- LBS : Lemonade berry scrub

Individual Oak Trees (> 2" diameter)

- Coast/interior live oak
- California black oak
- Oak Canopy
- Oak Protection Zone (5' outside dripline)
- Oak Protection Zone (15' from trunk)

Special-Status Plants

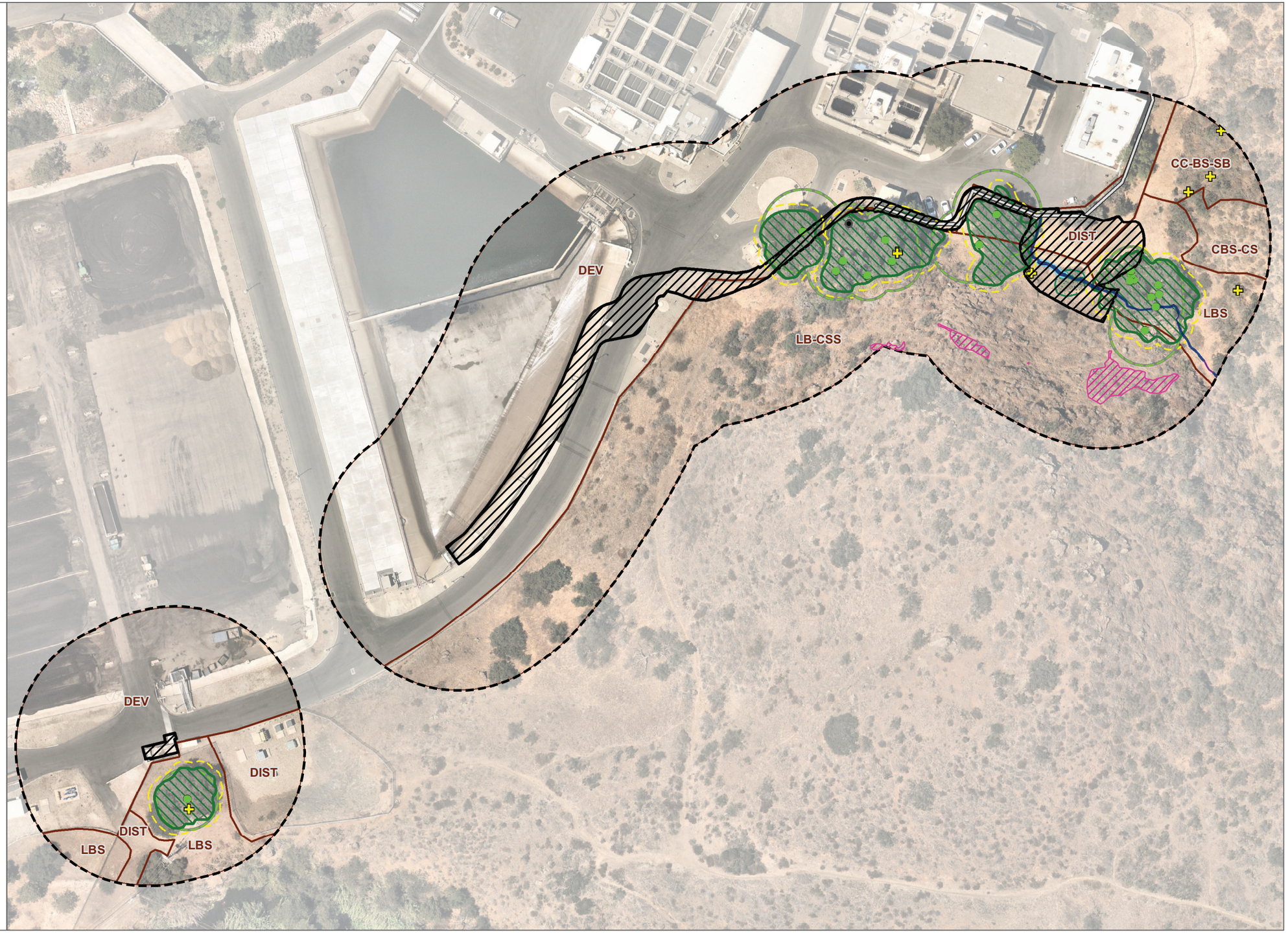
- Conejo Dudleya (*Dudleya parva*)

Wildlife Resources

- Woodrat *(Neotoma sp.)* midden

Potential Jurisdictional Aquatic Resources

- Ephemeral Channel
- Ephemeral Channel (bank)
- Riparian
- Swale
- Concrete V-ditch



SOURCE: NearMap 2022

DUDEK 0 37.5 75 Feet

FIGURE 9

Impacts to Biological Resources

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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SOURCE: NAIP 2020

DUDEK

0 160 320 Feet

FIGURE 10

Noise Measurement Locations

Hill Canyon Treatment Plant Stormwater Diversion Project Initial Study/Mitigated Negative Declaration

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Appendix A

Air Quality, Greenhouse Gas Emissions, Energy Calculations

Hill Canyon Treatment Plant Stormwater Diversion Project Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Hill Canyon Treatment Plant Stormwater Diversion Project
Construction Start Date	1/7/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	10.4
Location	34.21170335634062, -118.92241248218829
County	Ventura
City	Thousand Oaks
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3512
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.7

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	1.00	1000sqft	0.02	1,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.32	1.98	17.0	25.3	0.03	0.74	0.60	1.20	0.68	0.11	0.79	—	4,145	4,145	0.17	0.07	2.22	4,173
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.82	0.68	6.64	9.59	0.02	0.23	0.60	0.83	0.21	0.12	0.31	—	2,092	2,092	0.07	0.12	0.06	2,130
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.28	2.53	3.69	0.01	0.10	0.12	0.22	0.09	0.03	0.12	—	659	659	0.03	0.02	0.20	665
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.05	0.46	0.67	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	109	109	< 0.005	< 0.005	0.03	110

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	2.32	1.98	17.0	25.3	0.03	0.74	0.60	1.20	0.68	0.11	0.79	—	4,145	4,145	0.17	0.07	2.22	4,173
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.82	0.68	6.64	9.59	0.02	0.23	0.60	0.83	0.21	0.12	0.31	—	2,092	2,092	0.07	0.12	0.06	2,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.34	0.28	2.53	3.69	0.01	0.10	0.12	0.22	0.09	0.03	0.12	—	659	659	0.03	0.02	0.20	665
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.06	0.05	0.46	0.67	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	109	109	< 0.005	< 0.005	0.03	110

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.48	4.77	0.01	0.11	—	0.11	0.10	—	0.10	—	676	676	0.03	0.01	—	679
Demolition	—	—	—	—	—	—	0.19	0.19	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.24	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.3	46.3	< 0.005	< 0.005	—	46.5
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	< 0.005	0.02	0.01	129
Hauling	0.01	0.01	0.38	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.01	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.61	6.61	< 0.005	< 0.005	0.01	6.71
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.45	8.45	< 0.005	< 0.005	0.01	8.84
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	19.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.46
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.14	3.14	< 0.005	< 0.005	< 0.005	3.30

3.3. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.21	2.20	3.82	0.01	0.08	—	0.08	0.08	—	0.08	—	581	581	0.02	< 0.005	—	583
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.21	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.7	55.7	< 0.005	< 0.005	—	55.9
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.22	9.22	< 0.005	< 0.005	—	9.25

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.7	76.7	< 0.005	< 0.005	0.01	77.6
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	< 0.005	0.02	0.01	129
Hauling	0.01	< 0.005	0.19	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.40	7.40	< 0.005	< 0.005	0.01	7.51
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.01	12.4
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.01	13.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.05
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.20	2.20	< 0.005	< 0.005	< 0.005	2.31

3.5. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.56	5.05	7.10	0.01	0.23	—	0.23	0.21	—	0.21	—	1,076	1,076	0.04	0.01	—	1,080
Dust From Material Movement	—	—	—	—	—	—	0.40	0.40	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.56	5.05	7.10	0.01	0.23	—	0.23	0.21	—	0.21	—	1,076	1,076	0.04	0.01	—	1,080
Dust From Material Movement	—	—	—	—	—	—	0.40	0.40	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.49	< 0.005	0.02	—	0.02	0.01	—	0.01	—	73.7	73.7	< 0.005	< 0.005	—	74.0
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2

Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.63	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	< 0.005	0.54	136
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	< 0.005	0.02	0.35	129
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	< 0.005	0.02	0.31	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	< 0.005	0.02	0.01	129
Hauling	0.01	< 0.005	0.19	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.45	8.45	< 0.005	< 0.005	0.01	8.84
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.49	9.49	< 0.005	< 0.005	0.01	9.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.46
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.57	1.57	< 0.005	< 0.005	< 0.005	1.65

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.92	0.77	6.93	9.51	0.01	0.31	—	0.31	0.28	—	0.28	—	1,433	1,433	0.06	0.01	—	1,438
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.95	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	196	196	0.01	< 0.005	—	197
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.5	32.5	< 0.005	< 0.005	—	32.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.50	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	107	107	< 0.005	< 0.005	0.43	109
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	0.17	64.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.03	14.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.45	8.45	< 0.005	< 0.005	0.01	8.84
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.33	2.33	< 0.005	< 0.005	< 0.005	2.37
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.46
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.14	8.76	0.01	0.26	—	0.26	0.24	—	0.24	—	1,359	1,359	0.06	0.01	—	1,363
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.50	0.72	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112	112	< 0.005	< 0.005	—	112

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.5	18.5	< 0.005	< 0.005	—	18.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.01	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	214	214	0.01	0.01	0.86	217
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	0.17	64.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.03	17.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.07	5.07	< 0.005	< 0.005	0.01	5.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.80	2.80	< 0.005	< 0.005	0.01	2.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.88
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.58	4.97	0.01	0.17	—	0.17	0.15	—	0.15	—	748	748	0.03	0.01	—	751
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.7	30.7	< 0.005	< 0.005	—	30.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.09	5.09	< 0.005	< 0.005	—	5.11
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.40	102
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	0.17	64.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.97	3.97	< 0.005	< 0.005	0.01	4.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.66	0.66	< 0.005	< 0.005	< 0.005	0.67
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.44
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Demolition	Demolition	1/27/2025	2/28/2025	5.00	25.0	—
Site Preparation and Vegetation Removal	Site Preparation	1/6/2025	2/21/2025	5.00	35.0	—
Grading	Grading	3/03/2025	4/04/2025	5.00	25.0	—
Basin Construction	Building Construction	4/7/2025	6/13/2025	5.00	50.0	—
Storm Drain/Outlet Pipe Construction	Building Construction	5/5/2025	6/13/2025	5.00	30.0	—
Paving - Trench Repair and Patching	Paving	6/9/2025	6/27/2025	5.00	15.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation and Vegetation Removal	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Basin Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving - Trench Repair and Patching	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving - Trench Repair and Patching	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Paving - Trench Repair and Patching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Storm Drain/Outlet Pipe Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Basin Construction	Graders	Diesel	Average	1.00	8.00	148	0.41
Storm Drain/Outlet Pipe Construction	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Storm Drain/Outlet Pipe Construction	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Storm Drain/Outlet Pipe Construction	Graders	Diesel	Average	1.00	8.00	148	0.41
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Basin Construction	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	7.50	18.5	LDA,LDT1,LDT2
Demolition	Vendor	4.00	10.2	HHDT,MHDT
Demolition	Hauling	4.00	20.0	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT
Site Preparation and Vegetation Removal	—	—	—	—
Site Preparation and Vegetation Removal	Worker	6.00	18.5	LDA,LDT1,LDT2
Site Preparation and Vegetation Removal	Vendor	4.00	10.2	HHDT,MHDT
Site Preparation and Vegetation Removal	Hauling	2.00	20.0	HHDT

Site Preparation and Vegetation Removal	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	2.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Basin Construction	—	—	—	—
Basin Construction	Worker	8.00	18.5	LDA,LDT1,LDT2
Basin Construction	Vendor	2.00	10.2	HHDT,MHDT
Basin Construction	Hauling	0.00	20.0	HHDT
Basin Construction	Onsite truck	0.00	—	HHDT
Paving - Trench Repair and Patching	—	—	—	—
Paving - Trench Repair and Patching	Worker	7.50	18.5	LDA,LDT1,LDT2
Paving - Trench Repair and Patching	Vendor	2.00	10.2	HHDT,MHDT
Paving - Trench Repair and Patching	Hauling	0.00	20.0	HHDT
Paving - Trench Repair and Patching	Onsite truck	0.00	—	HHDT
Storm Drain/Outlet Pipe Construction	—	—	—	—
Storm Drain/Outlet Pipe Construction	Worker	16.0	18.5	LDA,LDT1,LDT2
Storm Drain/Outlet Pipe Construction	Vendor	2.00	10.2	HHDT,MHDT
Storm Drain/Outlet Pipe Construction	Hauling	0.00	20.0	HHDT
Storm Drain/Outlet Pipe Construction	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	215	—
Site Preparation and Vegetation Removal	0.00	0.00	52.5	0.00	—
Grading	0.00	165	68.8	0.00	—
Paving - Trench Repair and Patching	0.00	0.00	0.00	0.00	0.18

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.18	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	14.1	annual days of extreme heat
Extreme Precipitation	4.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	29.4	annual hectares burned

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

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	51.0
AQ-PM	40.6
AQ-DPM	16.2
Drinking Water	57.5
Lead Risk Housing	8.94
Pesticides	20.4
Toxic Releases	24.4
Traffic	82.7
Effect Indicators	—

CleanUp Sites	0.00
Groundwater	50.9
Haz Waste Facilities/Generators	74.1
Impaired Water Bodies	96.8
Solid Waste	0.00
Sensitive Population	—
Asthma	3.33
Cardio-vascular	9.61
Low Birth Weights	30.6
Socioeconomic Factor Indicators	—
Education	8.99
Housing	2.62
Linguistic	4.59
Poverty	2.20
Unemployment	29.4

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	99.21724625
Employed	82.34312845
Median HI	94.30257924
Education	—
Bachelor's or higher	81.05992557
High school enrollment	100
Preschool enrollment	42.01206211

Transportation	—
Auto Access	98.98626973
Active commuting	6.390350314
Social	—
2-parent households	98.34466829
Voting	95.13666111
Neighborhood	—
Alcohol availability	92.62158347
Park access	54.79276274
Retail density	27.65302194
Supermarket access	24.35519056
Tree canopy	77.05633261
Housing	—
Homeownership	99.40972668
Housing habitability	98.57564481
Low-inc homeowner severe housing cost burden	96.16322341
Low-inc renter severe housing cost burden	85.05068651
Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	96.11189529
Arthritis	11.9
Asthma ER Admissions	90.4
High Blood Pressure	5.0
Cancer (excluding skin)	5.1
Asthma	72.9
Coronary Heart Disease	23.5
Chronic Obstructive Pulmonary Disease	53.7

Diagnosed Diabetes	65.9
Life Expectancy at Birth	58.9
Cognitively Disabled	95.5
Physically Disabled	88.8
Heart Attack ER Admissions	79.4
Mental Health Not Good	90.9
Chronic Kidney Disease	45.1
Obesity	80.7
Pedestrian Injuries	19.6
Physical Health Not Good	78.6
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	63.5
Current Smoker	92.2
No Leisure Time for Physical Activity	86.6
Climate Change Exposures	—
Wildfire Risk	77.0
SLR Inundation Area	0.0
Children	94.5
Elderly	6.6
English Speaking	98.1
Foreign-born	24.0
Outdoor Workers	80.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	89.8
Traffic Density	64.9
Traffic Access	23.0

Other Indices	—
Hardship	6.2
Other Decision Support	—
2016 Voting	92.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	5.00
Healthy Places Index Score for Project Location (b)	95.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project-specific assumptions.
Construction: Off-Road Equipment	Project-specific assumptions.
Construction: Trips and VMT	Project-specific assumptions.

Construction: Paving	Project-specific assumptions.
Construction: Dust From Material Movement	Project-specific assumptions.

Hill Canyon Treatment Plant Stormwater Diversion Project Energy Calculations

Construction				
			Gallons	
Source	Percent	Total MT CO2	Diesel	Gasoline
2025				
Off-road	78.1%	85	8,344	
Electricity	0.0%	0		
Worker	8.8%	10		1,093
Vendor	6.8%	7	726	
Hauling	6.3%	7	673	
Onsite Truck	0.0%	0	0	
Total	**100.0%**	**109**	**9,743**	**1,093**

Appendix B1

Biological Resources Assessment Report

FINAL

Biological Resources Assessment Report

Hill Canyon Treatment Plant Stormwater Diversion Project

MARCH 2023

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ARDR	Aquatic Resources Delineation Report
BSA	Biological Survey Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
FESA	federal Endangered Species Act
FP	fully protected
IGP	Industrial General Permit
ISA	International Society of Arboriculture
MBTA	Migratory Bird Treaty Act
MCV2	Manual of California Vegetation, Second Edition
NONA	Notice of Non-Applicability
RWQCB	Regional Water Quality Control Board
TPZ	tree protection zone
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WL	Watch List

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1 Introduction

Dudek has prepared this Biological Resources Assessment Report (report) on behalf of The City of Thousand Oaks (City) to identify the existing conditions, potential for sensitive biological resources to occur, identify impacts, and recommend measures to avoid and minimize impacts for biological resources within and adjacent the Hill Canyon Treatment Plant Stormwater Diversion Project (Project) site. The Project involves improvements to the Hill Canyon Treatment Plant (Treatment Plant) including the development of a new debris basin and storm drain improvements. This report's primary intent is to support the City's California Environmental Quality Act (CEQA) reporting and review process for the Project. The report also provides information which may be pertinent for review by other relevant regulatory resource agencies, including the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW).

The Project site (Assessor's Parcel Numbers 552-013-001 and 667-012-017) is located at the Hill Canyon Treatment Plant (Figure 1, Project Location). The address for the Treatment Plant is 9600 Santa Rosa Road at the confluence of north and south Arroyo Conejo Creek and within the western limits of the City of Thousand Oaks in Ventura County, California. The Project site is bounded by Hill Canyon Fire Road to the northwest and undeveloped vegetated land to the north, east, and south. The area surrounding the Project site is predominantly open space, with residential and commercial properties approximately 0.25 miles south and east of the site.

2 Project Description

2.1 Project Background and Need

The Hill Canyon Treatment Plant, which is owned and operated by the City, provides wastewater treatment for the City of Thousand Oaks. The Treatment Plant is a 14 million gallon per day capacity wastewater treatment plant and currently treats an average of 8 million gallons of wastewater per day generated from its domestic, commercial, and industrial customers.

The Treatment Plant is located at the confluence of two watersheds and experiences flooding after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. These high runoff events are followed by a subsequent cleanup and debris removal associated with run-on flows from the tributary canyons that overflow into the Treatment Plant. Under existing conditions, flows are intercepted by a concrete swale that sits behind an existing reinforced concrete wall, directing flows to drain inlets that connect to an existing 30-inch storm drain system. To maintain compliance with the Industrial General Permit (IGP) and the City's Notice of Non-Applicability (NONA) for the IGP requirements, the City disconnected the 30-inch storm drain from outletting off site and added a sump pump system to divert flows to an on-site basin. The City captures and treats all on-site stormwater flows through the wastewater treatment process. The maximum capacity of the existing 30-inch storm drain is 50 cubic feet per second (cfs). The 10-year combined peak flowrate of the two watersheds is 105 cfs. The City determined that it was not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant and therefore the proposed design flow is limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture and contain storm water flows is necessary. Implementation of the Project would include reestablishing the existing 30-inch storm drain's connection to the original off-site outlet, new pipes to contain on-site flows within the site and maintain NONA status related to the

IGP, and a debris basin to contain flooding and the accompanying debris experienced after storm events associated with run-on flows from the tributary canyons that overflow onto the Project site.

2.2 Proposed Project Components

Proposed Project component are shown on Figure 2, Project Site Plan, and provided as Appendix A, 75% Site Plans (dated August 9, 2021).

Existing 30-inch Storm Drain

Under existing conditions, the existing 30-inch storm drain ties into a sump pump system that diverts flows to the adjacent sludge drying beds. The diverted storm flows are combined with the wastewater flow through the Treatment Plant. The Project would demolish the sump pump and reestablish the connection to the existing 30-inch storm drain's original outfall only to transport off-site flows from the adjacent canyon. No on-site stormwater flows will be captured in the pipeline and discharged off-site. The original outfall outlets to the South Arroyo Conejo Creek.

The maximum capacity of the existing 30-inch storm drain is 50 cubic feet per second (cfs). The City determined that it is not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant. Therefore, the Project would be limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture and contain storm water flows is necessary.

Proposed Storm Drain Pipes

Upstream of the demolished pipe segment, a proposed storm drain pipe (Pipe A) would divert on-site flows to the existing flow equalization basin (FEB) overflow structure which is routed to the sludge drying beds. The alignment of Pipe A would be within the existing FEB side slope. Pipe A would be 36-inches in diameter and have a full flow capacity of 55-cfs. A second proposed storm drain pipe (Pipe B) would receive off-site flows from the proposed channel at the upstream end and tie into the existing 30-inch storm drain at the downstream end. Pipe B would be 24-inches in diameter and have a full flow capacity of 93-cfs. A third proposed storm drain pipe (Pipe C) would receive off-site flows from the proposed debris basin at the upstream end and outlet to the proposed channel at the downstream end. Pipe C would be 24-inches in diameter and would have a full flow capacity of 50-cfs.

Proposed Debris Basin and Channel

The proposed debris basin would be incorporated at the upstream end of the eastern side of the Treatment Plant to intercept all debris and allow clear water flows to continue downstream into the storm drain pipe where it is routed to the outfall location. No other connections to the pipe are made. A proposed channel would connect to the proposed debris basin at the upstream end by Pipe C. The proposed channel would convey 50-cfs flows.

Manhole and Inlet Improvements

Additional improvements are proposed at the existing manhole and inlet area southwest of the proposed basin and drain pipe work areas. Manhole work area improvements include a combination of concrete grading and curb improvements.

2.3 Project Operational Characteristics

Upon completion of construction, the Project would continue providing wastewater treatment services for the City. Similar to the existing conditions, staff would occasionally visit the Project site for routine maintenance or in the event of an emergency. Operational impacts are considered to be minimal and very similar to the existing conditions.

2.4 Project Construction and Scheduling

Construction of the Project is anticipated to occur over approximately 6 months. Project construction includes demolition of the sump pump associated with the existing 30-inch storm drain, retaining wall structures, drainage features and vegetation, site preparation and grading, constructing three new storm drain pipes and concrete channel, a debris basin, retaining wall structures, and reconnection of the 30-inch storm pipe. Materials required for construction would include piping, concrete blocks for the walls, and concrete. Water for concrete installation, dust control and erosion control would also be required. The heavy equipment would include those typical for similar projects, including grading, dump trucks, backhoe loaders, skid steers, concrete mixers, etc.

Staging and access work areas as well as fueling of equipment will occur within the existing Treatment Plant. Construction equipment will be restricted within the open space undeveloped areas (proposed debris basin). Work in this area will occur within the proposed basin impact areas and no staging or disturbances are proposed outside the Project component areas in undeveloped open space. No new lighting features are proposed adjacent to undeveloped open space (i.e., debris basin, storm drain pipes). Where present, oak tree overhead canopy will be preserved to the extent feasible. Some minor overhead clearance may be necessary where large equipment will require access or passage through a Project area. All oak tree work shall conform and abide by the provisions of the Oak Tree Ordinance, Title 5, Chapter 14 of the Thousand Oaks Municipal Code, and the Oak Tree Preservation and Protection Guidelines Res. No. 2010-014. As described under Section 6, all Project areas within undeveloped areas are considered permanent impacts and no temporary impact areas are proposed.

3 Regulatory Framework

This section outlines the federal, State, and local regulations pertinent to the biological resources located on the Project site. Some of the biological resources that could be affected by the Project are regulated by resource agencies that often overlap in jurisdiction. This section identifies and discusses the various programs regulating federally and/or State-listed threatened or endangered plants and wildlife, sensitive vegetation communities, and jurisdictional aquatic resources, such as drainages, streambeds, riparian habitat, and wetlands.

3.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973, as amended (16 USC 1531 et seq.), serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as federally endangered, FESA provides for the ability to designate critical habitat, defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection." Under FESA Section 7, if a project that

would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a federal agency, that agency must consult with the USFWS to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532 (19)). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), the USFWS may issue a permit for the take of threatened or endangered species provided that such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50, Section 10.13 of the Code of Federal Regulations. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50, Section 20 of the Code of Federal Regulations. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). Multiple federal and legal actions to the interpretation of the MBTA occurred between December 2017 and October 2021. The most recent action by the USFWS on the MBTA interpretation was published on October 4, 2021, and went into effect on December 3, 2021. In their summary of this final rule, the USFWS explained that "the immediate effect of this final rule is to return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent and longstanding agency practice prior to 2017" (86 FR 54642).

Clean Water Act – Section 404

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, USACE has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function. Since 2015, the definition of "waters of the United States" has been finalized under three successional rules.[1] More recently, USACE has interpreted waters of the United States consistent with the pre-2015 regulatory regime. In January 2023, the final "Revised Definition of 'Waters of the United States'" Rule was published and will be effective on March 20, 2023. This 2023 Waters of the United States Rule is founded upon and generally consistent with the pre-2015 regulatory regime, with adjustments to the regulatory text for streamlining and increasing clarity.

Clean Water Act – Section 401

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation

[1] The 2015 Clean Water Rule; 2019 Repeal Rule; and 2020 Navigable Waters Protection Rule.

Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate State agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The Los Angeles RWQCB has authority for Section 401 compliance in the Project site. A request for certification is submitted to the regional board at the same time that an application is filed with the USACE.

3.2 State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Fish and Game Commission has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of State-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. Take under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code [CFGC] Section 86). Unlike the FESA, CESA does not include harassment or harm (e.g., habitat degradation) in its definition of take. Species determined by the State of California to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a State agency reviewing a project within its jurisdiction must determine whether any State-listed endangered or threatened species, or candidate species, could be potentially impacted by that project.

California Department of Fish and Wildlife Special-Status Plants

For this analysis, special-status plant species are defined as plants that are legally protected or that are otherwise considered sensitive by federal, State, or local resource conservation agencies. These species fall into one or more of the following categories:

- Listed by the federal government under FESA or the State under CESA as endangered, threatened, or rare
- A candidate for federal or State listing as endangered or threatened
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation
- Population(s) in California that may be peripheral to the major portion of a taxon's range, but are threatened with extirpation in California
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats)

Taxa considered to be "rare, threatened, or endangered in California" as defined by CDFW and assigned a California Rare Plant Rank (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, as follows:

- CRPR 1A – Plants presumed extirpated in California and either rare or extinct elsewhere
- CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere
- CRPR 2A – Plants presumed to be extinct in California, but more common elsewhere
- CRPR 2B – Plants that are rare, threatened, or endangered in California, but more common elsewhere

- CRPR 3 – Plants about which more information is needed (a review list)
- CRPR 4 – Plants of limited distribution (a watch list)

Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA review documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380, but these species may be evaluated on a case-by-case basis.

California Department of Fish and Wildlife Species of Special Concern

CDFW maintains a list of vertebrate animal species considered of "special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. A Species of Special Concern is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the State or, in the case of birds, is in its primary seasonal or breeding role
- Is listed as threatened or endangered federally, but not by the State
- Meets the State definition of threatened or endangered, but has not formally been listed
- Is experiencing, or formerly experienced, serious noncyclical population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for threatened or endangered status by the State
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for threatened or endangered status by the State

Impacts to Species of Special Concern are typically evaluated and mitigated within the context of an environmental impact report or other document prepared pursuant to CEQA.

California Fish and Game Code Section 1600 – Lake and Streambed Alteration Agreement

Under Sections 1600–1616 of the CFGC, CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit" (Section 1601). In practice, CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

California Department of Fish and Wildlife – Wetlands Protection Regulations

CDFW derives its authority to oversee activities that affect wetlands from State legislation. This authority includes CFGC Sections 1600–1616 (lake and streambed alteration agreements), CESA (protection of State-listed species and their habitats, which could include wetlands), and the Keene–Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, CDFW asserts authority over wetlands within the State through any of the following: review and comment on USACE Section 404 permits, review and comment on CEQA documents, preservation of State-listed species, or lake and streambed alteration agreements.

California Fish and Game Code, Section 1940 – Sensitive Natural Communities

CFGC Section 1940 requires CDFW to develop and maintain a vegetation mapping standard for the State. More than half of the vegetation communities in the State have been mapped through the Vegetation Classification and Mapping Program.

Natural vegetation communities are evaluated by CDFW and are assigned global and State (S) ranks based on rarity of and threats to these vegetation communities in California. Natural communities with ranks of S1 through S3 (S1: critically imperiled; S2: imperiled; S3: vulnerable) are considered sensitive. Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities include vegetation communities listed in CDFW's California Natural Diversity Database (CNDDB) and communities listed in the Natural Communities List with a rarity rank of S1, S2, or S3. Additionally, all vegetation associations within the alliances with ranks of S1 through S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible.

California Fish and Game Code, Sections 3503, 3503.5, 3511, 3513

Section 3503 of the CFGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

California Fish and Game Code, Section 4150

CFGC Section 4150 states a mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed under this code. All bat species occurring naturally in California are considered non-game mammals and are therefore prohibited from take as stated in CFGC Section 4150.

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act established the State Water Resources Control Board and each RWQCB as the principal state agencies responsible for the protection of water quality in California. As noted under the discussion of the CWA, the Los Angeles RWQCB has regulatory authority over the Project site.

The Porter–Cologne Water Quality Control Act provides that "[a]ll discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter–Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the State." All dischargers are subject to regulation under the Porter–Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The Los Angeles RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. As noted in the discussion of the CWA, the Los Angeles RWQCB is the appointed authority for Section 401 compliance in the Project site.

California Environmental Quality Act

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been generally modeled after the definition in FESA and Chapter 1.5 of the CFGC that addresses rare or endangered plants and animals. Appendix G of the CEQA Guidelines requires a lead agency to determine whether or not a project would "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 or U.S. Fish and Wildlife Service." CEQA Guidelines Section 15065 requires that a lead agency find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species."

3.3 Local

City of Thousand Oaks General Plan

The City's General Plan identifies goals, policies, and implementation actions to protect the City's natural resources including community forestry, conservation, forestry, housing, land use/circulation, noise, open space, public buildings, safety, scenic highway, and social resources. Policies are set forth for the protection of these resources accordingly. The relevant General Plan Community policies related to biological resources described within the Community Forest Element (City of Thousand Oaks 2017) and Conservation Element (City of Thousand Oaks 2013) are provided below.

Community Forest Element

Tree Protection

F-13. The City's legacy of trees shall preserved through the rigorous enforcement of its Oak and Landmark Tree Ordinances. City staff shall keep current with research and practices relating to oak tree preservation and should disseminate such information to maintenance personnel, property owners and others responsible for the City's oak and landmark trees.

F-15. Where practical, the City should strive to preserve mature trees of any species when associated with a development proposal.

Tree Maintenance Practices

F-16. All tree pruning on City land not being undertaken by City crews shall be approved by City staff. All pruning shall comply with International Society of Arboriculture and City maintenance standards. Pruning should not be performed solely to reduce canopy coverage except as determined appropriate by the Public Works Director

F-20. The City shall properly dispose of removed trees and clippings, to control the spread of pests and disease and recycle tree waste to the maximum extent feasible.

Tree Selection

F-23. Plant species which are well adapted to the planting site and which will create maximum benefits with minimum problems should be planted. Proposed species should be carefully evaluated as to their likely performance in a given situation, the problems they may pose, and their ability to deliver the benefits that the planting is intended to provide. Trees should be selected using species selection and design guidelines and the planting palette from the Forestry Master Plan.

F-24. Adequate space and site conditions should be provided for healthy tree growth to full maturity. City staff should evaluate proposed planting sites and suggest modifications that will provide for the best possible growing conditions for the trees. In particular, adequate unconstricted, uncompacted root room and ample air space for the trees full growth should be provided. In new developments utilities should be undergrounded outside the root zone of street trees. Narrow existing parkways should be widened wherever possible. Larger planting areas with clusters of trees should be encouraged.

Planting Native Trees

F-30. A variety of oaks and other species native to this area should be planted in appropriate situations. The use of oaks should be encouraged where appropriate and adequate growing conditions can be provided. The design of major streets should seek to create spaces where oaks can be used as an accent tree. Oaks should be considered in special planting areas and at important intersections and other visually important spots. Any oak or landmark tree removed by development should be replaced with trees of the same species, as determined by the size of the tree removed and pursuant to the Oak and Landmark Tree Ordinances.

Site Appropriate Plantings

F-38. Environmental factors should be given equal weight with aesthetic considerations when making planting decisions. Careful use of the City's tree selection criteria and planting palette should be required to assure environmentally appropriate selections that also enhance the aesthetic character of the community.

Conservation Element

B. Landform Features

CO-6. There should be no grading in slopes over 25% natural grade and the vertical height of manufactured slopes should be no higher than 25 feet.

D. Streams and Creeks

CO-10. Streams and creeks should be protected as open space and maintained in as natural a state as possible, and appropriate measures taken to manage urban runoff, in order to protect the City's and other downstream communities' water quality, wildlife diversity, native vegetation, and aesthetic value. This will contribute to the regional effort to improve the quality of Calleguas Creek, Malibu Creek and Mugu Lagoon.

CO-11. Degraded sections of streams and creeks should be restored or enhanced as opportunities arise and financial resources become available.

CO-13. Use of concrete for flood control improvements in natural drainage courses should occur only when no reasonable alternatives can be found that would maintain natural hydrological and ecological functions.

F. Stormwater Retention and Debris Basins

CO-15. Every effort shall be made to design and construct stormwater retention and debris basins to minimize any potentially adverse impacts to significant landform features, aquatic resources, and associated native plant and animal communities.

H. Native Plant and Wildlife Resources

CO-21. The City shall encourage the proper management, conservation and protection of native plant communities throughout the City's Planning Area, including developed areas and undeveloped open space lands.

CO-23. Critical wildlife habitat resources such as movement corridors, surface water impoundments, streams and springs should be given special consideration for protection, restoration or enhancement, in order to maintain biodiversity, biological productivity and ecological integrity of natural open space areas.

I. Wildlife Movement Corridors

CO-26. Isolation and fragmentation of natural open space areas should be prevented wherever possible.

CO-27. Since natural stream drainages often serve as important movement corridors for wildlife, they should be preserved wherever it is feasible to do so.

CO-28. Urban land uses adjoining natural open space areas should be designed in a manner that is sensitive to the needs of wildlife and avoids or minimizes any potentially adverse impacts to movement corridors.

J. Oak and Landmark Trees

CO-29. Continue to protect oak and landmark trees and their habitat in recognition of their historic, aesthetic and environmental value to the citizens of Thousand Oaks, in particular Valley Oak habitat.

L. Rare, Threatened or Endangered Species

CO-32. The City shall encourage and promote the conservation and protection of all rare, threatened, endangered or sensitive species listed by State and Federal agencies (United States Fish and Wildlife Service and California Department of Fish and Wildlife), the California Native Plant Society (CNPS), the County of Ventura and the City of Thousand Oaks.

City of Thousand Oaks – Oak Trees and Landmark Trees

The City protects oak trees and landmark trees through City Ordinance. Municipal Code Section 9-4.42 provides the Oak Tree Preservation and Protection Ordinance and Municipal Code Section 9-4.43 provides the Landmark

Tree Preservation and Protection Ordinance. The City requires a permit for removal, pruning, or encroachment into the protected zone of any oak tree or landmark tree, which are defined below.

- **Oak Tree:** Any oak tree of the genus Quercus including, but not limited to, valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), and Inland scrub oak (*Quercus berberidifolia*), regardless of size. (Thousand Oaks Municipal Code, Title 9, Chapter 4, Article 42: Oak Tree Preservation and Protection)
- **Landmark Tree:** Specimens of the following species which have reached the designated maturity: California sycamore (*Platanus racemosa*) which exceed twelve (12") inches in diameter when measured at a point four and one-half (4 1/2') feet above the natural grade at the base of the tree; California bay (*Umbellularia californica*) which exceed eight (8") inches in diameter when measured at a point four and one-half (4 1/2') feet above the natural grade at the base of the tree; Southern California black walnut (*Juglans californica*) which exceed eight (8") inches in diameter when measured at a point four and one-half (4.5') feet above the natural grade at the base of the tree; toyon (*Heteromeles arbutifolia*) which exceeds eight (8") inches in diameter when measured at a point four and one-half (4.5') feet above the natural grade at the base of the tree. Trees with multiple trunks shall be deemed to have reached maturity if the sum of the diameters of the multiple trunks exceeds the required diameter plus two (2") inches of a single trunked tree. Landmark trees shall also include all designated historic trees. (Thousand Oaks Municipal Code, Title 9, Chapter 4, Article 43: Landmark Tree Preservation and Protection)
- **Protected Zone:** A specifically defined area totally encompassing a landmark or historic tree within which work activities are strictly controlled. When depicted on a map, the outermost edge of the protected zone will appear as an irregular shaped circle that follows the contour of the dripline of the tree. Using the dripline as a point of reference, the protected zone shall commence at a point five (5') feet outside of the dripline and extend inward to the trunk of the tree. In no case shall the protected zone be less than fifteen (15') feet from the trunk of a landmark tree (both code sections).

Locally Important Species Lists

The Ventura County Planning Division maintains lists of locally important plants and locally important animals (Ventura County Planning Division 2014, 2018) that are significant biological resources to be protected from incompatible land uses and development.

Checklist of Ventura County Rare Plants

The Checklist of Ventura County Rare Plants (Magney 2020) expands upon the Locally Important Plant List (2018) and includes plants species that are rare (5 or fewer extant populations in the country) or uncommon (6 to 10 extant populations).

4 Methods

4.1 Literature and Database Review

The location of documented sensitive vegetation communities, special-status plant species, and special-status wildlife species present near the Project site and that have potential to occur in the Biological Survey Area (BSA) this report, were identified through a query of the CNDDB for a standard nine U.S. Geological Survey 7.5-minute quadrangles surrounding the Project site (CDFW 2022a); USFWS Information for Planning and Consultation (IPaC) website (USFWS

2022a); and the California Native Plant Society's online Inventory of Rare and Endangered Plants (CNPS 2022a). The BSA covers the entire proposed impact areas plus an additional 100-foot buffer (Figure 2, Project Site Plan).

Other data reviewed included aerial photographs and relevant policy and planning documents, including the Checklist of Ventura County Rare Plants (Magney 2020), U.S. Geological Survey National Hydrography Dataset (USGS 2022), USFWS Critical Habitat Mapper (USFWS 2022b), and USFWS National Wetlands Inventory (USFWS 2022c).

4.2 Field Surveys

As shown in Table 1, Dudek biologist Melissa Blundell visited the Project site on February 8 and 17, 2021, to perform a biological site visit. During the visit Ms. Blundell walked and examined areas within the Biological Survey Area (BSA), which included the Project boundary and a 100-foot buffer. During the visit Ms. Blundell mapped vegetation communities and used a GPS unit to delineate the location and boundaries of any potentially sensitive biological resources. Heather Moine visited the site on March 21, 2022, primarily to perform an Aquatic Resources Delineation Survey and Rare Plant Survey. Supplemental vegetation and oak tree mapping was also performed, which provided supplemental information related to slight Project footprint changes and vegetation mapping refinement. Details related to the survey methods are provided below.

Table 1. Summary of Biological Survey Personnel and Conditions

Date	Time	Survey Type	Personnel	Weather Conditions
2/8/2021	0925–1450	Reconnaissance	MB	54.5°F–63°F, 20%–100% cc, 0–5 mph winds
2/17/2021	0850–1100[a]	Reconnaissance	MB	58°F–60°F, 0% cc, 0–1 mph winds
3/21/2022	0907–1720	Aquatic Resources Delineation, Rare Plant Survey, Supplemental Vegetation and Oak Tree Mapping	HM	59°F–73°F; 20%–40% cc; 1–4 mph wind
6/24/2022	0859–1334	Rare Plant Survey	HM	68°F–89°F; 0% cc; 0–5 mph wind

Survey Personnel: MB = Melissa Blundell; HM = Heather Moine.
Notes: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour.
[a] Estimated end time.

4.2.1 Vegetation Community and Land Cover Mapping

The California Natural Communities List (CDFW 2022b) provides the current list of vegetation alliances, associations, and special stands. State and global rarity ranks are indicated for alliances and some associations; those with ranks of 1-3 are considered Sensitive. The California Natural Communities List uses the scientific name of the dominant species in that alliance as the alliance name, which is based on the Manual of California Vegetation, Second Edition (MCV2; Sawyer et al. 2009). These classification systems focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages). Nomenclature for on-site vegetation communities reflects the most current system, MCV2 and California Natural Communities List. Vegetation communities were mapped based on these sources. CNPS launched a web-based version of MCV2 in 2015 that

provides up-to-date rankings and vegetation community descriptions (CNPS 2022b). This web-based version of MCV2 was used to provide the vegetation community rankings.

Vegetation mapping was performed in the field, through interpretation of field maps with a high-quality aerial photographic base on an Esri ArcGIS mobile application and/or delineation using a Trimble Geo XT GPS unit for all vegetation. The maximum scale of the field map was 100-scale (1-inch = 100-foot) base. The GPS data was downloaded into GIS ArcView for placement onto an aerial figure. In combination with the GPS data, GIS technicians digitized the delineated vegetation boundaries from field maps using ARCVIEW to create the vegetation community map.

4.2.2 Flora

Dudek biologist Heather Moine, who is familiar with the target special-status plant species and general flora of the Ventura County region, performed seasonally timed focused special-status plant surveys in accordance with the CNPS Botanical Survey Guidelines (CNPS 2001); Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and USFWS's General Rare Plant Survey Guidelines (Cypher 2002). All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status. If target species were encountered, field personnel recorded data points demarcating the edge of the polygon and assessed population numbers using the Esri ArcGIS mobile application. Special-status plant species are defined as:

- Designated as either rare, threatened, or endangered by CDFW or the USFWS and are protected under either the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.) or federally Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.), or meet the CEQA definition for endangered, rare, or threatened (Cal. Code Regs., tit. 14, § 15380(b),(d)); or
- Candidate species being considered or proposed for listing under these same acts; or
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes plants included on the CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022c); or
- Are designated as rare in Ventura County (Magney 2020)

In addition to State, federal, and County special-status designations, the CNPS assigns a CRPR to designate the degree of concern for and rarity of plant taxa in California. Special-status plants are assigned to one of six CRPR categories, as follows:

- **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 extirpated in California, but common elsewhere
- **CRPR 2B:** Plants rare, threatened, or endangered in California, but more common elsewhere
- **CRPR 3:** Needs review
- **CRPR 4:** Plants of limited distribution (a watch list)

In addition to the CRPR, CNPS assigns threat categories to the lists as follows:

- 0.1—Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat) (e.g., 1B.1 would be a plant rare, threatened, or endangered in California and elsewhere and more than 80% of the occurrences threatened or with a high degree of threat).
- 0.2—Moderately threatened in California (20% to 80% of occurrences threatened/ moderate degree and immediacy of threat)
- 0.3—Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

The CNPS rarely assigns a threat category of 0.1 to CRPR 4 plants because they generally have large enough populations to not be significantly threatened in California.

4.2.3 Fauna

During the reconnaissance surveys, Dudek biologist Melissa Blundell walked all areas of the BSA and all wildlife species, as detected during field surveys by sight, calls, tracks, scat, or other signs, were identified and recorded. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. No trapping or focused surveys for special-status or nocturnal species was conducted. Latin and common names for vertebrate species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithological Society (AOS 2021) for birds, Mammal Diversity Database (2021) for mammals, North American Butterfly Association (NABA 2016) or SDNHM (2002) for butterflies, and Moyle (2002) for fish. Special-status wildlife species are defined as follows:

- Designated as either rare, threatened, or endangered by CDFW or the USFWS and are protected under either the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.) or federally Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.), or meet the CEQA definition for endangered, rare, or threatened (Cal. Code Regs., tit. 14, § 15380(b),(d)); or
- California Species of Special Concern (CSC), as designated by CDFW (2022d) are vertebrate species that are of concern due to suspected declining populations, limited ranges, and or continuing threats that increase their chance of extinction or extirpation in California; or
- Mammals and birds that are fully protected (FP) species, as described in Fish and Game Code, Sections 4700 and 3511; or
- Birds of Conservation Concern (BCC) are bird species the USFWS considers to be of high conservation priority beyond those listed as threatened or endangered (USFWS 2021).
- California Fully Protected (FP) species are vertebrate species that the State identified for special protection prior to Endangered Species Act protection due to rarity or a threat of extinction. Most FP species have been State- and/or federally listed as threatened or endangered, but there are some exceptions (e.g., white-tailed kite).
- Watch List (WL) species are bird species in a new category of "taxa to watch" that was created in the California Bird Species of Special Concern (Shuford and Gardali 2008). Species on the WL are not currently State- or federally listed as threatened or endangered, CSC, or FP species.
- Special Animals (SA) are vertebrate and invertebrate species that do not have other State designations (i.e., CSC, FP, WL) that are listed on the Special Animals List (CDFW 2022d). "Special Animals" is also a general term for all species the CDFW is currently interested in tracking through the CNDDB. CDFW

therefore considers the Special Animals list to be "species at risk" or "special-status species" (CDFW 2022d).

4.2.4 Aquatic Resources Delineation

During the reconnaissance-level biological survey Dudek biologist Melissa Blundell identified areas with aquatic resources within the western portion of the BSA. As the initial step of the aquatic resources delineation, the Dudek biologist conducted a literature review of publicly available sources documenting known or potential aquatic resources within the survey area and in the local vicinity. These included National Wetland Inventory (USFWS 2022c), the National Hydrography Dataset (USGS 2022), and historical aerial images. Following the literature review, the Dudek biologist Heather Moine surveyed the BSA to delineate aquatic features and determine the extent of potentially jurisdictional aquatic resources. The aquatic resources delineation was conducted in accordance with the procedures established in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM) (33 CFR 328.3[e]), the delineation of which follows A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b). The aquatic resources delineation also included the collection of CDFW-jurisdictional boundaries subject to Sections 1600–1616 of the CFGC, which extend to the top of bank or the outermost edge of riparian vegetation, whichever is greater, associated with a stream channel or waterway. Lastly, the aquatic resources delineation included an evaluation of swales.

4.2.5 Survey Limitations

Aside from the methods described above, no additional protocol surveys or guidelines developed by responsible or trustee agency (e.g., USFWS, USACE, CDFW) were conducted as part of this of the biological survey. The seasonal timing of the of survey precluded the observation of many wildlife species not active or evident time of year the survey occurred. Additionally, no agencies were consulted regarding aquatic resources or special-status species; therefore, the conclusions and recommendations are based on the best available information including literature, databases, and the field surveys performed.

5 Results

5.1 Summary

The Project site is partially located in existing development and partially located in the adjacent open space undisturbed landscape. A total of four sensitive communities occurs within the BSA, including California brittle brush – California sagebrush scrub, chamise – black sage – sugarbush scrub, lemonade berry – California sagebrush scrub, and lemonade berry scrub (Figure 3, Vegetation Communities and Land Cover Types). Multiple oak trees (approximately 19 over 2 inches in diameter) were mapped within the BSA (Figure 4, Trees). One special-status plant species, Conejo dudleya (*Dudleya parva*, federally listed as threatened, California Rare Plant Rank 1B.2) approximately 25 feet uphill from the proposed debris basin (Figure 5, Biological Resources). In addition, sign for one special-status mammal, San Diego desert woodrat (*N. lepida intermedia*), was observed throughout the BSA (Figure 5, Biological Resources). An additional 7 special-status wildlife species, not directly observed, have a moderate to high potential to occur in the undeveloped open

spaces of the BSA. There is no USFWS critical habitat within the BSA. Potential jurisdictional aquatic features were mapped within the BSA, including an ephemeral channel, connecting swale, and v-ditch (Figure 5, Biological Resources). Although wildlife corridors and linkages are present surrounding the Hill Canyon Treatment Plant, the proposed work within open space (debris basin) is adjacent to and extends approximately 47 feet from the existing Treatment Plant fence line and unlikely to impact wildlife movement in this area. Birds protected under the Migratory Bird Treaty Act (MBTA) and/or CFGC have a potential to utilize the habitats in the undeveloped open space for nesting opportunities.

5.2 Environmental Setting

The Project site is located within a 60-acre open space parcel that contains the Treatment Plant (Figure 2, Project Site Plan). The Treatment Plant contains primary treatment facilities, secondary treatment facilities, tertiary treatment facilities, a receiving station to handle solids and fats, oil and grease, energy facilities, and other facilities. The Project site is located between two publicly owned open space systems including Wildwood Regional Park approximately 1,765 acres, and Conejo Canyons Open Space, approximately 1,430 acres.

The City of Thousand Oaks General Plan Land Use Element designates the Project site as Institutional (City of Thousand Oaks 2018). The City's online zoning map designates the site as Public, Quasi-Public, and Institutional Lands and Facilities (P-L) (City of Thousand Oaks 2022). The land surrounding the Project site has a land use designation of Existing Parks, Golf Courses, and Open Space (City of Thousand Oaks 2018). Additionally, the land surrounding the Project site is zoned Open Space (OS) (City of Thousand Oaks 2022).

Soils

Historically mapped soils within the Project site include Hambright very rocky loam (15% to 75% slopes), generally within the naturally vegetated areas on-site, Vina loam (2% to 9% slopes) and Vina gravelly loam (2% to 9% slopes) generally within the developed Treatment Plant. Currently, the Treatment Plant is fully developed and lacks natural soils on-site. Natural soils are present along the edge of the Treatment Plant associated with the Hambright Series, consisting of shallow, well drained soils (USDA 2022a). None of the soils mapped are listed on the National Hydric Soils List by State (USDA 2022b). Soils within and surrounding the BSA are shown in the Aquatic Resources Delineation Report (ARDR; Appendix B).

Terrain

The Hill Canyon Treatment Plant is an existing development within a regional open space landscape. As a result, the Treatment Plant supports a flat terrain which gently slopes (roughly 1% slope) from north to southwest, towards Arroyo Conejo Creek. The location of the proposed debris basin is located within undeveloped open space. Most of the terrain at this location is moderately sloped (roughly 15% to 20% slope) from southeast to northwest, with quickly rising hills characterized by steep terrain (roughly 70% slope) surrounding the proposed debris basin footprint. Topography contours are shown on Figure 3, Vegetation Communities and Land Cover Types.

Hydrology

The Project site is located within the Ventura-San Gabriel Coastal basin Hydrologic Unit (180701) and Upper Conejo Arroyo subwatershed Hydrologic Unit (180701030104). The Upper Conejo Arroyo subwatershed covers an area of 27,665 acres (112 square kilometers) and encompasses the areas of Potrero Valley, Conejo Valley, and east to Oakbrook Regional Park. Watersheds within and surrounding the BSA are shown in the ARDR (Appendix B).

5.3 Vegetation Communities and Land Cover Types

A total of six vegetation communities and/or land cover types were mapped within the BSA (Table 2; Figure 3). All four of the mapped vegetation communities are considered sensitive. Below are descriptions of each of the vegetation community and land cover types within the BSA. It should also be noted that "biological crusts," bare soils covered with an assemblage of cyanobacteria, mosses, lichens, and/or liverworts, were also observed in specific areas within the BSA. Although these resources are ecologically valuable (e.g., soil stability, water infiltration, invasive plant species suppression) they are not specifically regulated by resources agencies and, therefore, not discussed further in this report. Photo documentation is provided as Appendix C.

Table 2. Vegetation and Land Cover Types within the BSA

General Habitat	Vegetation Community	Global, State Rank[a]	CDFW Sensitive[b]	Acres
Native Scrub	California brittle bush – California sagebrush scrub Association	G3	Y	0.08
	Chamise – Black sage – Sugarbush scrub Association	G3, S3	Y	0.11
	Lemonade berry scrub Alliance	G3, S3	Y	0.44
	Lemonade berry scrub – California sage scrub Association	—	Y	1.56
Other Land Cover Types	Developed	N/A	N	2.87
	Disturbed	N/A	N	0.30
			Total	**5.36**

Notes: BSA = Biological Survey Area.

[a] For alliances with State ranks of S1 to S3, all associations within them are considered highly imperiled. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank (CDFW 2022b).

[b] Sensitive based on CDFW (2022b). However, communities determined to not be sensitive may still be sensitive under local policies or provide suitable habitat for special-status plant and wildlife species.

Native Scrub

California Brittle Bush – California Sagebrush Scrub Association is considered vulnerable (G3) and a sensitive vegetation community by CDFW (2022b). Within this association, California brittle bush (*Encelia californica*) and California sagebrush (*Artemisia californica*) are co-dominant in the shrub layer. Some plant species associated with this association include coyotebrush (*Baccharis pilularis*), California buckwheat, deer weed (*Acmispon glaber*), laurel sumac, lemonade berry (*Rhus integrifolia*), sage species (*Salvia* spp.), and blue elderberry (*Sambucus mexicana*). This scrub community provides suitable cover, nesting, and foraging opportunities for commonly occurring wildlife species, as described under Chamise – Black Sage – Sugarbush Scrub Association. In addition, the federally listed coastal California gnatcatcher (*Polioptila californica californica*), is strongly associated with sage scrub habitats. Approximately 0.08 acre of this community was mapped near the proposed debris basin in the western portion of the BSA (Figure 3).

Chamise – Black Sage – Sugarbush Scrub Association is considered vulnerable (G3, S3) and a sensitive vegetation community by CDFW (2022b). Within this association, chamise (*Adenostoma fasciculatum*) and black sage (*Salvia*

mellifera) are co-dominant in the shrub layer with sugarbush (*Rhus ovata*) present at lower cover. Some plant species typically associated with the alliance level include Arctostaphylos spp., California sagebrush (*Artemisia californica*), ceanothus (*Ceanothus* spp.), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), hollyleaf redberry (*Rhamnus ilicifolia*), and sugar bush (*Rhus ovata*) (Sawyer et al. 2009). This scrub community provides suitable cover, nesting, and foraging opportunities for commonly occurring birds such as house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), northern mockingbird (*Mimus polyglottos*), California towhee (*Melozone crissalis*), and wrentit (*Chamaea fasciata*); common mammals, such as rabbits and mice; and common reptile species, such as western fence lizard (*Sceloporus occidentalis*). Approximately 0.11 acres of this community was mapped near the proposed debris basin in the northeastern portion of the BSA (Figure 3).

Lemonade Berry Scrub Alliance is considered vulnerable (G3, S3) and a sensitive vegetation community by CDFW (2022b). Within this association, lemonade berry is dominant in the shrub layer. Some plant species associated with this alliance include California sagebrush, bush monkeyflower (*Diplacus aurantiacus*), California brittle bush, buckwheat species (*Eriogonum* spp.), toyon, sage species, and blue elderberry. Wildlife found in lemonade berry scrub is similar to that found in Chamise – Black Sage – Sugarbush Scrub Association. Approximately 0.44 acres of Lemonade Berry Scrub was mapped near the manhole work area and proposed debris basin in the southern and western portions of the BSA, respectively (Figure 3).

Lemonade Berry Scrub – California Sagebrush Association is considered a sensitive vegetation community by CDFW (2022b). Within this association, lemonade berry and California sagebrush are co-dominate in the shrub layer. This association contains a similar composition and similar species as found with Lemonade Berry Scrub. In addition, the federally listed coastal California gnatcatcher is strongly associated with sage scrub habitats. Approximately 1.56 acres of the Lemonade Berry Scrub – California Sagebrush Association was mapped near the proposed debris basin in the western portion of the BSA (Figure 3).

Other Land Cover Types

Developed areas are not listed in CDFW (2022b) and not considered sensitive. Developed land refer to areas that have been constructed upon or otherwise physically altered to the extent that native vegetation communities are not supported. Developed areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation. Within the BSA, approximately 2.87 acres mapped as developed areas include the entire Hill Canyon Treatment Plant, including buildings, landscaping, access roads, and parking areas. Most of the developed areas in the BSA lack any vegetation to provide cover, feeding, or nesting opportunities for wildlife species. Limited ornamental landscaping may provide some temporary cover or nesting opportunities for common urban-adapted bird and reptile species.

Disturbed areas are not listed in CDFW (2022b) and is not considered sensitive. Disturbed habitat refers to areas where soils have been recently or repeatedly disturbed by grading, compaction, or clearing of vegetation. Structures are typically not present within disturbed habitats, and these areas provide relatively low value for most plant and wildlife species. Within the BSA, approximately 0.30 acres of disturbed habitat occurs adjacent to the existing Treatment Plant near the proposed debris basin; along an access road near the manhole work area; and near existing equipment adjacent to the manhole work area (Figure 3). Disturbed areas provide very limited to no cover for birds, reptiles, and small mammals as they traverse between more suitable habitats, and very minimal to no food resources.

5.4 City-Regulated Trees

During the reconnaissance survey, approximately 19 oak tree species (*Quercus* sp.), great than 2 inches in diameter, were documented within the BSA (Figure 4, City-Regulated Trees). The majority of the oak trees were mapped near or within the proposed debris basin and pipeline work areas. Two additional oak trees occurred near, but outside the proposed footprint, of the manhole and inlet work area. Table 3 provides a summary of the City-regulated tree species encountered during the reconnaissance survey.

Table 3. Summary of City-Regulated Tree Species within the BSA

Tree No.	Tree Species	Approximate Diameter (Inches)[a]
1	Coast/interior live oak	18, 17.5
3	Coast/interior live oak	35
4	Coast/interior live oak	20.8, 37.5 fused
5	Coast/interior live oak	16.2
6	Coast/interior live oak	7, 4, 5
7	Coast/interior live oak	14
8	Coast/interior live oak	9.3, 11
9	California black oak	> 2
10	Coast/interior live oak	28.7
11	Coast/interior live oak	39
12	Coast/interior live oak	8.8
13	Coast/interior live oak	8
14	Coast/interior live oak	14.5, 12.9, 13
15	Coast/interior live oak	17
16	Coast/interior live oak	7.1
17	Coast/interior live oak	8.1
18	Coast/interior live oak	8.8
19	Coast/interior live oak	8.7
20	Coast/interior live oak	26.7

Notes: BSA = Biological Survey Area.

[a] Multiple measurements provided for multi-branched individuals. Measured at 4.5 feet above base of tree.

5.5 Common Plant and Wildlife Species

A total of 112 plant species were documented, as listed in Appendix D. In all, 72 (64%) were native and 40 (36%) were non-native. One special-status plant species, Conejo dudleya (*Dudleya parva*), was observed and is discussed further below. A total of 22 common wildlife species were observed during the site visit, including 1 reptile, 19 birds, and 2 mammals (Appendix D). Woodrat middens (presumably from the desert woodrat [*Neotoma lepida* ssp. *intermedia*], a CDFW Species of Special Concern [SSC]) were observed throughout the natural areas, and are described further below. Although ground squirrels were observed, areas of significant burrowing were not. In addition, one bird species, oak titmouse (*Baeolophus inornatus*), a USFWS Bird of Conservation Concern, was observed. No fish or amphibians were observed during the field survey and the BSA lacks suitable aquatic habitat to support these species.

5.6 Special-Status Plants and Wildlife

5.6.1 Special-Status Plant Species

The literature and database views resulted in 60 special-status plant species that have been documented in the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the Project site. Based on Dudek's habitat suitability analysis and rare plant surveys performed in 2022, 1 of the 60 special-status plant species, Conejo dudleya, was observed during the 2022 seasonally timed rare plant surveys. Figure 5, Biological Resources, displays the location of the observed Conejo dudleya. Table 4 provides a description of this special-status plant species.

The remaining 59 species are considered to have a low potential or not expected to occur and are described in Appendix E. Several species are considered to have low to no potential to occur primarily due to the lack of observations within the BSA during the 2022 focused surveys. The CNDDB report form for Conejo dudleya observation is provided as Appendix F. Conejo dudleya is further discussed in Section 6, Project Impacts, due to the potential direct, indirect, or cumulative impacts to occur to this species. No further analysis of special-status plant species described in Appendix E is included, because no direct, indirect, or cumulative impacts are expected.

Table 4. Special-Status Plant Species Observed within the Biological Survey Area

Scientific Name	Common Name	Status (Federal/ State/CRPR)[a]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
Dudleya parva	Conejo dudleya	FT/None/1B.2	Coastal scrub, Valley and foothill grassland; Clay (sometimes), Gravelly (sometimes), Rocky (sometimes), Volcanic (sometimes)/ perennial herb/ May–June/ 195–1,475	**Observed.** This species was observed during 2022 rare plant surveys. Approximately 151 individuals were observed along the southeastern edge of the BSA, with the closest observations to impact areas about 25 feet uphill from the proposed debris basin. Suitable coastal scrub habitat and rocky, gravelly substrate are present to support this species within the BSA. Regionally, there are two occurrences observed in 2010 that are both mapped approximately 0.6 miles southeast of the Project site (CDFW 2022a). In addition, there are numerous occurrences within 5 miles of the Project site (CDFW 2022a).

Notes:

[a] The federal and State status of species is based on the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022c).

Status Designations

FT: Federally listed as threatened

California Rare Plant Rank:

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere

CRPR Threat Designations:

0.2 Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

5.6.2 Special-Status Wildlife Species

The literature and database views resulted in 57 special-status wildlife species that have been documented in the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the Project site. Based on Dudek's habitat suitability analysis, 6 of the 57 special-status wildlife species are expected to have a moderate to high potential to occur. In addition, direct sign (middens) for desert woodrat (*Neotoma* sp.) was observed within the BSA (Figure 5). Presumably these middens were established by the San Diego desert woodrat (*N. lepida intermedia*). Table 5 provides a description of these 7 special-status species. The remaining 50 species with a low potential or not expected to occur are described in Appendix G, which includes the species potential to occur based on documented occurrences and site conditions.

Table 5. Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur

Species Name	Common Name	Status (Federal/State)[a]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Reptiles				
Anniella spp.	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	**Moderate** potential to occur. Sandy and loose loamy soils present within the BSA may be suitable to support this species. The nearest CNDDB occurrence was documented in 2014 approximately 2.7 miles north of the BSA, where the species was observed in the leaf litter of an avocado orchard across the street from a sandy slope dominated by coastal sage scrub (CDFW 2022a).
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	**Moderate** potential to occur. Although the nearest CNDDB occurrence is from 2017 and mapped approximately 6.0 miles east of the BSA (CDFW 2022a), vegetated portions of the BSA are contiguous with a lager open space and contain the open scrub and sandy and/or gravel bottom habitats preferred by this species.
Phrynosoma blainvillii	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	**Moderate** potential to occur. Sandy and loose loamy soils present within the BSA may be suitable to support this species. In addition, the nearest CNDDB occurrence was observed in an agricultural field set for development in 2007 and mapped approximately 2.7 miles northwest of the BSA (CDFW 2022a).
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	**Moderate** potential to nest. The oak trees within the BSA provide suitable nesting substrates for this species. In addition, this species is regularly observed within the surrounding open space, including Wildwood Regional Park (eBird 2022), where there are abundant prey resources available for this species.

Table 5. Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur

Species Name	Common Name	Status (Federal/State)[a]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	**Moderate** potential to occur. Suitable scrub and chaparral habitat is present to support this species. In addition, this species is regularly observed within the surrounding open space, including Wildwood Regional Park (eBird 2022), where there are abundant prey resources available for this species.
Polioptila californica californica	coastal California gnatcatcher	FT, BCC/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	**Moderate** potential to occur. Suitable coastal sage scrub habitat dominated by California sagebrush is present within and adjacent to the BSA to support this species. In addition, the nearest CNDDB occurrence was observed in coastal sage scrub adjacent to a walking trail in 2016 and mapped approximately 0.6 miles southwest of the BSA (CDFW 2022a); in 2019 approximately 0.9 miles southwest of the BSA (USFWS 2022d); and there are multiple and regularly occurring observations of this species in the adjacent Wildwood Regional Park (eBird 2022).
Mammals				
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	**Observed**. Multiple woodrat middens (*Neotoma* sp.) were documented throughout the BSA during field surveys. The BSA contains suitable coastal scrub and rocky outcrop habitat. In addition, the nearest documented occurrence was observed on a rocky outcrop in 2016 and is mapped approximately 4.3 miles south of the BSA (CDFW 2022a).

Notes:

[a] The federal and State status of species is based on the Special Animals List (CDFW 2022d).

Status Abbreviations

FT: Federally listed as threatened
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
WL: California Watch List Species

5.7 Critical Habitat

A query of the IPaC (USFWS 2022a) and review of the critical habitat mapper (USFWS 2022b) indicated that there is Lyon's pentachaeta (*Pentachaeta lyonii*) critical habitat within 5 miles of the Project site; however, no critical habitat is within the Project site (Figure 6, USFWS Critical Habitat).

5.8 Jurisdictional Aquatic Resources

As described in the ARDR (Appendix B) and shown on Figure 5, potential jurisdictional aquatic features mapped include a concrete v-ditch, connecting swale, and an ephemeral channel. As described in the ARDR, of these features, only the ephemeral channel is anticipated to require additional permits pursuant to the Porter-Cologne Water Quality Control Act and CFGC for impacts to the channel. However, as recommended in the ARDR, written concurrence from the resource agencies (RWQCB, CDFW, and USACE) on the jurisdictional status for both features is highly recommended.

Concrete V-Ditch

The concrete v-ditch is an existing stormwater control feature within the Hill Canyon Treatment Plant that directs flows to drain-inlets along the v-ditch (Figure 5). The drain inlets are regularly maintained by Hill Canyon Treatment Plant staff as part of storm preparedness activities. These inlets capture storm flows and drain them to the sludge drying beds as part of the stormwater capture program (Capron 2017; City of Thousand Oaks 2019). Since the flows associated with the v-ditch are currently subject to the adopted Waste Discharge Requirements and National Pollutant Discharge Elimination System permits for the Hill Canyon Treatment Plant (Order No. R4-2019-0137, NPDES No. CA0056294), compliance with this existing permit should apply to this feature and further permits are not anticipated to be necessary from the RWQCB. We understand the Hill Canyon Treatment Plant had previously attained status as a zero-discharge facility. An Industrial General Permit Notice of Non-Applicability was previously granted by the RWQCB, and the City is petitioning to retain this status with site modifications to re-route off-site flows from the natural canyon directly to Arroyo Conejo Creek (Capron 2017; City of Thousand Oaks 2019). In addition, the concrete v-ditch is unlikely to be jurisdictional to USACE under the Clean Water Act, as the feature is ephemeral and current flows lack a connection with a traditional navigable water. Similarly, the feature lacks a bed and bank often associated with CDFW jurisdictional rivers, stream, or lakes.

Ephemeral Channel

A narrow ephemeral channel is present in the BSA within and adjacent to the proposed debris basin (Figure 5). The channel is located within the natural canyon and extends to the existing concrete v-ditch. This channel is characterized by an OHWM and a bed, with portions of the channel containing a bank. Blue elderberry (*Sambucus mexicana*) is present along this feature providing limited riparian habitat. In addition, a short 12-foot swale connects the feature in the eastern portion of the BSA. These features are anticipated to be jurisdictional to CDFW and the RWQCB. Given that the feature is ephemeral and lacks connection with a traditional navigable water, it is unlikely to be jurisdictional to USACE.

5.9 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals and dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, which helps maintain genetic diversity.

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as stepping-stones for dispersal and movement (especially for birds and flying insects). Wildlife corridors and habitat linkages provide avenues for dispersal or migration of animals that also contribute to population viability in several ways, including the following:

- Ensuring continual exchange of genes between populations to aid in maintaining genetic diversity
- Providing habitat for some species
- Providing access to adjacent habitat areas representing additional territory for foraging and mating
- Allowing for a greater carrying capacity
- Providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes

The Project is located at the interface of existing development (Treatment Plant) and undeveloped open space. The Treatment Plant is located between two publicly owned open space systems including Wildwood Regional Park approximately 1,765 acres, and Conejo Canyons Open Space, approximately 1,430 acres. In addition, regional habitat connectivity and wildlife corridors are mapped in natural areas surrounding the plant (SCWildlands 2008; CDFW 2022e; Ventura County 2022).

However, the existing Treatment Plant is fully enclosed with a chain-linked fence. Therefore, the Treatment Plant provides no opportunities for wildlife movement and Project activities within the plant are not expected to affect wildlife corridors. Although the proposed debris basin is located within undeveloped open space, the location and proposed disturbed areas are adjacent to the existing fenced facility (extending out to approximately 47 feet southeast of the fence line). With abundant surrounding open spaces and opportunities for movement, the construction of the debris basin at this location is not anticipated to impede, interfere, or significantly affect wildlife movement, corridors, or linkages.

6 Project Impacts

6.1 Definition of Impacts

Permanent direct impacts typically refer to 100% permanent loss of a biological resource. It is also often referred to as the "Project footprint" and refers to the area where vegetation clearing, grubbing, and mass grading occurs. It may include brush management zones or FMZs. Basically, wherever the existing vegetation or land cover would be permanently affected, it is considered to be a permanent direct impact.

Direct temporary impacts typically refer to short-term removal of a biological resource where the resource is expected to fully recover its function upon completion of the Project. Areas subject to temporary disturbance may include slope remediation sites, construction access roads, staging areas, stockpiles, mowing, dredging, etc. Such sites would not have permanent structures. However, it should be noted that not all natural vegetation communities fully recover following disturbance (e.g., oak woodland).

Indirect impacts are reasonably foreseeable effects caused by Project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone. Indirect impacts may affect areas within the defined Project Area but outside the construction disturbance zone, including open space and areas outside the Project Area, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects). Project short-term indirect impacts include fugitive dust, changes in hydrology, runoff, sedimentation, and chemical pollutants. Fugitive dust can decrease the vigor and productivity of vegetation through light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. In most cases, indirect effects are not quantified, but in some cases quantification might be included, such as total dissolved solids released to downstream areas or using a noise contour to quantify indirect impacts to nesting birds.

Cumulative impacts refer to the combined environmental effects of the proposed Project and other relevant projects. In some cases, the impact from a single project may not be significant, but when combined with other projects, the cumulative impact may be significant. This section describes the approach to analyzing cumulative effects, including defining the cumulative effects study area, the method for including other projects (i.e., the list vs. the plan method).

6.2 Explanation of Findings of Significance

CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a project could (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project could potentially have a significant effect if it:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS
- Has 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
- Has 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
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

- Conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

6.3 Impacts to Vegetation Communities and Land Covers

As discussed in Section 5.3, Vegetation Communities and Land Cover Types, four sensitive vegetation communities (California brittle brush – California sagebrush scrub, chamise – black sage – sugarbush scrub, lemonade berry, lemonade berry – California sagebrush scrub) were identified within the BSA. Of these four sensitive communities permanent impacts will occur to 0.03 acre of lemonade berry scrub and 0.06 acre of lemonade berry scrub – California sage brush scrub.

Direct Impacts

As shown in Figure 7, Impacts to Biological Resources, and Table 6, the Project will permanently impact approximately 0.09 acre of sensitive vegetation communities. In addition, inadvertent direct (temporary) impacts to sensitive communities may occur if construction activities accidentally trim, clear, trample, or grade sensitive vegetation communities outside of the proposed work areas (i.e., permanent impact areas). Impacts to sensitive vegetation communities is considered potentially significant. However, implementation of **Mitigation Measure (MM) BIO-1** (Habitat Mitigation and Monitoring Plan), **MM-BIO-2** (Worker Education and Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring) would reduce potential direct impacts to sensitive vegetation communities to less than significant.

Indirect Impacts

There is potential for indirect impacts to sensitive vegetation communities adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site run-off, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to sensitive vegetation communities is considered potentially significant. Therefore, **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Sediment Control Plan) are recommended to avoid potential indirect impacts to sensitive vegetation communities.

Table 6. Proposed Impacts to Vegetation and Land Cover Types within the BSA

General Habitat	Vegetation Community	Global, State Rank[a]	CDFW Sensitive[b]	Permanent Impacts acres (square feet)
Native Scrub	California brittle bush – California sagebrush scrub Association	G3	Y	None
	Chamise – Black sage – Sugarbush scrub Association	G3, S3	Y	None
	Lemonade berry scrub Alliance	G3, S3	Y	0.03
	Lemonade berry scrub – California sage scrub Association	—	Y	0.06
Other Land Cover Types	Developed	N/A	N	0.19
	Disturbed	N/A	N	0.06
			Total	**0.35**

Notes: N/A = not applicable, BSA = Biological Survey Area.

[a] For alliances with State ranks of S1 to S3, all associations within them are considered highly imperiled. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank (CDFW 2022b).

[b] Sensitive based on CDFW (2022b). However, communities determined to not be sensitive may still be sensitive under local policies or provide suitable habitat for special-status plant and wildlife species.

6.4 City-Regulated Trees

As discussed in Section 5.4, City-Regulated Trees, approximately 19 oak trees over 2 inches in diameter were identified within the BSA. The City protects oak trees and landmark trees through City Ordinance. Municipal Code Section 9-4.42 provides the Oak Tree Preservation and Protection Ordinance and Municipal Code Section 9-4.43 provides the Landmark Tree Preservation and Protection Ordinance. In addition, as mentioned in Section 2.4, Project Construction and Scheduling, all oak tree work shall conform and abide by the provisions of the Oak Tree Ordinance, Title 5, Chapter 14 of the Thousand Oaks Municipal Code, and the Oak Tree Preservation and Protection Guidelines Res. No. 2010-014. The City requires a permit for removal, pruning, or encroachment into the protected zone of any oak tree or landmark tree, which are defined below.

Direct Impacts

As shown in Figure 7, Impacts to Biological Resources, the proposed work areas will be located outside the tree trunk base of mapped oak trees. However, the Project will encroach within the City established oak tree protected zone requirements (i.e., within 5 feet of the oak tree canopy or within 15 feet from the base of the tree trunk) for an estimated 8 trees and overlapping with 0.04 acre (11%, 1,640 square feet) of the 0.33 acre mapped overhead canopy, suggesting these oak trees may experience injury or mortality of the root systems. In addition, inadvertent direct (temporary) impacts to sensitive communities may occur if construction activities accidentally trim oak trees outside of the proposed work areas (i.e., permanent impact areas). Impacts to oak trees is considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education and Awareness Program), **MM-BIO-3** (Delimiting Construction Area), **MM-BIO-4** (Biological Monitoring), and **MM-BIO-6** (Protected Tree Removal, Replacement, and Protective Measures) would reduce potential direct impacts to individual oak trees to less than significant.

Indirect Impacts

There is potential for indirect impacts to oak trees adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site run-off, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to oak trees is considered potentially significant. Therefore, **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM BIO-5** (Erosion and Sediment Control Plan) are recommended to avoid potential indirect impacts to oak trees.

6.5 Impacts to Special-Status Plant Species

As discussed in Section 5.6.1, Special-Status Plant Species, one special-status plant species, Conejo dudleya, was observed within the BSA. Approximately 151 individuals were observed along the southeastern edge of the BSA, with the closest observations to impact areas about 25 feet uphill from the proposed debris basin.

Direct Impacts

As shown in Figure 7, the proposed work areas will be located outside the mapped Conejo dudleya population. However, inadvertent direct (temporary) impacts to Conejo dudleya may occur if construction activities accidentally trim, clear, trample, or grade individuals outside of the proposed work areas (i.e., permanent impact areas). Impacts to this special-status species is considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education and Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring) would reduce potential direct impacts to this species to less than significant.

Indirect Impacts

There is potential for indirect impacts to Conejo dudleya adjacent to and outside of the proposed work areas. Due to the species location uphill from work areas, indirect impacts may occur as the result of fugitive dust. Impacts to this species is considered potentially significant. Therefore, **MM BIO-5** (Erosion and Sediment Control Plan) is recommended to avoid potential indirect impacts to this species.

6.6 Impacts to Special-Status Wildlife Species

As discussed in Section 5.6.2, Special-Status Wildlife Species, there is a potential for seven special-status wildlife species to occur within the BSA. These include three reptiles (California legless lizard [*Anniella* spp.], San Diegan tiger whiptail [*Aspidoscelis tigris stejnegeri*], and Blainville's horned lizard [*Phrynosoma blainvillii*]), three birds (Cooper's hawk [*Accipiter cooperii*], Southern California rufous-crowned sparrow [*Aimophila ruficeps canescens*], and coastal California gnatcatcher), and one mammal (San Diego desert woodrat).

6.6.1 Reptiles

Direct Impacts

Project activities could result in direct permanent impacts to the California legless lizard, San Diegan tiger whiptail, and Blainville's horned lizard where activities occur in the natural undeveloped portions of the site. The Project would result in permanent direct impacts to 0.09 acres of suitable on-site scrub habitat for these species. However, these impacts would be less than significant due to the abundant suitable habitat present in the vicinity of the Project site.

Individuals are cryptic and slow moving on the surface or are otherwise underground, and therefore, are highly vulnerable to injury and mortality during construction. Therefore, direct permanent impacts may result in mortality of these species, from heavy construction equipment, vehicle collisions, inadvertently stepping on individuals, or crushing occupied burrows. Impacts to special-status reptile individuals is considered potentially significant. However, implementation of **MM-BIO-2** (Worker Education and Awareness Program), **MM-BIO-3** (Delimiting Construction Area), **MM-BIO-4** (Biological Monitoring), and **MM-BIO-7** (Reptile Pre-Construction Survey) would reduce potential direct impacts to these species to less than significant.

Indirect Impacts

There is potential for indirect impacts to reptiles occurring adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site run-off, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to these species is

considered potentially significant. Therefore, **MM-BIO-2**, **MM-BIO-3**, **MM-BIO-4**, and **MM BIO-5** (Erosion and Pollution Control Plan) are recommended to avoid potential indirect impacts to these species.

6.6.2 Special-Status Avian Species

Cooper's hawk, Southern California rufous-crowned sparrow, and coastal California gnatcatcher have a potential to occur in the undeveloped open space areas throughout the BSA for perching, nesting, or foraging. The abundant prey (bird and rodent) populations in the adjacent open space would provide hunting opportunities and oak trees would provide perching and nesting opportunities for Cooper's hawk. Similarly, the shrubs and vegetation in the BSA and greater open space would provide feeding, cover, and nesting opportunities for southern California rufous-crowned sparrow. Coastal California gnatcatcher are strongly associate with sage scrub habitats, which are present throughout the BSA. These habitats would provide feeding, cover, and nesting opportunities for this species, which is federally listed as threatened.

Cooper's Hawk

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of scrub habitat (for foraging) and an estimated 8 individual oak trees (associated with 0.04 acre of overhead canopy) are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the Project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by oak tree vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Surveys) would reduce potential direct impacts to this species to less than significant.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting Cooper's hawk are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to less than significant.

Southern California Rufous-Crowned Sparrow

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of scrub habitat (for foraging) are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the Project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Surveys) would reduce potential direct impacts to this species to less than significant.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting Southern California rufous-crowned sparrow are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to less than significant.

Coastal California Gnatcatcher

Direct Impacts

Due to the expansive open space surrounding the site, direct permanent impacts to 0.09 acres of sage scrub associated habitats are not anticipated to adversely affect habitat for this species. The loss of nesting and foraging habitat would be less than significant because of the expansive habitat available surrounding the site.

Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, take in the form of harassment may occur if any individuals are present during construction activities. Additionally, take in the form of harm or mortality may occur if any individuals nest within or adjacent to the Project site. Nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should this species nest on site, nests, eggs, and young could be directly affected by sage scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this special-status species as a result of construction activities would be significant. Implementation of **MM-BIO-4** (Biological Monitoring), **MM-BIO-8** (Pre-Construction Nesting Bird Surveys), and **MM-BIO-9** (Coastal California Gnatcatcher Surveys and Avoidance) would reduce potential direct impacts to this species to less than significant.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting coastal California gnatcatcher are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to this species to less than significant.

6.6.3 Birds Protected under the MBTA and/or CFGC

Removal of trees and vegetation associated with construction of the Project have the potential to disturb nesting birds on and adjacent to the site, to the degree that the nests may be abandoned, resulting in a direct loss of an active bird nest. Bird nests with eggs or young of all migratory bird species are protected under the MBTA and the CFGC. Active bird nests or nests with eggs or young of all native bird species are protected under the MBTA and the CFGC. Loss of active nests as a result of construction-related activities would conflict with these regulations.

Direct Impacts

Removal of vegetation associated with construction activities have the potential to disturb nesting birds on and adjacent to the site, to the degree that the nests may be abandoned, resulting in a direct loss of an active bird nest. Individual adults are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, should any individuals nest within or adjacent to the Project site, nesting could be disrupted (resulting in nest abandonment or reduced reproductive success) if construction occurs during the breeding season. In addition, should these species nest on site, nests, eggs, and young could be directly affected by scrub vegetation clearing and grading. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of bird species protected under the MBTA and/or CFGC as a result of construction activities would be significant. Implementation of **MM-BIO-8** (Pre-Construction Nesting Bird Surveys) would reduce potential direct impacts to these species to less than significant.

Indirect Impacts

Short-term indirect impacts during construction that involve loud noise disruptions during the nesting season have the potential to impact nesting individuals on and adjacent to the existing facilities to the degree that the nests may be abandoned, resulting in a direct loss of an active nest. Impacts to nesting birds protected under the MBTA and/or CFGC are considered potentially significant. Implementation of **MM-BIO-8** would reduce potential indirect impacts to these species to less than significant.

6.7 Impacts to Critical Habitat

No federally designated critical habitat occurs within the BSA or the Project site. Therefore, no impacts to critical habitat would occur as a result of the Project.

6.8 Impacts to Jurisdictional Aquatic Resources

As discussed in Section 5.8, Jurisdictional Aquatic Resources, and the ARDR (Appendix B), non-wetland waters are present within the BSA and Project impact area.

Direct Impacts

As shown in Figure 7, Impacts to Biological Resources, the Project will permanently impact approximately 0.01 acres (315 square feet; 105 linear feet) of non-wetland waters of the State, including up to mapped top of bank; and 0.01 acre (332 square feet) of riparian would be directly (permanently) impacted from construction of the debris basin. In addition, inadvertent direct (temporary) impacts to jurisdictional waters may occur if construction activities accidentally grade or remove soils outside of the proposed work aeras. Direct impacts to jurisdictional aquatic resources are considered potentially significant. However, implementation of **MM-BIO-1** (Habitat Mitigation and Monitoring Plan), **MM-BIO-2** (Worker Education and Awareness Program), **MM-BIO-3** (Delimiting Construction Area), and **MM-BIO-4** (Biological Monitoring) would reduce potential direct impacts to jurisdictional aquatic resources to less than significant.

Indirect Impacts

There is potential for indirect impacts to jurisdictional aquatic resources adjacent to and outside of the proposed work areas. Indirect impacts may occur as the result of construction site runoff, accidental pollutant/chemical spills, discharge of materials from the use of concrete, oil/gas, water runoff, erosion, and fugitive dust. Impacts to jurisdictional aquatic resources are considered potentially significant. Therefore, **MM-BIO-2, MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** (Erosion and Pollution Control Plan) are recommended to avoid potential indirect impacts to jurisdictional aquatic resources.

6.9 Impacts to Wildlife Corridors and Habitat Connectivity

As discussed in Section 5.9, Wildlife Corridor and Habitat Linkages, the Treatment Plant and Project site is located between two large open space systems which provides regional habitat connectivity for a variety of wildlife. However, the existing Treatment Plant is fully enclosed with a chain-linked fence. Therefore, the Treatment Plant provides no opportunities for wildlife movement and Project activities within the Treatment Plant are not expected to affect wildlife corridors. Although the proposed debris basin is located within undeveloped open space, the location and proposed permanent impact areas (0.09 acres of scrub within the open space area) are adjacent to the existing fenced facility (extending out to approximately 47 feet southeast of the fence line). In addition, no new lighting is proposed within or adjacent to open space for this Project. With abundant surrounding open spaces and opportunities for movement, the construction of the debris basin at this location is not anticipated to impede, interfere, or significantly affect wildlife movement, corridors, or linkages.

Due to the relatively small size of the proposed Project, direct impacts to wildlife corridors and habitat connectivity are not anticipated to occur and indirect impacts to wildlife corridors and habitat connectivity are anticipated to be minor. Therefore, impacts to wildlife corridors and habitat connectivity would be less than significant.

6.10 Cumulative Impacts

Under CEQA, “cumulative impacts” are “two or more individual effects [from a single project or multiple projects] which, when considered together, are considerable or which compound or increase other environmental impacts” (14 CCR 15355).

Evaluation of the proposed Project by the lead agency in the context of cumulative impacts would need to take into account those projects in the vicinity that occur in similar habitat and environmental settings. Individually, the proposed Project (with implementation of recommended mitigation measures) is likely to result in minimal impacts to native habitat, special-status species, jurisdictional resources, and habitat connectivity, as described in the above sections.

7 Recommended Measures

MM-BIO-1 Habitat Mitigation and Monitoring Plan. Prior to issuance of a Project grading permit, the Applicant shall contract with a qualified botanist/biologist to develop a Habitat Mitigation and Monitoring Reporting Plan (Plan) to provide compensatory mitigation for permanent impacts to 0.03 acre of lemonade berry scrub and 0.06 acre of lemonade berry scrub – California sagebrush scrub (California Department of Fish and Wildlife (CDFW) sensitive vegetation communities). The Plan shall outline efforts to restore or enhance these sensitive vegetation communities, and, therefore, preserve or provide wildlife habitat within similar upland habitats adjacent to the impacted biological resources. The Plan may focus on the following:

- In-kind restoration of lemonade berry scrub and/or lemonade berry scrub – California sagebrush scrub through incorporation of these communities; or
- Restoration of areas occupied by non-native habitats or native habitats with large components of non-native vegetation, within similar habitats adjacent to the impacted biological resources.

Under the Plan, a total of 0.09 acres permanently impacted upland vegetation communities shall be mitigated in-kind at 2:1 for a total of 0.18 acre of compensatory mitigation. A qualified biologist/botanist shall develop the Plan, which shall provide specific measures to restore or enhance habitat to replace the loss of permanently impacted communities. This Plan shall be focused on adaptive management principles and shall identify detailed enhancement areas and strategies based on the parameters outlined below, with long-term timing and monitoring requirements.

The Plan shall also address the approximately 0.01 acres (315 square feet; 105 linear feet) of non-wetland waters of the State, including up to mapped top of bank; and 0.01 acre (332 square feet) of riparian (blue elderberry scrub) permanently impacted by the Project. The plan shall provide for compensatory mitigation at a minimum 3:1 ratio for of in-kind or similar mitigation, or other compensatory mitigation approved by the regulatory agencies.

Specifically, the Plan will prescribe actions and measures to compensate for project impacts. The Plan will present project impacts, the site selection process, and a rationale for success, specifications regarding final mitigation acreages, site preparation, restoration implementation, plant and seed collection source and sizing, project implementation guidelines, interim and final ecological performance standards, requirements for long-term maintenance, monitoring, and reporting, and identify site protection and long-term management. The Plan will include the following elements:

- Mitigation ratios for permanent and temporary impacts (if any) to regulated aquatic resources including, but not limited to, riparian habitat, waters of the U.S., waters of the State, and CDFW streambed and riparian habitat will be established in consultation with the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

- Provide site selection and justification.
- Detailed descriptions of mitigation components proposed to achieve the compensatory mitigation requirements of the resource agency permits.
- Plant palette(s) for each target vegetation community proposed to be restored to the mitigation site.
- Defined attainable and measurable mitigation goals and objectives to be achieved through implementation of the Plan.
- A restoration work plan that details the mitigation approach, a restoration schedule, plant materials (containers, seed), and implementation strategies.
- A detailed maintenance plan to include removal of invasives and non-native species.
- Defined ecological performance standards for determining the success of the mitigation program.
- A monitoring plan that includes method and analyses of results, goals for success or failure, and an adaptive management plan and suggestions for failed restoration efforts.
- Restoration activities using native riparian and wetland species from locally collected stock, if applicable.
- A description of protection measures and an estimate of long term management funding.
- An estimate of implementation costs.
- Annual reports and the final report shall be submitted to the City and applicable regulatory agencies.

MM-BIO-2 Worker Education Awareness Program. Prior to the initiation of any site disturbance and/or construction activities, all personnel associated with the project shall attend a worker education awareness program (program) conducted by a qualified biologist. In general, it is recommended that the program discuss any potentially occurring sensitive biological resources or species and habitat preference(s), occupied habitat in the area, life histories, law and regulations, as well as potential construction impacts and protection measures, and project limits. Protections and regulations for biological resources, special-status species, protection of aquatic resources and open space, and nesting birds shall also be included in the program. It is recommended that a species and habitat fact sheet also be developed prior to the training program and distributed at the training program to all contractors, employers and other personnel involved with the construction of the Projects.

After the kickoff meeting, the Project proponent should notify the qualified biologist in advance if additional contractors are employed during construction. A sign-in sheet will be circulated for signatures to all personal that attend the workers educational training to confirm that program materials were received and that they understand information presented.

MM-BIO-3 Delimiting Construction Area. Prior to initiation of ground disturbance, grading, or equipment mobilization, the following measures shall be implemented to protect natural resources adjacent to construction areas:

- Install temporary fencing or equivalent form of demarcation along the perimeter of defined construction areas to protect natural resources.
- All construction-related activities shall be confined to the designated construction areas within the fenced/demarcated areas.

- Fencing/demarcation shall be maintained during the duration of the project, including fixing or replacing downed fence.
- Fencing/demarcation shall remain in place for the duration of the project until all project activities are complete.
- A qualified biological monitor shall monitor the condition of the fence, to ensure avoidance of impacts to surrounding resources.
- When sizable construction equipment is working near oak trees it is highly encouraged that flaggers are utilized to assist in equipment positioning to avoid impacts to oak tree canopies (not proposed for removal) during construction activities.

MM-BIO–4 Biological Monitoring and Reporting. A qualified biologist shall be present during all initial ground-disturbing activities (i.e., grading, trenching, grubbing, vegetation trimming or clearing) occurring within undeveloped areas (i.e., not the existing developed Treatment Plant areas). Each day prior to equipment mobilization, the biologist shall perform a clearance survey in which the work area and equipment within undeveloped areas is inspected for wildlife. The biologist shall provide guidance and ensure that biological resource protection measures are in place, to the maximum extent feasible. The monitor shall be experienced in construction monitoring and be able to identify potentially occurring sensitive biological resources in the area, including the coastal California gnatcatcher. The monitor shall survey the construction project footprint and surrounding areas for compliance with all environmental specifications.

The biologist shall have authority to halt work if listed species are observed and immediately notify CDFW and/or USFWS (as applicable) and additional appropriate avoidance and minimization measures shall be implemented if determined necessary for the protection of special-status species. Sensitive wildlife species may only be moved from the work area by qualified biologists holding the required permits; however, endangered or threatened species will not be moved, harassed, or harmed and will be allowed to move out of harm on their own (unless other arrangements are approved by the regulatory agencies).

Daily monitoring reports shall be prepared by the biologist and submitted to the appropriate permitting and responsible agencies on a weekly basis (weekly reporting). In addition, at the completion of monitoring activities, the biologist will submit a final monitoring report to the appropriate permitting and responsible agencies to document compliance with environmental requirements.

MM-BIO-5 Erosion and Sediment Control Plan (ESCP). Due to the Project impact of less than 1 acre, the Applicant shall prepare an ESCP to minimize the potential for discharge of pollutants during construction activities. The ESCP shall be designed to meet the local requirements and County permitting process (e.g., grading or building permit). The ESCP shall include both structural and non-structural best management practices, including straw wattles around storm drains, silt fencing and or other physical controls to divert flows from exposed soil, spill prevention methods, and clean housekeeping methods for storing and refueling machinery.

As part of the ESCP, the Contractor shall include specifications, installation requirements, and locations of appropriate best management practices to control sediment, coarse particles, concrete, and other materials exposed during construction and drilling, to protect aquatic and

riparian habitats adjacent to construction site. Erosion control measures shall be implemented to prevent runoff of these materials into potential jurisdictional aquatic features. Silt fencing, straw bales, and/or sandbags should be used in conjunction with other methods to prevent turbid waters from entering the potential jurisdictional aquatic features. Best Management Practices (BMPs) shall be implemented which minimize impacts from the generation of fugitive dust, fire hazard, and chemical pollutants.

During construction activities, washing of concrete or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Washing shall not be allowed in locations where the tainted water could enter potential jurisdictional aquatic features.

MM-BIO-6 Protected Tree Removal, Replacement, and Protective Measures. The City of Thousand Oaks requires a permit for removal, pruning, or encroachment into the protected zone of any oak tree or landmark tree, which are defined as:

- Oak Tree: any oak tree of the genus Quercus including, but not limited to, Valley Oak (*Quercus lobata*), California Live Oak (*Quercus agrifolia*) and Scrub Oak (*Quercus berberidifolia*), regardless of size (Thousand Oaks Municipal Code, Title 5, Chapter 14: Oak Tree Preservation and Protection).

- Landmark Tree: Specimens of the following species which have reached the designated maturity: California Sycamore (*Platanus racemosa*), which exceed twelve (12") inches in diameter when measured at a point four and one-half (4 1/2') feet above the natural grade at the base of the tree; California Bay Laurel (*Umbellularia californica*), which exceed eight (8") inches in diameter when measured at a point four and one-half (4 1/2') feet above the natural grade at the base of the tree; California Black Walnut (*Juglans californica*), which exceed eight (8") inches in diameter when measured at a point four and one-half (4.5') feet above the natural grade at the base of the tree; and Toyon (*Heteromeles arbutifolia*), which exceeds eight (8") inches in diameter when measured at a point four and one-half (4.5') feet above the natural grade at the base of the tree. Trees with multiple trunks shall be deemed to have reached maturity if the sum of the diameters of the multiple trunks exceeds the required diameter plus two (2") inches of a single trunked tree. Landmark trees shall also include all designated historic trees. (Thousand Oaks Municipal Code, Title 5, Chapter 24: Landmark Tree Preservation and Protection).

Prior to construction activities an International Society of Arboriculture (ISA) certified arborist shall review the proposed construction plans, visit the project site, and assess the condition, health, and structure of oak and landmark trees with a potential to be directly (removed or encroached upon) impacted by project activities, including trees proposed to be trimmed or removed. Encroachment shall include project related disturbances that would occur within the protected zone (a specifically defined area totally encompassing a landmark or historic tree within which work activities are strictly controlled). When depicted on a map, the outermost edge of the protected zone will appear as an irregular shaped circle that follows the contour of the dripline of the tree. Using the dripline as a point of reference, the protected zone shall commence at a point five (5') feet outside of the dripline and extend inward to the trunk of the tree. In no

case shall the protected zone be less than fifteen (15') feet from the trunk of a landmark tree (both code sections).

The certified arborist shall provide a letter/report (Oak Tree Report) containing specific information on the location, condition, potential impacts of development, recommended actions and mitigation measures. At minimum, mitigation measures shall include requirements for arborist monitoring during work within the tree protected zone (i.e., within 5 feet of the oak tree canopy or within 15 feet from the base of the tree trunk) of any oak or landmark trees. The City of Thousand Oaks Oak Tree Preservation and Protection Guidelines mitigation requirements for tree removals associated with development projects are summarized as follows: one (1) fifteen (15) gallon oak tree to be planted or donated for each dead or hazardous oak tree removed; two (2), twenty-four (24") inch box trees, and one (1), thirty-six (36") inch or sixty (60") inch box tree must be planted for each healthy oak tree removed for commercial, industrial, and new residential development projects; in the case of removal of oak trees larger than forty-eight (48") inches in diameter, the applicant is required to obtain the largest nursery grown oak tree available or plant two (2) sixty (60") inch box trees.

The letter descriptions and all project activities shall comply with local oak tree regulations (i.e., Municipal Code Section 9-4.42, Oak Tree Preservation and Protection Ordinance; Municipal Code Section 9-4.43, Landmark Tree Preservation and Protection Ordinance; Oak Tree Ordinance, Title 5, Chapter 14 of the Thousand Oaks Municipal Code; and the Oak Tree Preservation and Protection Guidelines Res. No. 2010-014).

MM-BIO-7 Reptile Pre-Construction Survey. A pre-construction survey for California legless lizard, San Diegan tiger whiptail, and Blainville's horned lizard should be conducted 30 days prior to the initiation of Project activities. If these species are observed, a salvage and relocation plan would be implemented to allow a qualified biologist to capture and relocate the species away from ground disturbance and into protected open space. These survey and reporting measures are often a condition of the CDFW's Streambed Alteration Agreement.

MM-BIO-8 Pre-Construction Nesting Bird Survey. A pre-construction survey for nesting birds shall be conducted by a City of Thousand Oaks-approved biologist to determine if active (nests containing eggs, nestlings, or associated with dependent fledglings) of special-status birds, or common bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code, are present in the construction zone or within 300 feet of the construction zone. The survey shall be conducted within 1 week prior to construction or site preparation activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February 1 through August 31). The pre-construction nesting bird survey shall be repeated if there is a delay in the start of construction activity or there is a lapse in construction activity of 2 weeks or greater has occurred.

Within 1 week before the start of construction activities, a City of Thousand Oaks-approved biologist shall conduct the nesting bird survey. A preconstruction nesting bird report shall be completed and submitted to the City of Thousand Oaks.

If active nests are found, a no-construction buffer shall be established at a minimum of 50 feet for non-raptor bird species and 200 feet for raptor species (this distance may be greater depending

on the bird species and construction activity, as determined by the City of Thousand Oaks-approved biologist) around the nest site where it overlaps with work areas. Tree and vegetation clearing and construction within the no-construction buffer shall be postponed or halted, at the discretion of the City of Thousand Oaks-approved biologist, until the nest is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. In addition, all active nests shall be mapped with a GPS unit and nest locations with 100-foot buffers overlain on aerial photographs to provide regular updated maps to inform the Project manager/engineer and construction crew of areas to avoid. The City of Thousand Oaks-approved biologist shall also serve as a construction monitor during the breeding season to ensure that there are no inadvertent impacts to nesting birds.

Bird nest surveys shall be conducted every 14 days following identification of an active bird nest until all birds have fled the nest and the nest is deemed inactive by the City of Thousand Oaks-approved biologist. A bird nest monitoring report shall be completed and submitted to the City of Thousand Oaks within 48 hours of each survey.

MM-BIO-9 Coastal California Gnatcatcher Surveys and Avoidance. Prior to construction, protocol-level surveys for the coastal California gnatcatcher should be performed within 500 feet of proposed temporary and permanent impact areas. If any individuals are detected during the surveys, the results should be communicated to the USFWS for approvals prior to construction. In the absence of protocol surveys, the USFWS shall be consulted for further guidance.

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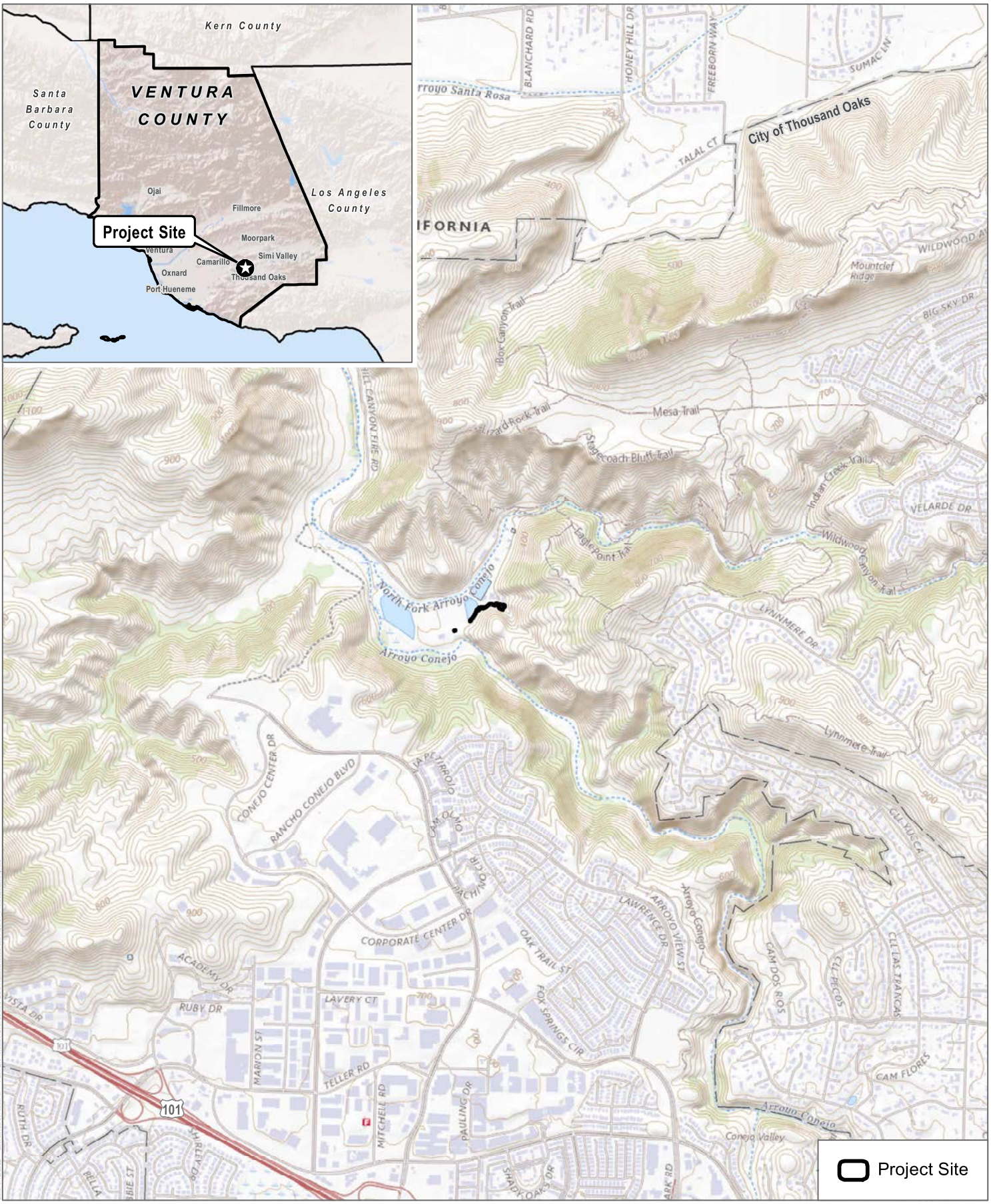
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SOURCE: Source

FIGURE 1

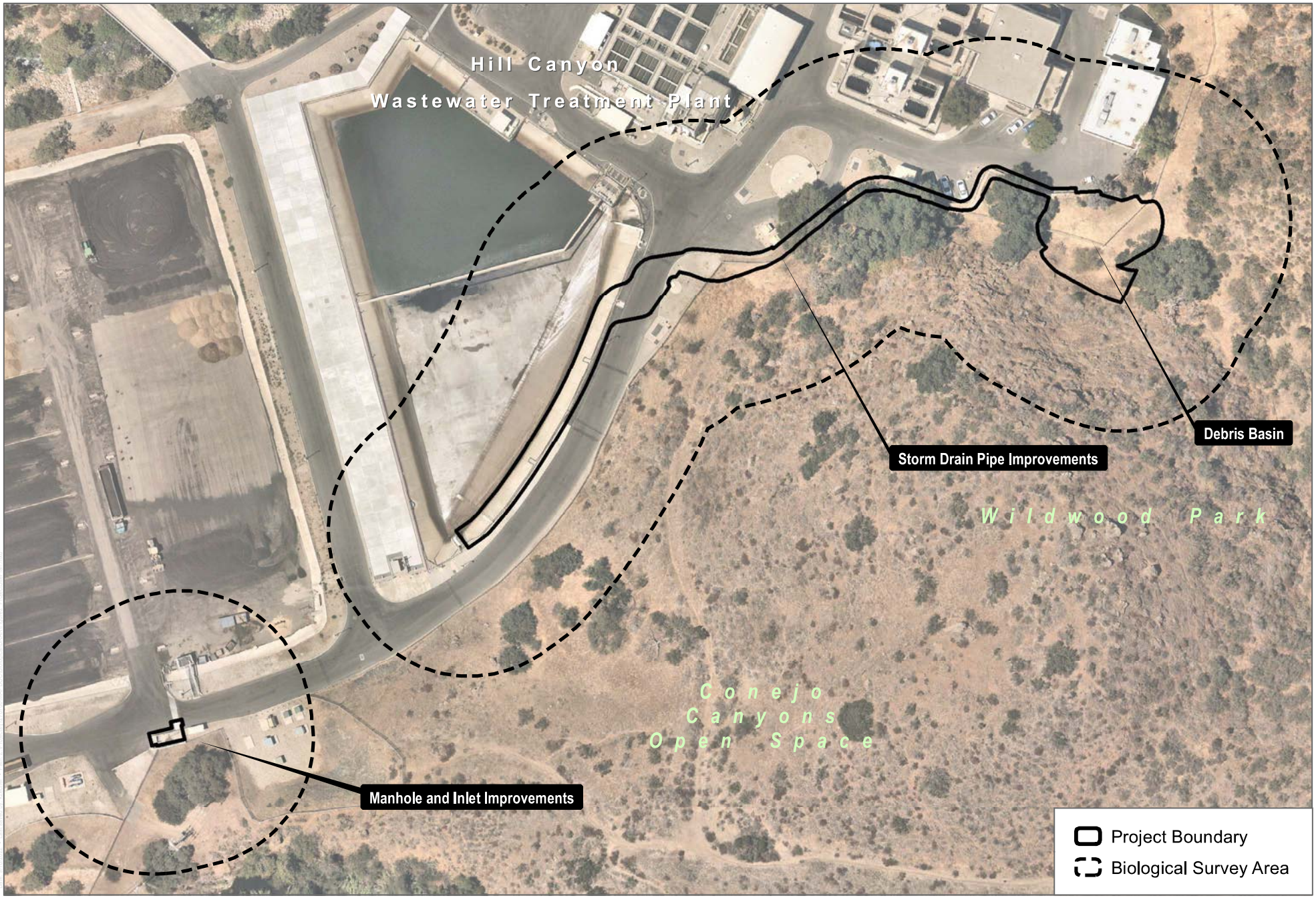
Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project

DUDEK

0 1,000 2,000 Feet

INTENTIONALLY LEFT BLANK



SOURCE: NearMap 2022

DUDEK

0 50 100 Feet

FIGURE 2

Project Site Plan

Hill Canyon Treatment Plant Stormwater Diversion Project

INTENTIONALLY LEFT BLANK

Project Boundary

Biological Survey Area

Topological Contours (5-foot interval)

Vegetation Communities and Land Cover Types

CBS-CS : California brittle brush - California sagebrush scrub

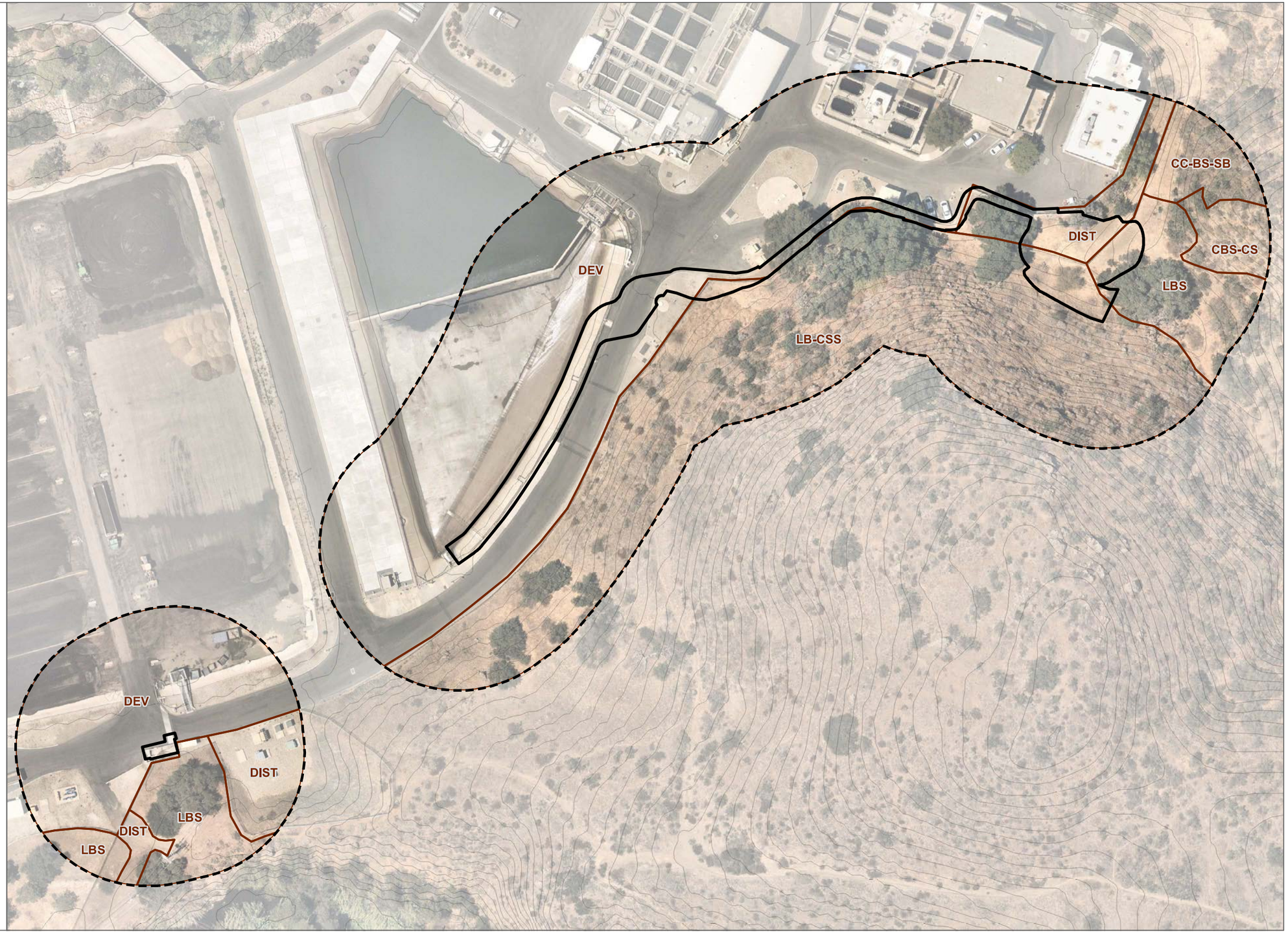
CC-BS-SB : Chamise - Black sage - Sugarbush scrub

LB-CSS : Lemonade berry - California sagebrush scrub

LBS : Lemonade berry scrub

DIST : Disturbed

DEV : Developed



SOURCE: NearMap 2022

DUDEK

0 37.5 75 Feet

FIGURE 3

Vegetation Communities and Land Cover Types

Hill Canyon Treatment Plant Stormwater Diversion Project

INTENTIONALLY LEFT BLANK

Project Boundary

Biological Survey Area

Individual Oak Trees (> 2" diameter)

Coast/interior live oak

California black oak

Oak Canopy

Oak Protection Zone (5' outside dripline)

Oak Protection Zone (15' from trunk)

SOURCE: NearMap 2022

DUDEK

0 20 40 Feet

FIGURE 4

City-Regulated Trees

Hill Canyon Treatment Plant Stormwater Diversion Project

INTENTIONALLY LEFT BLANK

Project Boundary

Biological Survey Area

Vegetation Communities and Land Covers

CBS-CS : California brittle brush - California sagebrush scrub

CC-BS-SB : Chamise - Black sage - Sugarbush scrub

DEV : Developed

DIST : Disturbed

LB-CSS : Lemonade berry - California sagebrush scrub

LBS : Lemonade berry scrub

Individual Oak Trees (> 2" diameter)

Coast/interior live oak

California black oak

Oak Canopy

Oak Protection Zone (5' outside dripline)

Oak Protection Zone (15' from trunk)

Special-Status Plants

Conejo Dudleya (*Dudleya parva*)

Wildlife Resources

Woodrat *(Neotoma sp.)* midden

Potential Jurisdictional Aquatic Resources

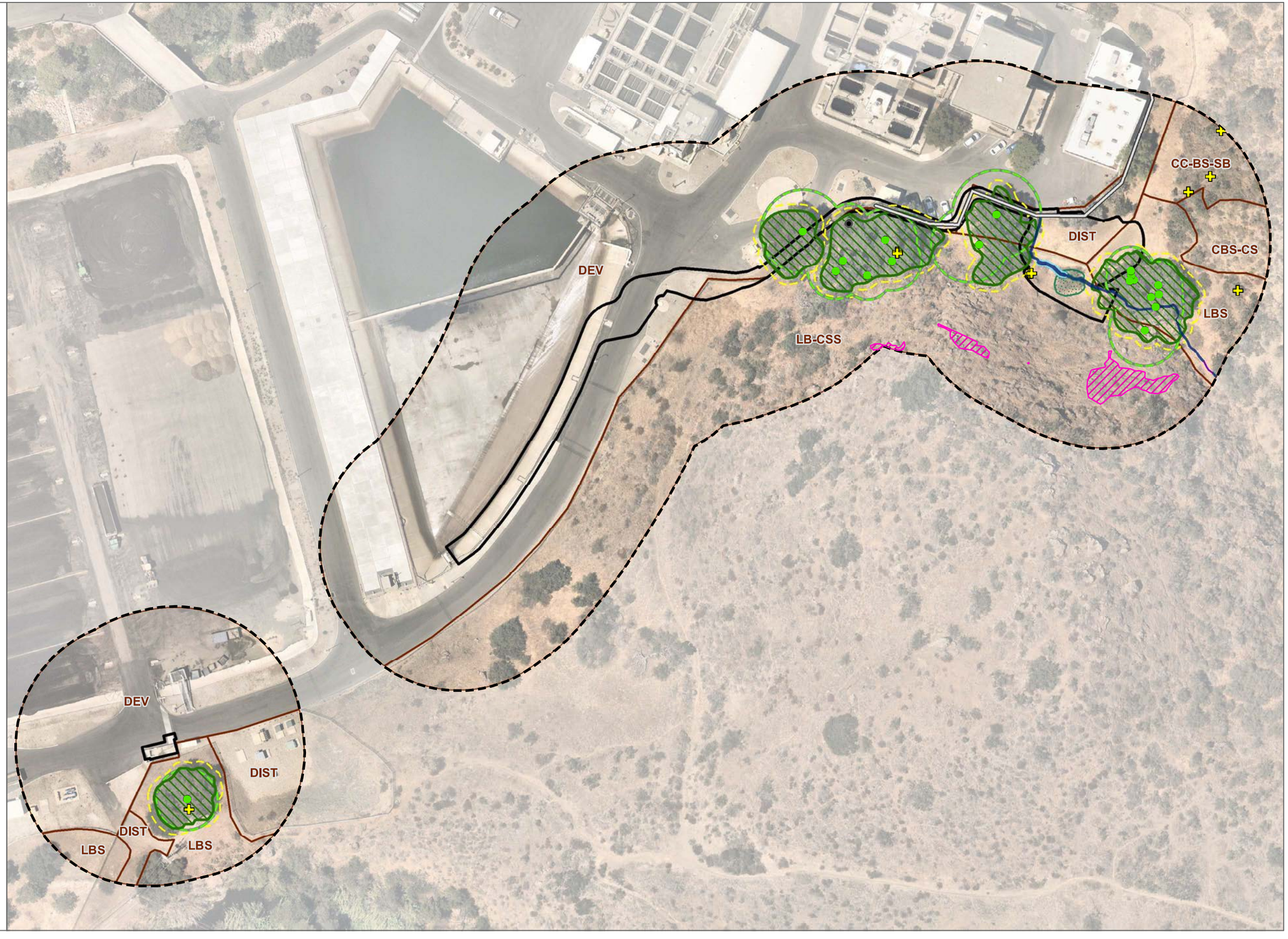
Ephemeral Channel

Ephemeral Channel (bank)

Riparian

Swale

Concrete V-ditch



SOURCE: NearMap 2022

DUDEK

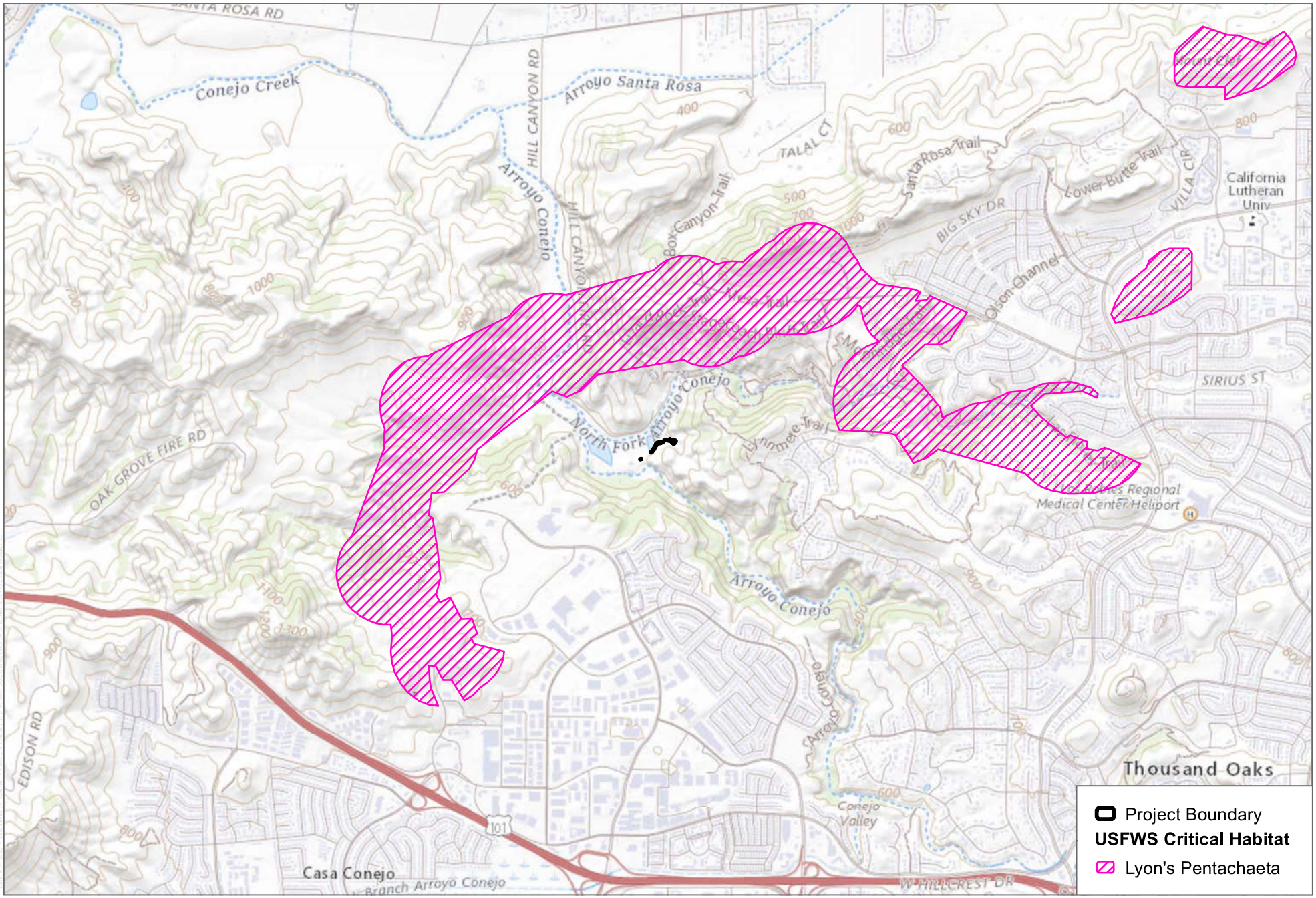
0 37.5 75 Feet

FIGURE 5

Biological Resources

Hill Canyon Treatment Plant Stormwater Diversion Project

INTENTIONALLY LEFT BLANK



SOURCE: NearMap 2022

DUDEK

0 1,400 2,800 Feet

FIGURE 6

USFWS Critical Habitat

Hill Canyon Treatment Plant Stormwater Diversion Project

INTENTIONALLY LEFT BLANK

Project Boundary

Project Impact Area

Biological Survey Area

Vegetation Communities and Land Covers

CBS-CS : California brittle brush - California sagebrush scrub

CC-BS-SB : Chamise - Black sage - Sugarbush scrub

DEV : Developed

DIST : Disturbed

LB-CSS : Lemonade berry - California sagebrush scrub

LBS : Lemonade berry scrub

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Wildlife Resources

Woodrat *(Neotoma sp.)* midden

Potential Jurisdictional Aquatic Resources

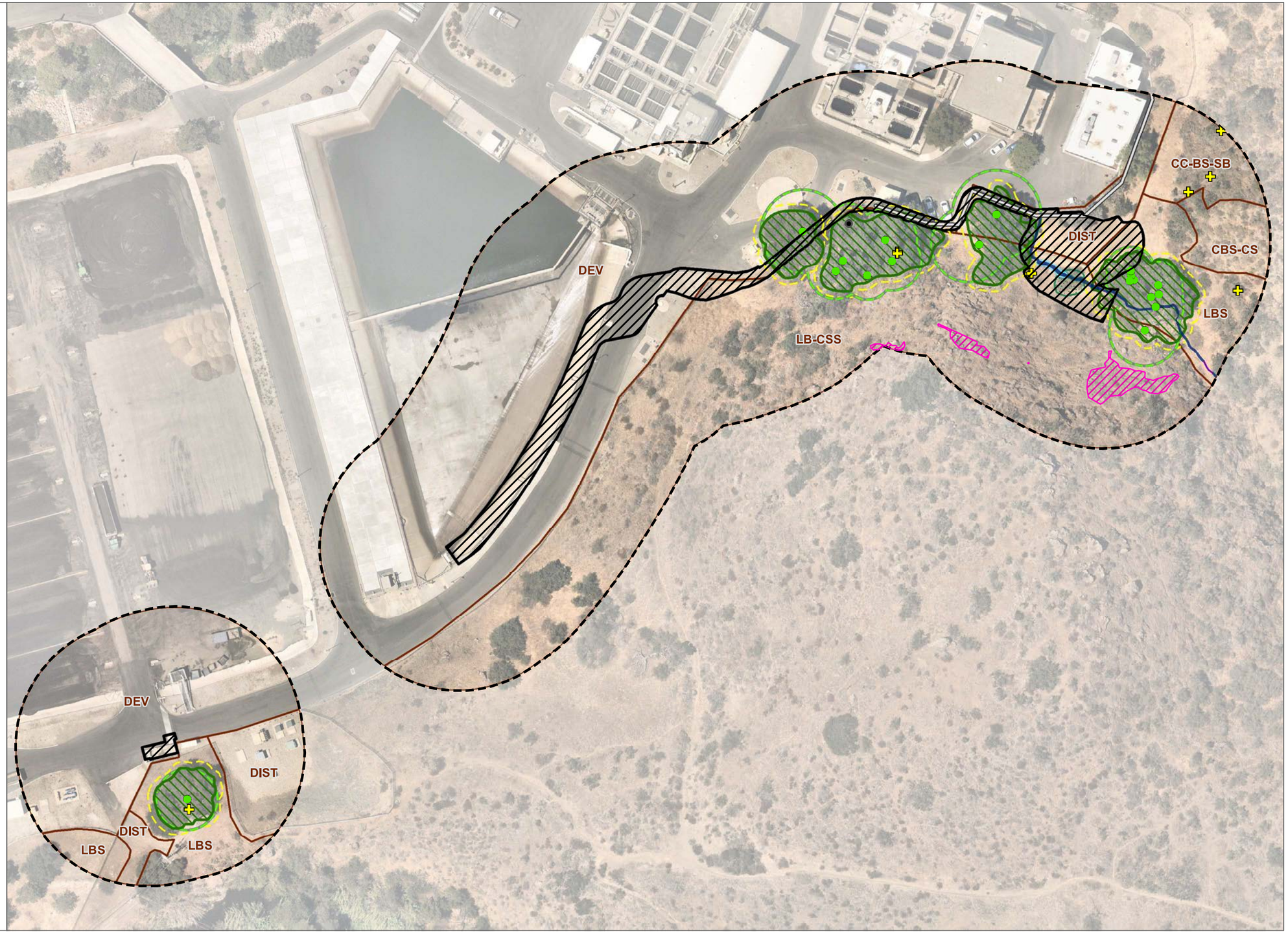
Ephemeral Channel

Ephemeral Channel (bank)

Riparian

Swale

Concrete V-ditch



SOURCE: NearMap 2022

DUDEK

0 37.5 75 Feet

FIGURE 7

Impacts to Biological Resources

Hill Canyon Treatment Plant Stormwater Diversion Project

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Appendix A

100% Site Plans (May 6, 2022)



SITE MAP
NOT TO SCALE

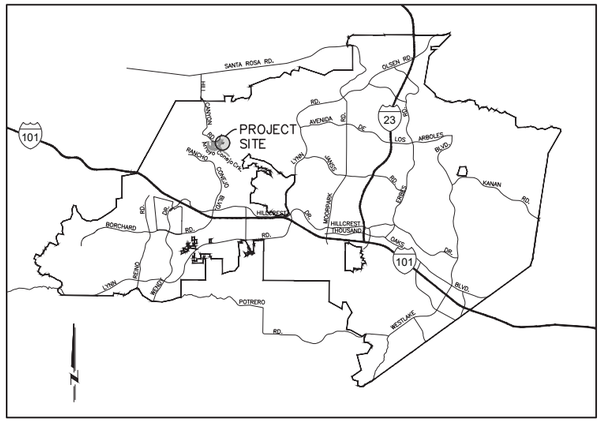
City of
Thousand Oaks

PUBLIC WORKS DEPARTMENT

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION

PROJECT NO. CI 5427

SPECIFICATION NO. 2020/21 - 05



VICINITY MAP
NOT TO SCALE

SHEET INDEX	
SHT. NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES, CONSTRUCTION NOTES, DEMOLITION NOTES AND ABBREVIATIONS
3	IMPROVEMENTS KEY MAP
4-6	EXISTING CONDITION AND DEMOLITION
7	DEBRIS BASIN GRADING PLAN
8	STORM DRAIN PIPE A - PLAN AND PROFILE
9	STORM DRAIN PIPE B AND C - PLAN AND PROFILE
10	CHANNEL - PLAN AND PROFILE
11-12	CIVIL DETAILS 1-2
13	CHANNEL SECTIONS
14	MANHOLE AND INLET MODIFICATIONS

PUBLIC UTILITIES WITHIN CITY OF THOUSAND OAKS

WATER:

CITY OF THOUSAND OAKS
2100 EAST THOUSAND OAKS BOULEVARD
THOUSAND OAKS, CA 91362
MICHAEL DEVLAHOVICH
805-449-5032

CALIFORNIA AMERICAN WATER COMPANY
2439 W. HILLCREST DRIVE
NEWBURY PARK, CA 91320
THOMAS BOYLE
805-498-1266, EXT. 2802

WASTEWATER:

CITY OF THOUSAND OAKS
2100 EAST THOUSAND OAKS BOULEVARD
THOUSAND OAKS, CA 91362
JOHN NELSON
805-449-5033

CABLE TV:

SPECTRUM
2525 KNOLL DRIVE
VENTURA, CA 93003
PATRICIA ROBERTSON
805-732-8160

FRONTIER
JON TRELATSKY
201 FLYNN ROAD
CAMARILLO, CA 93012
805-388-2266

ELECTRICITY:

SOUTHERN CALIFORNIA EDISON COMPANY
3589 FOOTHILL DRIVE
THOUSAND OAKS, CA 91361
BOB MIGLIORE
805-494-7013

GAS:

SOUTHERN CALIFORNIA GAS COMPANY
9400 OAKDALE AVENUE
CHATSWORK, CA 91311
WHUEY WEN HARTMAN
805-358-1596

TELEPHONE:

FRONTIER
201 FLYNN ROAD
CAMARILLO, CA 93010
THOMAS PEARSON
805-445-9116

NOTICE TO CONTRACTOR:
CONTRACTOR SHALL POSSES A VALID CLASS "A" GENERAL ENGINEERING LICENSE

NOTICE TO CONTRACTOR:
IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CALL THE USA UNDERGROUND ALERT FOR LOCATION OF EXISTING UNDERGROUND UTILITIES NO LESS THAN TWO DAYS NOR MORE THAN SEVEN DAYS PRIOR TO CONSTRUCTION.

811
THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY DAMAGE DONE TO EXISTING UTILITIES DURING CONSTRUCTION

CITY COUNCIL

CLAUDIA BILL-DE LA PEÑA, MAYOR

AL ADAM — ROBERT ENGLER, MAYOR PRO TEM

ED JONES — KEVIN MCNAMEE

CITY MANAGER

ANDREW P. POWERS

PUBLIC WORKS DIRECTOR

CLIFFORD G. FINLEY

CITY ENGINEER

NADER HEYDARI

BENCHMARK

SITE BENCHMARK AT NORTHING 1901862.78 AND EASTING 6283402.20
ELEVATION: 302.32' (NAVD88)

BASIS OF BEARINGS

THE BASE BEARING SHOWN HEREON ARE REFERENCED TO THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 5, RELATIVE TO THE NORTH AMERICAN DATUM OF 1983 (NAD83). NORTH 34°12'53.64 EAST DEFINED LOCALLY BY MEASURED TIES TO EXISTING SURVEY MONUMENTS WITH GEODETIC VALUES.

CERTIFICATE OF "RECORD DRAWINGS"

I _____ HEREBY CERTIFY, BASED ON MY FIELD OBSERVATION OR INFORMATION PROVIDED BY THE OWNER AND GENERAL CONTRACTORS THAT THE WORK ON SHEET NO'S _____ THROUGH _____ MARKED AS "RECORD DRAWING" HAS BEEN CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS, SPECIFICATIONS, REVISIONS, CHANGE ORDERS, AND FIELD CHANGES.

REGISTERED CIVIL ENGINEER (SIGNATURE) | RCE NUMBER | EXP. DATE

DATE

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DESIGNED — DATE XX/XX/XX — XX
DRAFTED BY — DATE XX/XX/XX — XX
CHECKED — DATE XX/XX/XX — CHG

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY — R.C.E. No. 69056 — DATE

REGISTERED PROFESSIONAL ENGINEER — CHARLES H. GREELY — No. 69056 EXP. 06-30-22 — CIVIL — STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER — DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER — DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER — DATE

CITY OF THOUSAND OAKS
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)
TITLE SHEET
CITY OF THOUSAND OAKS DWG. 20-22A
SHEET 1 OF 14

P:\101.Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #3 5427\CAD\12767-SHT 1 (Title Sheet) PLOTTED: 5/6/2022 5:42 PM

GENERAL GRADING NOTES

1. NOT USED

2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF THOUSAND OAKS GRADING ORDINANCE, TITLE 7, CHAPTER 3, REGULATING THE EXCAVATION, GRADING AND FILLING OF LAND AND ANY AMENDMENTS THERETO EXCEPT AS WAIVED OR MODIFIED AS SET FORTH IN THE CONDITIONS OF APPROVAL.

3. ESTIMATED EARTHWORK QUANTITIES:
   CUT: 450 C.Y. EXPORT: 165 C.Y.
   FILL: 285 C.Y.
   EARTHWORK QUANTITIES ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING QUANTITIES.

4. NOT USED

5. NO CUT OR FILL SLOPES MAY BE STEEPER THAN 2: 1 (H: V) MAXIMUM.

6. IN THE EVENT ADVERSE BEDDING PLANES ARE DISCOVERED DURING CONSTRUCTION SLOPE STABILIZATION TECHNIQUES, SUCH WORK SHALL BE APPROVED BY THE CITY ENGINEER UNDER A REVISED GRADING PLAN AND CHANGE ORDER.

7. NOT USED

8. ANY AREA TO RECEIVE FILL SHALL BE PREPARED BY SCARIFYING TO A MINIMUM DEPTH OF 6", MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE AND COMPACTED TO A RELATIVE DENSITY OF 90% BEFORE PLACING ADDITIONAL FILL. PRIOR TO PLACING OF ANY FILL MATERIAL, THE AREA SHALL BE APPROVED BY THE PUBLIC WORKS INSPECTOR. SHOULD ADVERSE SOIL CONDITIONS BE ENCOUNTERED, STABILIZATION TECHNIQUES SHALL BE APPROVED BY A CHANGE ORDER.

   THE OUTER 12 INCHES OF ALL FILL SLOPE SURFACES SHALL BE TAMPED AND GRID ROLLED TO THE SATISFACTION OF THE SOILS ENGINEER AND THE PUBLIC WORKS INSPECTOR, UNLESS OTHERWISE SPECIFIED.

9. NOT USED

10. NOT USED

11. ANY CHANGES IN THE WORK SHOWN HEREON SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.

12. NOT USED

13. NO STOCKPILING AND/OR IMPORT/EXPORT HAULING SHALL BE PERMITTED UNLESS APPROVED ON THE GRADING PERMIT.

14. NOT USED

15. UPON RECOMMENDATIONS MADE BY THE SOILS ENGINEER AND APPROVED BY THE CITY ENGINEER PRIOR TO THE GRADING OF ANY PROJECT, ROCK WITH DIMENSION FROM EIGHT (8") INCHES TO THIRTY SIX (36") INCHES MAY BE PLACED IN DESIGNATED ROCK DISPOSAL SITES. SUCH OVERSIZED ROCK SHALL NOT BE IN THE UPPER TEN (10') FEET OF COMPACTED FILL OR NEARER THAN (20') FEET TO THE SURFACE OF ANY FILL SLOPE. SUCH ROCK DISPOSAL SITES SHALL BE SHOWN ON THE "RECORD DRAWINGS" AND CERTIFIED TO BE COMPACTED BY THE SOILS ENGINEER.

16. ALL RETAINING WALLS SHALL BE CONSTRUCTED UNDER A SEPARATE PERMIT, TO BE OBTAINED PRIOR TO THE ISSUANCE OF THE GRADING PERMIT.

17. OAK TREE NOTES:

   A. UNO ALL OAK TREES WITHIN THE PROJECT BOUNDARIES AND WITHIN 100 FEET OF THE PROJECT BOUNDARIES SHALL BE FENCED AT THE PROTECTED ZONE (5 FEET OUTSIDE THE DRIPLINE) UNTIL PRESERVATION MEASURES, SUBMITTED BY THE CONTRACTOR, ARE APPROVED BY THE CITY ENGINEER AND COMMUNITY DEVELOPMENT DEPARTMENT. SAID FENCING SHALL CONSIST OF AT LEAST A 5 FOOT HIGH CHAIN LINK MATERIAL FASTENED TO STEEL STAKES 8 FEET ON CENTER.
   B. ALL OAK TREE WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF THOUSAND OAKS OAK TREE ORDINANCE 937-NS AND OAK TREE PRESERVATION AND PROTECTION GUIDELINES RESOLUTION NO. 2010-14.
   C. UNDER NO CONDITION SHALL ANY WORK BE DONE WITHIN THE PROTECTED ZONES OF ANY OAK TREE, WITHOUT OBTAINING AN OAK TREE ENCROACHMENT PERMIT AND GIVING 48 HOURS ADVANCE NOTICE TO THE CITY. NO PROTECTIVE FENCING SHALL BE RELOCATED OR MOVED WITHOUT CITY APPROVAL.

18. NOT USED

19. EROSION CONTROL MEASURES

   A. STOCK PILE SANDBAGS BEHIND ACCESS ROAD CURB FOR RAPID PLACEMENT IN THE EVENT OF A STORM.
   B. EXCEPT AS OTHERWISE DIRECTED BY THE PUBLIC WORKS INSPECTOR, ALL DRAINAGE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FORECAST OF RAIN PROBABILITY IS 40% OR GREATER AND MAINTAINED DURING THE RAINY SEASON (NOVEMBER 1ST TO APRIL 15).
   C. APPROVED EROSION CONTROL DEVICES MUST BE IN PLACE DURING THE ABOVE STATED PERIOD.
   D. CLEAN OUT MUD AND SILT AFTER EACH RAIN OR AS DIRECTED BY THE PUBLIC WORKS INSPECTOR.

20. SPECIAL NOTES FOR STORMWATER POLLUTION PREVENTION

   A. A STORMWATER POLLUTION CONTROL PLAN (SWPCP) IS REQUIRED FOR ALL PROJECTS FOR WHICH THE DISTURBED AREA IS LESS THAN 1 ACRE. SWPCP FORMS ARE AVAILABLE AT THE PUBLIC WORKS DEPARTMENT. A COPY OF THE SWPCP SHALL BE ON FILE WITH THE CITY PRIOR TO ISSUANCE OF A GRADING PERMIT, AND A COPY SHALL BE MAINTAINED AT THE JOB SITE AT ALL TIMES.
   B. CONSTRUCTION ACTIVITY INCLUDING CLEARING, GRADING, DISTURBANCES TO SOIL SUCH AS STOCKPILING, OR EXCAVATION THAT RESULTS IN DISTURBANCES OF AT LEAST ONE ACRE OF TOTAL LAND AREA ARE REQUIRED BY THE STATE TO APPLY FOR AN NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. CONTRACTOR SHALL FILE A NOTICE OF INTENT (NOI) WITH THE APPROPRIATE FEE TO THE STATE WATER RESOURCES CONTROL BOARD THROUGH THE STORMWATER MULTIPLE APPLICATION AND REPORT TRACKING SYSTEM (SMARTS) DATABASE.

   PROOF OF FILING THE NOI SHALL BE ON FILE WITH THE CITY PRIOR TO ISSUANCE OF A GRADING PERMIT. A COPY OF THE SWPPP SHALL BE MAINTAINED AT THE JOBSITE AT ALL TIMES.

   TOTAL LAND AREA TO BE DISTURBED IS: 1.0 ACRES.
   (INCLUDING CLEARING, GRADING, STOCKPILING, AND/OR EXCAVATION)

21. NOT USED

22. NOT USED

23. NOT USED

24. NOT USED

NOTICE TO CONTRACTORS

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THIS PLAN ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES, SHOWN OR NOT SHOWN.

2. ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATION" OF THE U.S. DEPARTMENT OF LABOR AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS."

3. THE OWNER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS' AND SUBCONTRACTORS' COMPLIANCE WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR OR WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS.

4. THE ESTIMATED QUANTITIES IN SPECIFICATIONS ARE ONLY FOR THE PURPOSE OF OBTAINING THE NECESSARY PERMITS, AND DOES NOT GUARANTEE THE ACCURACY OF THE ESTIMATED QUANTITIES. THE CONTRACTOR SHALL PERFORM HIS OWN QUANTITY TAKEOFF BEFORE SUBMITTING A BID FOR ANY PORTION OF THE IMPROVEMENTS COVERED BY THESE PLANS.

5. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.

6. CONTRACTOR SHALL COORDINATE STAGING AREA WITH CITY REPRESENTATIVE PRIOR TO CONSTRUCTION, REFERENCE SPECIFICATION SECTION 01 65 00 DELIVERY & STORAGE FOR MORE INFORMATION.

GENERAL NOTES:

1. CONTRACTOR MUST VERIFY ALL DIMENSIONS IN FIELD AT START OF PROJECT. REPORT ANY DISCREPANCY IMMEDIATELY TO CITY PROJECT MANAGER.

2. THESE NOTES SHALL BE USED IN CONJUNCTION WITH THE PLANS AND SPECIFICATIONS, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CITY PROJECT MANAGER.

3. ALL WORK SHALL BE PERFORMED ACCORDING TO APPLICABLE CALIFORNIA CODES, ASTM D1557, ASTM D1556, ALL APPLICABLE CITY OF THOUSAND OAKS STANDARDS, CITY ORDINANCE, CALIFORNIA ENERGY STANDARDS AND THE 2009 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND ANY SUPPLEMENTS.

4. CHECK FOR EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION WORK. NOTIFY PERTINENT UTILITIES AND UNDERGROUND SERVICE ALERT AT 8-1-1 TWO WORKING DAYS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.

5. NOT USED

6. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH DEMOLITION OR CONSTRUCTION SHOWN WHEN UNKNOWN CONDITIONS, OBJECTS, GRADE CHANGES, OR DISCREPANCIES EXIST OR ANY DISCREPANCIES THAT MAY HAVE NOT BEEN KNOWN DURING THE PREPARATION OF THIS PLAN. SUCH CONDITIONS, OBJECTS, GRADE CHANGES, OR DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTICE.

7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY POWER, WATER, AND LIGHTING AS REQUIRED TO PERFORM THE WORK. AT NO TIME DURING CONSTRUCTION SHALL WATER AND POWER BE TURNED OFF OR DISTURBED.

8. CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND FREE OF EXCESS EQUIPMENT, MATERIALS AND RUBBISH INCIDENTAL TO THE WORK. ALL CONSTRUCTION DEBRIS SHALL BE CLEARED FROM THE SITE AT THE END OF EACH DAY.

9. CONTRACTOR'S ON-SITE DUMPSTER MUST BE FROM THE CITY OF THOUSAND OAKS APPROVED COMPANIES.

10. ALL DEMOLISHED ITEMS SHALL BE DISPOSED OF PROPERLY AND IN ACCORDANCE WITH THE PROCEDURES OF THE CITY OF THOUSAND OAKS' CONSTRUCTION AND DEMOLITION ORDINANCE.

11. NOT USED

12. NOT USED

13. CONSTRUCTION CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CONSTRUCTION SURVEY.

15. NOT USED.

16. CONTRACTOR SHALL PREPARE A SWPPP AND FOLLOW ALL APPLICABLE EROSION CONTROL MEASURES.

17. CONTRACTOR TO TEMPORARILY SUPPORT EXISTING STRUCTURES AS NEEDED.

LIST OF ABBREVIATIONS

BC	BEGINNING OF CURVE
℄	CENTERLINE
CONC.	CONCRETE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CTO	CITY OF THOUSAND OAKS
DIA	DIAMETER
E	EAST
EC	END OF CURVE
ELEV/EL	ELEVATION
EX/EXIST	EXISTING
FG	FINISHED GRADE
HGL	HYDRAULIC GRADE LINE
INT	INTERSECTION
INV	INVERT
JS	JUNCTION STRUCTURE
LAT	LATERAL
LF/L.F.	LINEAR FEET
MH	MANHOLE
MIN	MINIMUM
N	NORTH
NO.	NUMBER
NTS	NOT TO SCALE
PCC	POINT OF COMPACT CURVATURE
PI	POINT OF INTERSECTION
PNT	POINT
PROP	PROPOSED
RC	REINFORCED CONCRETE
RCB	REINFORCED CONCRETE BOX
RCE	REGISTERED CIVIL ENGINEER
RCP	REINFORCED CONCRETE PIPE
RM	ROOM
RW	RECYCLED WATER
R/W	RIGHT OF WAY
SS	SANITARY SEWER
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION
STA/STA.	STATION
STD	STANDARD
TC	TOP OF CURB
TG	TOP OF GRATE
TOP	TOP OF CHANNEL
TRANS	TRANSITION
TW	TOP OF WALL
UNO	UNLESS OTHERWISE NOTED
W	WATER
WW	WASTEWATER

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

811 CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CHARLES H. GREELY R.C.E. No. 69056 DATE

CITY OF THOUSAND OAKS
REVIEWED BY:
PROJECT ENGINEER DATE
REVIEWED BY:
ENGINEERING DIVISION MANAGER DATE
APPROVED BY:
NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)
GENERAL NOTES, CONSTRUCTION NOTES, DEMOLITION NOTES, AND ABBREVIATIONS

CITY OF THOUSAND OAKS DWG. 20-22A

P:\101.Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #3 5427\CAD\12767-SHT 2 (Notes) PLOTTED: 5/6/2022 1:05 PM



STORMWATER DIVERSION KEY MAP

SCALE: 1"=30'

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 30' 60'
SCALE: 1" = 30'

811 Know what's **below.** **Call** before you dig.
CALL 811 AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DESIGNED DATE XX/XX/XX XX
DRAFTED BY DATE XX/XX/XX XX
CHECKED DATE XX/XX/XX CHG

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

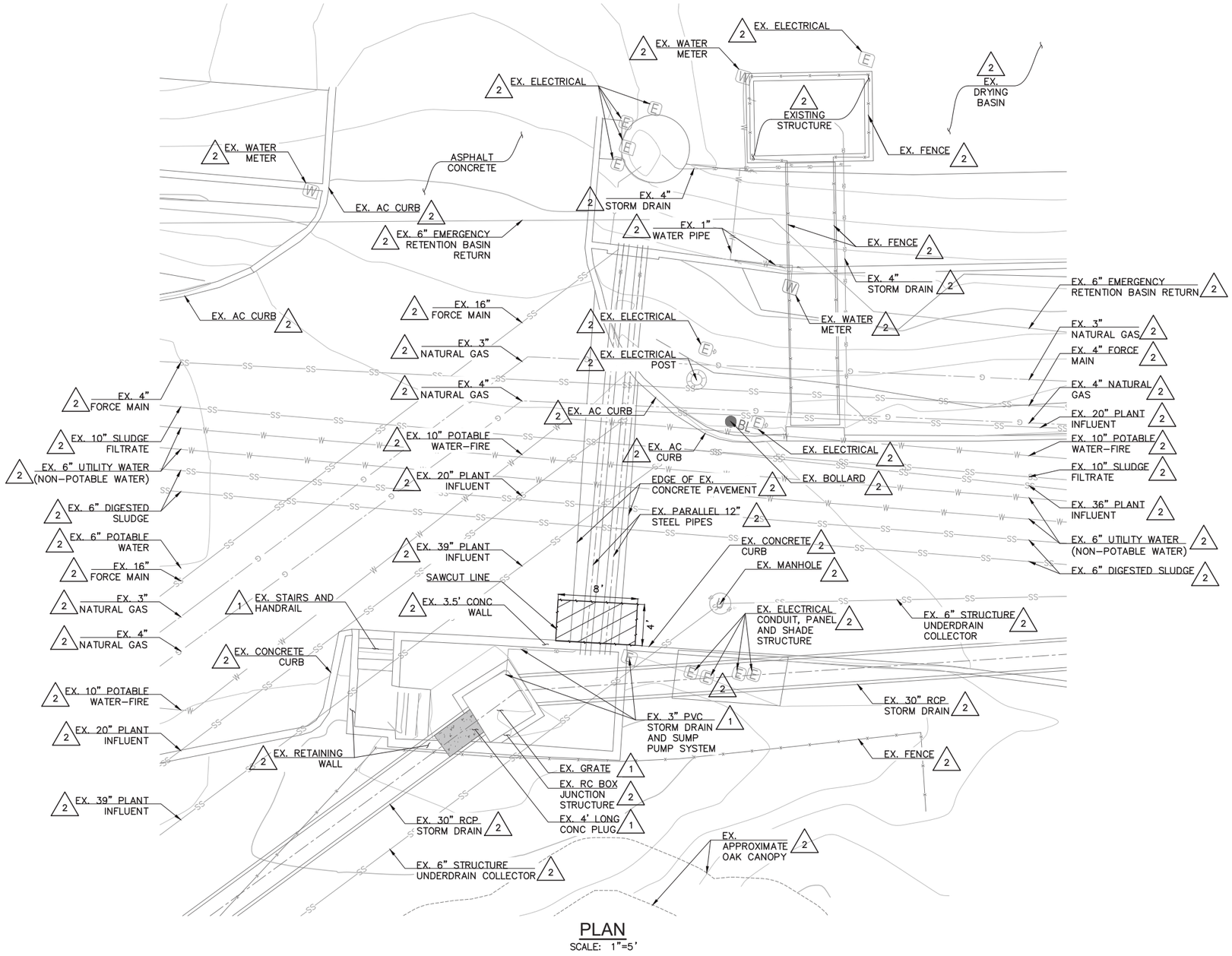
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

IMPROVEMENTS KEY MAP

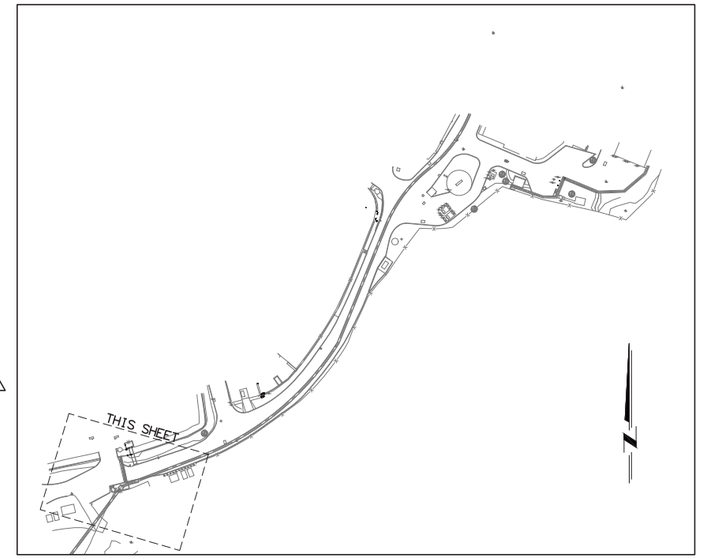
CITY OF THOUSAND OAKS DWG. 20-22A

SHEET 3 OF 14

P:\101.Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #CI 5427\CAD\12767-SHT 3 (Improvements Key Map) PLOTTED: 5/9/2022 1:09 PM



PLAN
SCALE: 1"=5'



KEY MAP
SCALE: 1"=100'

DEMOLTION NOTES

1. REMOVE AND PROPERLY DISPOSE OF EX. SURFACE FEATURE
2. PROTECT IN PLACE EX. SURFACE FEATURE

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 5' 10'
SCALE: 1" = 5'

CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

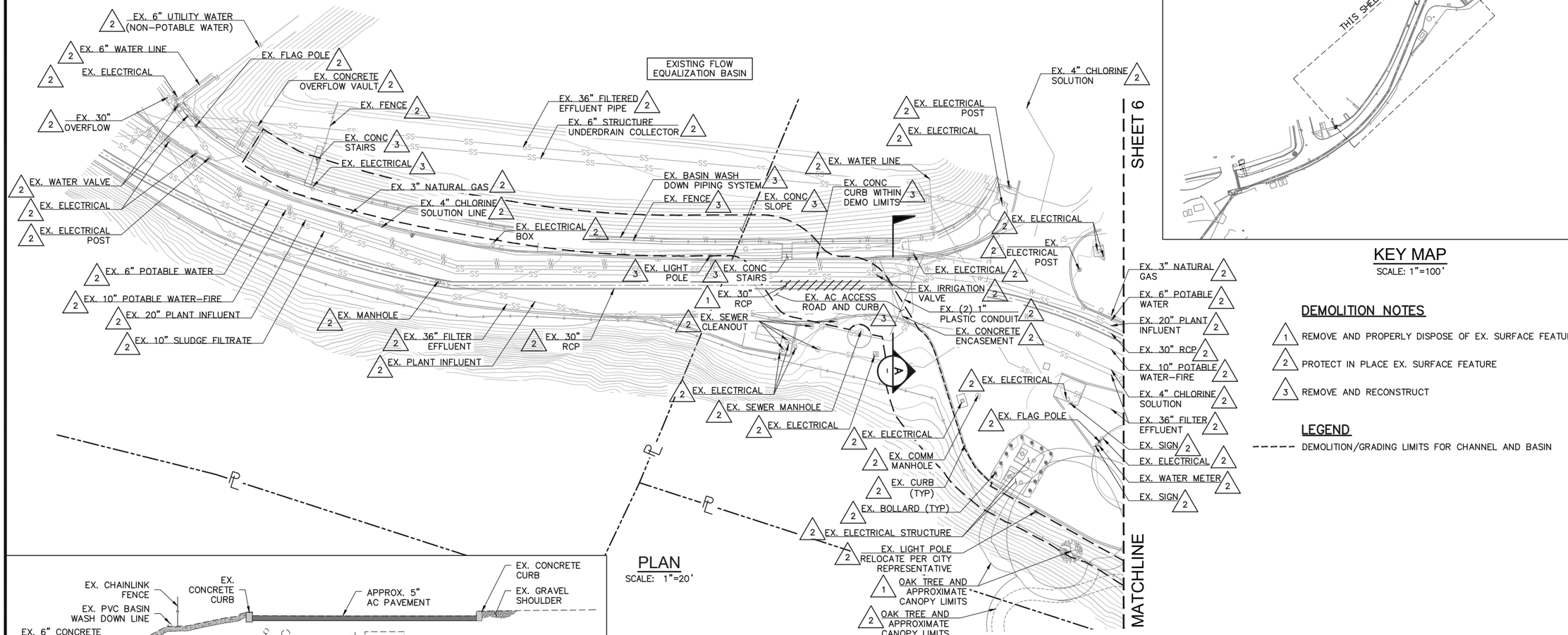
REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CHARLES H. GREELY R.C.E. No. 69056 DATE

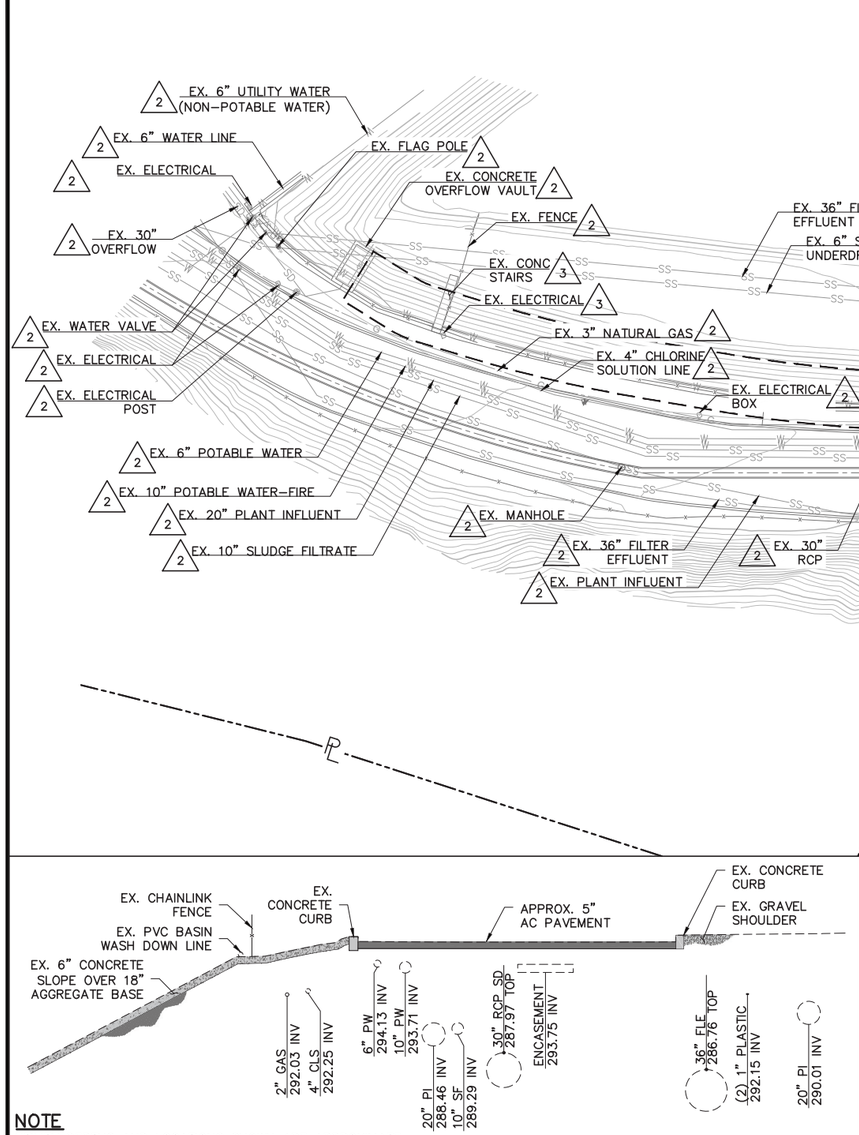
CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)
EXISTING CONDITION AND DEMOLITION - SHEET 1
CITY OF THOUSAND OAKS DWG. 20-22A
SHEET 4 OF 14

P:\101.Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #3 5427\CAD\12767-SHT 4-6 (Existing Condition 1-3) PLOTTED: 5/6/2022 8:31 PM



PLAN
SCALE: 1"=20'

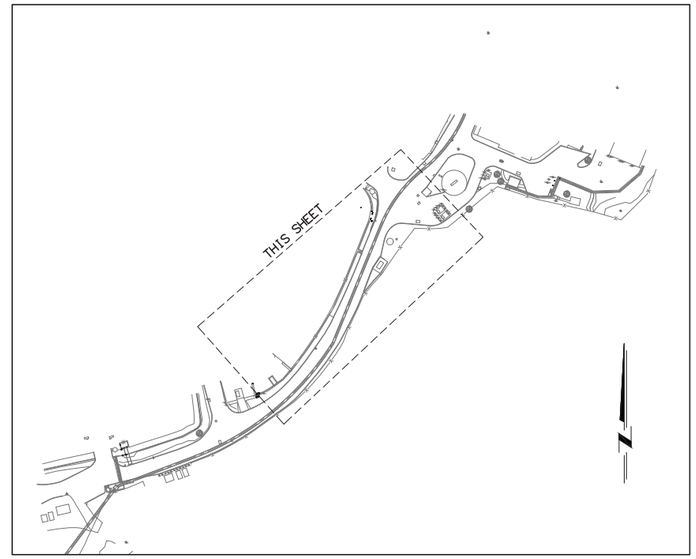


NOTE

UTILITY DEPTHS AND LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY UTILITY DEPTHS AND LOCATIONS PRIOR TO CONSTRUCTION. CONTRACTOR MAKE NOTE OF POTHOLING RESULTS IN SPECIFICATIONS APPENDIX.

SECTION A

SCALE: 1"=5'



KEY MAP

SCALE: 1"=100'

DEMOLITION NOTES

1. REMOVE AND PROPERLY DISPOSE OF EX. SURFACE FEATURE
2. PROTECT IN PLACE EX. SURFACE FEATURE
3. REMOVE AND RECONSTRUCT

LEGEND

DEMOLITION/GRADING LIMITS FOR CHANNEL AND BASIN

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 20'

CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CHARLES H. GREELY R.C.E. No. 69056 DATE

CITY OF THOUSAND OAKS
REVIEWED BY:
PROJECT ENGINEER DATE
REVIEWED BY:
ENGINEERING DIVISION MANAGER DATE
APPROVED BY:
NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

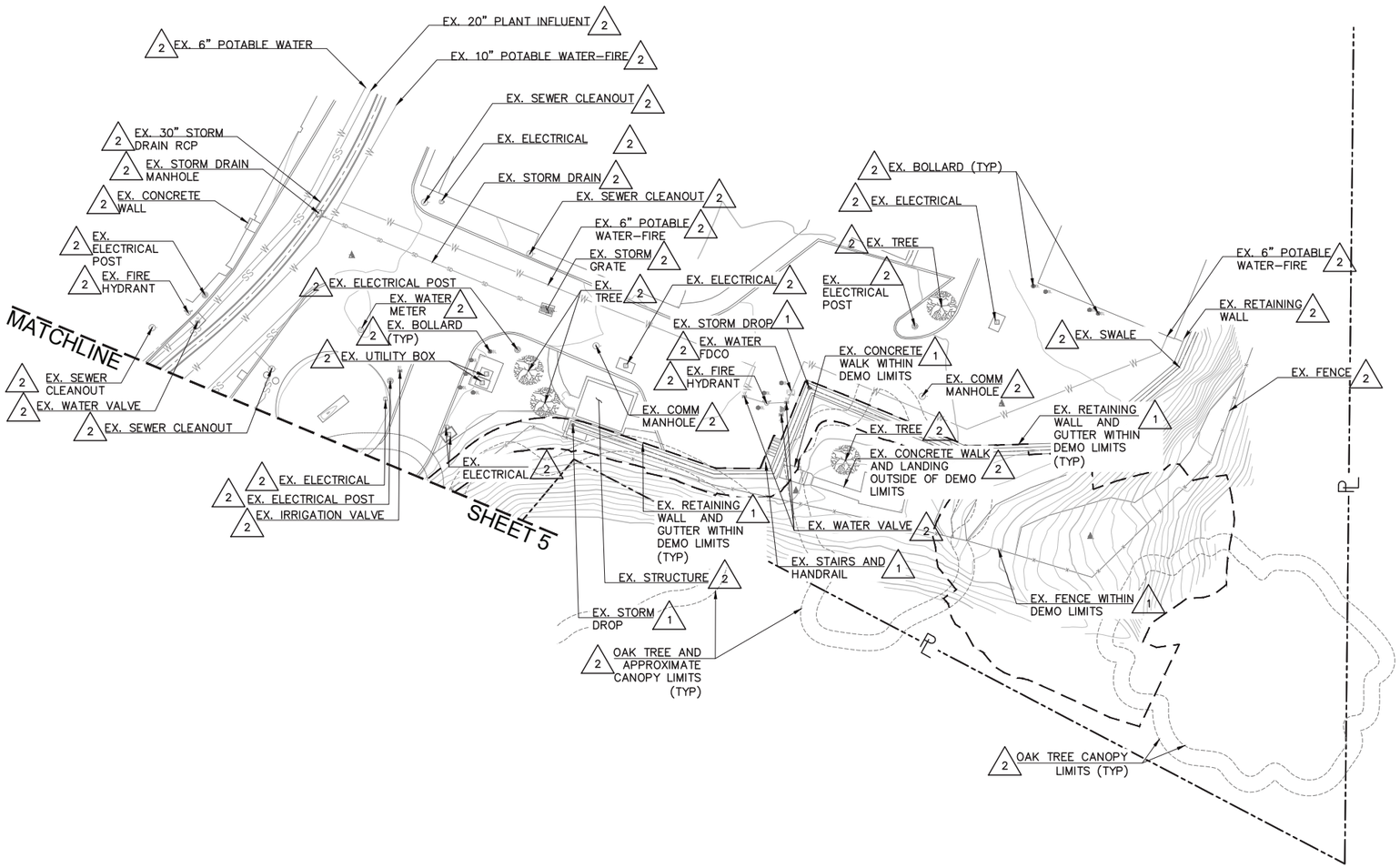
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

EXISTING CONDITION AND DEMOLITION - SHEET 2

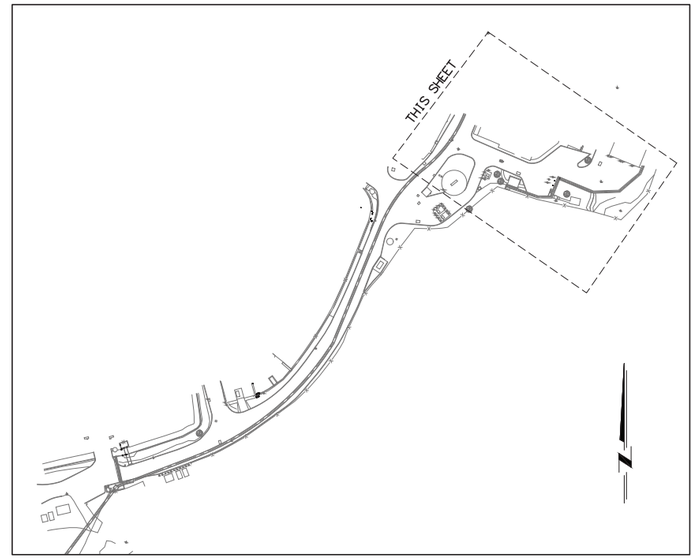
CITY OF THOUSAND OAKS DWG. 20-22A

SHEET 5 OF 14

P:\101 Engineering\Thousand Oaks, City of\12767 - IHCTP Stormwater Diversion #D 5427\CAD\12767-SHT 4-6 (Existing Condition 1-3).PLOTTED: 5/6/2022 8:34 PM



PLAN
SCALE: 1"=20'



KEY MAP
SCALE: 1"=100'

DEMOLITION NOTES

1 REMOVE AND PROPERLY DISPOSE OF EX. SURFACE FEATURE

2 PROTECT IN PLACE EX. SURFACE FEATURE

LEGEND

----- DEMOLITION/GRADING LIMITS FOR CHANNEL AND BASIN

NOTES

1. ALL EXISTING UTILITY AND SURFACE IMPROVEMENTS ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 20'

CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

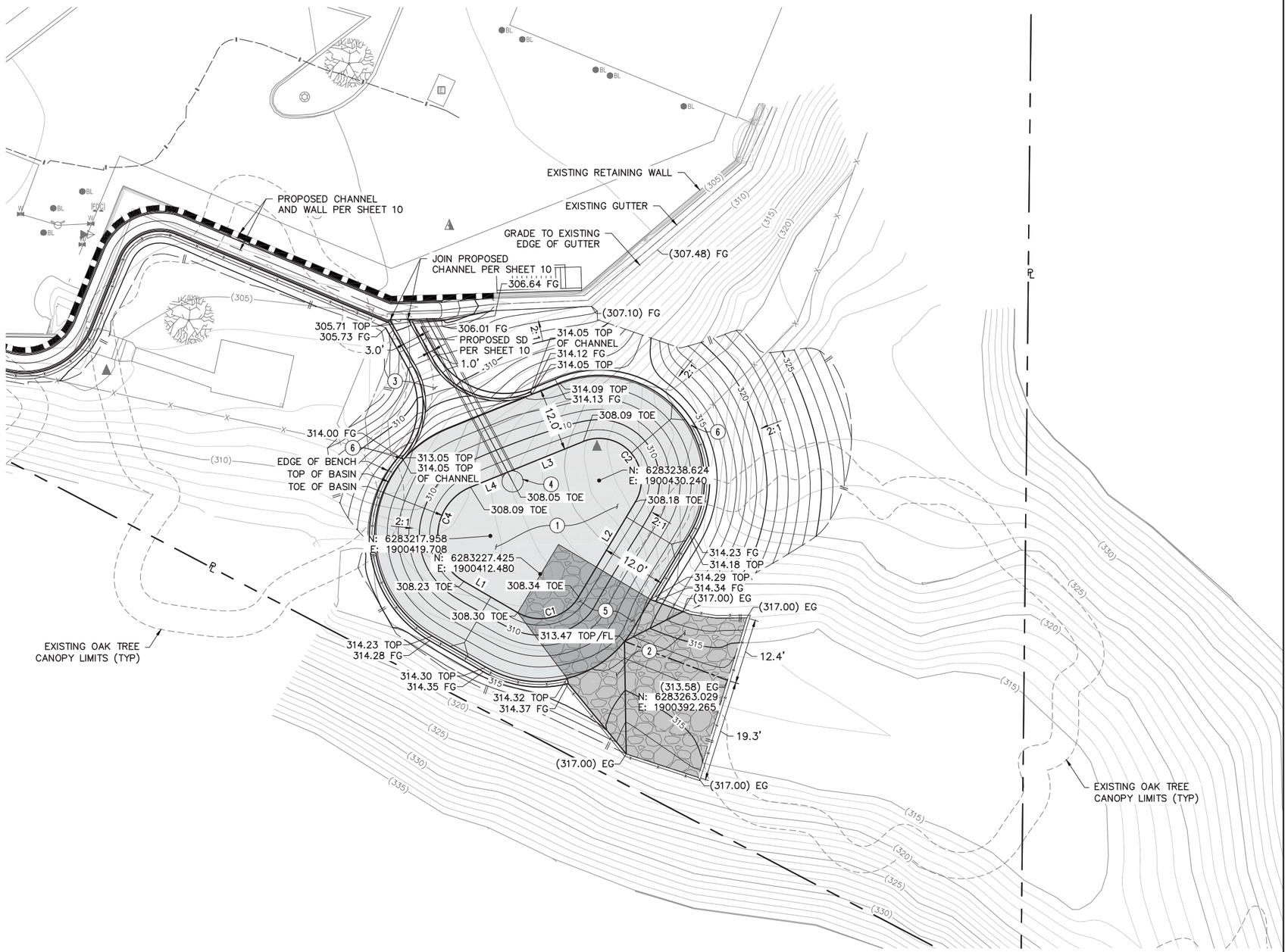
CITY OF THOUSAND OAKS

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

EXISTING CONDITION AND DEMOLITION - SHEET 3

CITY OF THOUSAND OAKS DWG. 20-22A

P:\101\Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion (CI 5427)\CAD\12767-SHT 4-6 (Existing Condition 1-3).PLOTTED: 5/6/2022 8:37 PM



PLAN
SCALE: 1"=10'

(X) CONSTRUCTION NOTES

1. CONSTRUCT BASIN PER PLAN AND TYPICAL BASIN SIDE SLOPE DETAIL 1, SHEET 11.
2. CONSTRUCT RIP-RAP SWALE PER PLAN AND TYPICAL RIP-RAP CHANNEL DETAIL 2, SHEET 11.
3. CONSTRUCT OVERFLOW CHANNEL PER PLAN AND TYPICAL OVERFLOW CHANNEL DETAIL 3, SHEET 11.
4. CONSTRUCT CMP STANDPIPE PER PLAN AND STANDPIPE DETAIL 4, SHEET 11.
5. CONSTRUCT CONCRETED RIP-RAP BANK PER TYPICAL CONCRETED RIP-RAP SLOPE DETAIL 5, SHEET 11.
6. INSTALL CHAINLINK FENCE WITHIN GRADING LIMITS PER PLAN AND SPPWC STD PLAN 600-3, JOIN TO NEAREST EXIST FENCE POST.

LINE TABLE		
LINE	LENGTH	DIRECTION
L1	11.82'	S59° 52' 19.29"E
L2	20.99'	N30° 52' 04.43"E
L3	15.71'	S67° 56' 33.53"W
L4	7.40'	S67° 56' 33.53"W

CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	13.24'	8.50'	89.26'
C2	19.96'	8.00'	142.93'
C4	22.31'	10.00'	127.81'

NOTES

1. CONTRACTOR SHALL COMPACT TO MINIMUM 95% RELATIVE COMPACTION PER ASTM D-1557.
2. ALL EXISTING UTILITY AND SURFACE IMPROVEMENTS ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 10' 20'
SCALE: 1" = 10'

CALL 811
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE
1		REVISE PLAN AND PROFILE, SHEETS 2-5, 8, 16	72992	3/19/18		

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
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3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

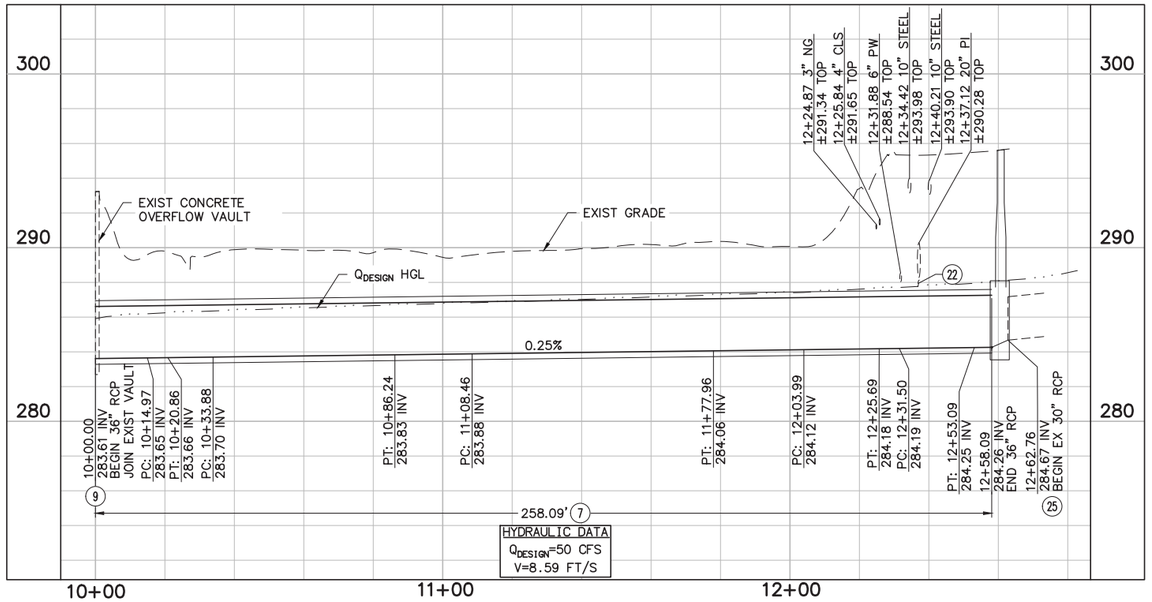
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

DEBRIS BASIN GRADING PLAN

CITY OF THOUSAND OAKS DWG. 20-22A

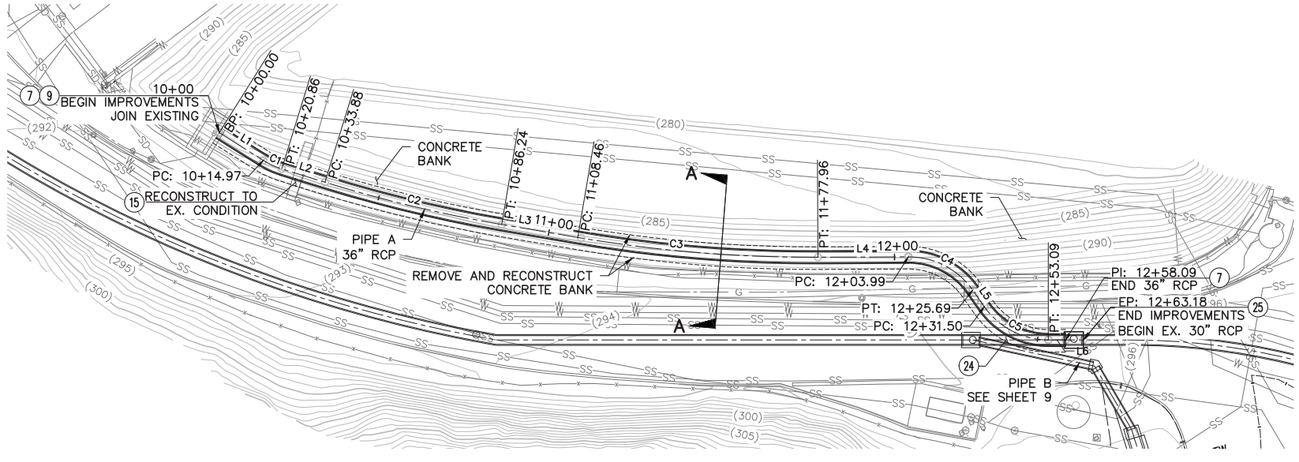
SHEET 7 OF 14

P:\10\Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion (CI 5427)\CAD\12767-SHT 7 (BasinGrading Plan) PLOTTED: 5/8/2022 1:45 PM



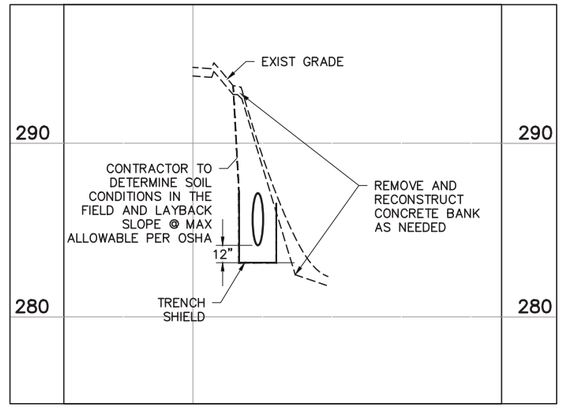
STORM DRAIN PIPE A - PROFILE

SCALE:
HORIZ: 1"=20'
VERT: 1"=4'



STORM DRAIN PIPE A - PLAN

SCALE: 1"=20'



NOTES

1. RECONSTRUCT 6" THICK CONCRETE BANK PER CONCRETE BANK TYPICAL SECTION DETAIL 7, SHEET 12.

STORM DRAIN PIPE A - SECTION A-A

SCALE:
HORIZ: 1"=20'
VERT: 1"=4'

(X) CONSTRUCTION NOTES

7. FURNISH AND INSTALL 36" RCP (1350-D) PER PLAN, PROFILE AND SECTION A-A OF THIS SHEET.
9. PIPE TO EXISTING VAULT CONNECTION PER DETAIL 9, SHEET 12.
15. RECONSTRUCT STAIRS PER SPPWC STD. PLAN 640-4.
22. WHERE THERE IS LESS THAN 1' CLEARANCE SLURRY BACKFILL BETWEEN PROP. AND EX. PIPES EXTENDING 1' PAST OD OF PIPE CROSSING.
24. REMOVE EXISTING 30" RCP PIPE PER DEMO PLANS.
25. CONSTRUCT MANHOLE PER SPPWC STD. PLAN 320-2.

LINE TABLE		
LINE	LENGTH	DIRECTION
L1	14.97'	N54° 22' 22.68"E
L2	13.02'	N39° 22' 22.68"E
L3	22.22'	N31° 52' 22.68"E
L4	26.03'	N21° 55' 03.81"E
L5	5.80'	N77° 11' 08.68"E
L6	5.00'	N22° 11' 08.68"E

CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	5.89'	22.50'	15.00'
C2	52.36'	400.00'	7.50'
C3	69.50'	400.00'	9.96'
C4	21.70'	22.50'	55.27'
C5	21.60'	22.50'	55.00'

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 20'

CALL 811
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX XX
DESIGNED
DATE XX/XX/XX XX
DRAFTED BY
DATE XX/XX/XX CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

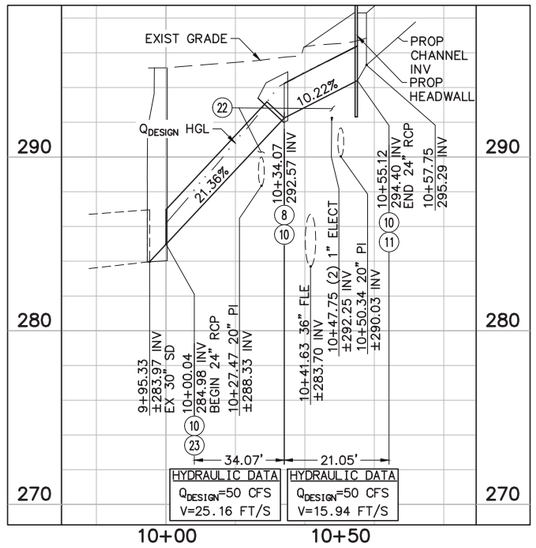
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

STORM DRAIN PIPE A - PLAN AND PROFILE

CITY OF THOUSAND OAKS DWG. 20-22A

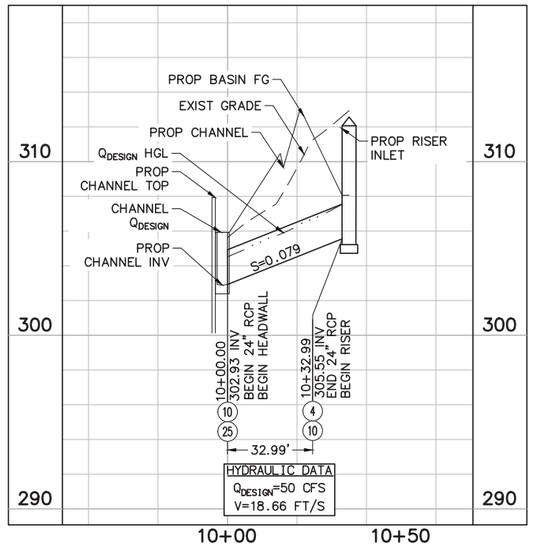
SHEET 8 OF 14

P:\101.Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #CI 5427\CAD\12767-Sht 8 (Storm Drain Pipe A) PLOTTED: 5/9/2022 2:20 PM



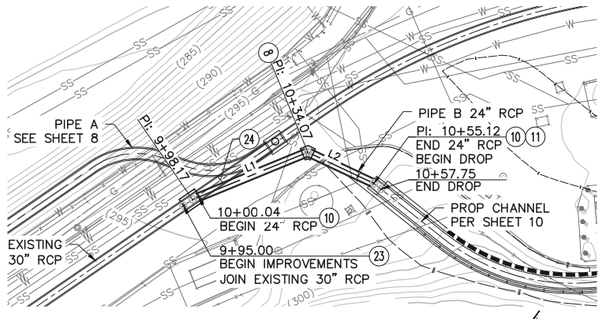
STORM DRAIN PIPE B - PROFILE

SCALE:
HORIZ: 1"=20'
VERT: 1"=4'



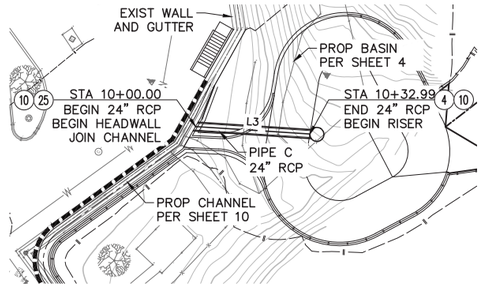
STORM DRAIN PIPE C - PROFILE

SCALE:
HORIZ: 1"=20'
VERT: 1"=4'



STORM DRAIN PIPE B - PLAN

SCALE: 1"=20'



STORM DRAIN PIPE C - PLAN

SCALE: 1"=20'

(X) CONSTRUCTION NOTES

4. CONSTRUCT CMP STANDPIPE PER PLAN AND STANDPIPE DETAIL 4, SHEET 11.
8. CONSTRUCT CONCRETE COLLAR PER SPPWC STD PLAN 380-4.
10. FURNISH AND INSTALL 24" RCP (1350-D) PER PLAN AND PROFILE.
11. CONSTRUCT HEADWALL PER PROFILE AND DETAIL 6, SHEET 12.
22. WHERE THERE IS LESS THAN 1' CLEARANCE SLURRY BACKFILL BETWEEN PROP. AND EX. PIPES EXTENDING 1' PAST OD OF PIPE CROSSING.
23. CONSTRUCT MANHOLE PER SPPWC STD PLAN 321-2.
24. REMOVE EXISTING 30" RCP PIPE PER DEMO PLANS.
25. CONSTRUCT PIPE TO RCB JUNCTION STRUCTURE PER SPPWC STD. PLAN 333.

LINE TABLE		
LINE	LENGTH	DIRECTION
L1	34.03'	N34° 17' 32.61"E
L2	21.05'	N81° 51' 26.37"E
L3	32.73'	S27° 52' 41.42"E

NOTES

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2. ALL EXISTING UTILITY AND SURFACE IMPROVEMENTS ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 20'

811 CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DESIGNED DATE XX/XX/XX XX
DRAFTED BY DATE XX/XX/XX XX
CHECKED DATE XX/XX/XX CHG

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

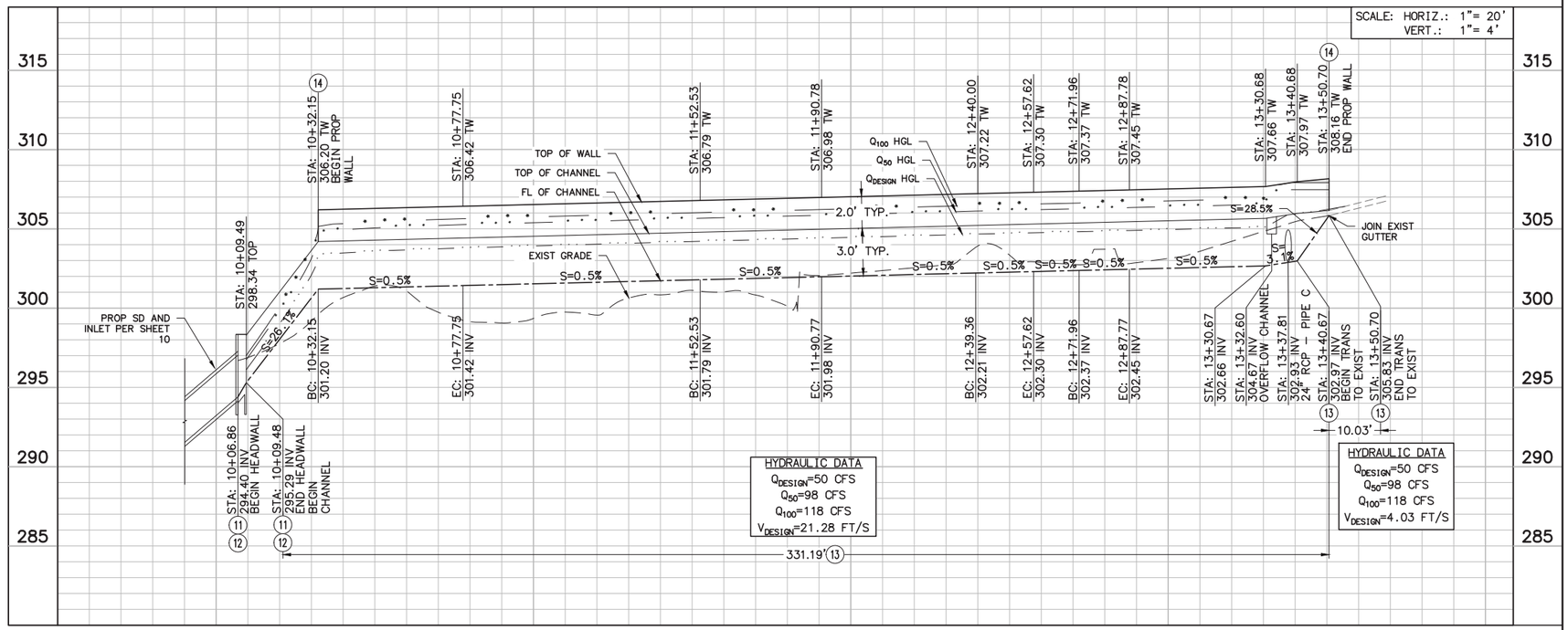
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

STORM DRAIN PIPE B AND C - PLAN AND PROFILE

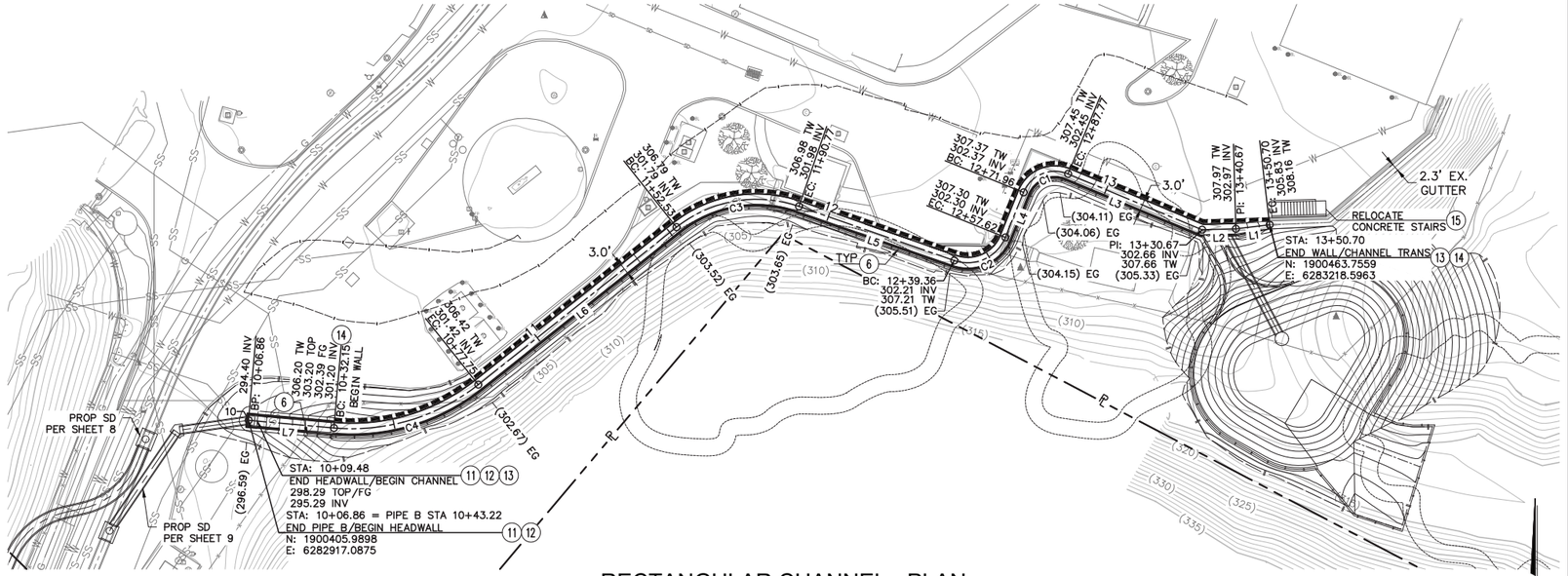
CITY OF THOUSAND OAKS DWG. 20-22A

SHEET 9 OF 14

P:\10\Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion #5427\CAD\12767-SHT 9 (Storm Drain Pipe B-C) PLOTTED: 5/8/2022 2:45 PM



RECTANGULAR CHANNEL - PROFILE



RECTANGULAR CHANNEL - PLAN

SCALE: 1"=20'

(X) CONSTRUCTION NOTES

6. INSTALL CHAINLINK FENCE WITHIN GRADING LIMITS PER PLAN AND SPPWC STD PLAN 600-3, JOIN TO NEAREST EXIST FENCE POST.
11. CONSTRUCT HEADWALL PER PROFILE AND DETAIL 6, SHEET 12.
12. CONSTRUCT GRATED INLET STRUCTURE PER SPPWC STD PLAN 361-2, CASE A.
13. CONSTRUCT CHANNEL PER PLAN, PROFILE AND TYPICAL SECTIONS ON SHEET 12.
14. CONSTRUCT WALL PER PLAN AND SPPWC STD PLAN 611-3, TYPE 2 AND TYPICAL SECTIONS ON SHEET 12.
15. RECONSTRUCT STAIRWAY PER SPPWC STD. PLAN 640-4, W=4', L=3' T=11", R=6", C=6", TOP ELEVATION = 306.50, BOTTOM ELEVATION = 300.50.

LINE TABLE		
LINE	LENGTH	DIRECTION
L1	10.12'	S83° 16' 35.98"W
L2	9.91'	S88° 23' 17.89"W
L3	42.90'	N67° 21' 32.64"W
L4	14.34'	S22° 02' 02.56"W
L5	48.59'	N70° 47' 53.32"W
L6	74.78'	S51° 32' 00.77"W
L7	25.29'	N84° 55' 17.32"W

CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	15.81'	10.00'	90.61'
C2	18.26'	12.00'	87.17'
C3	38.25'	38.00'	57.67'
C4	45.60'	60.00'	43.54'

NOTES

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2. ALL EXISTING UTILITY AND SURFACE IMPROVEMENTS ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

100% DESIGN SUBMITTAL
DATE: 4/22/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 20'

811 CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DESIGNED DATE XX/XX/XX XX
DRAFTED BY DATE XX/XX/XX CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
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REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

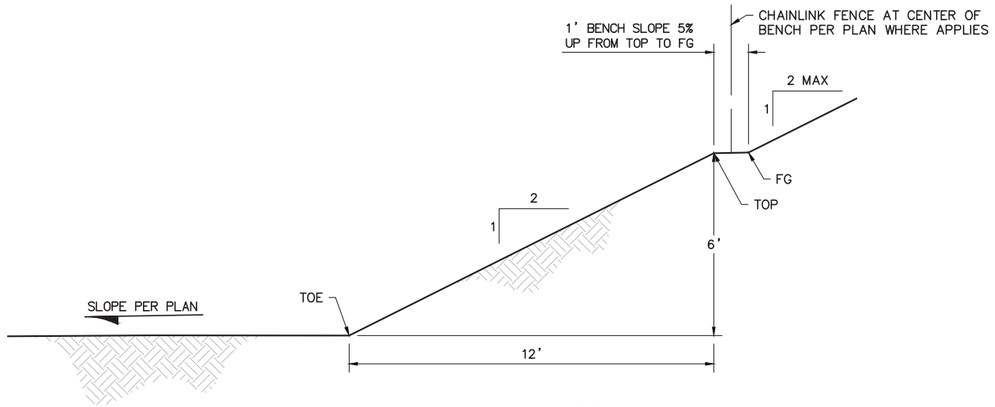
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

CHANNEL - PLAN AND PROFILE

CITY OF THOUSAND OAKS DWG. XX-XXX

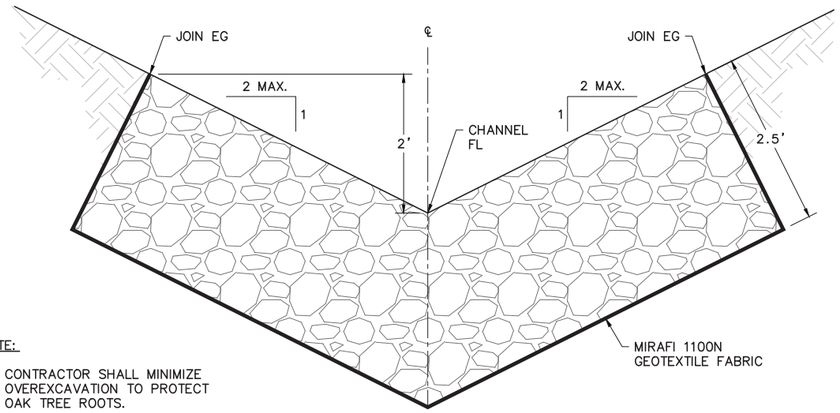
SHEET 10 OF 14

P:\10\Engineering\Thousand Oaks, City of\12767 - HCTP Stormwater Diversion (CI 5427)\CAD\12767-Sht 10 (Channel Plan and Profile) PLOTTED: 5/6/2022 8:11 PM



TYPICAL BASIN SIDE SLOPE (1)

SCALE: NTS — SHT 7

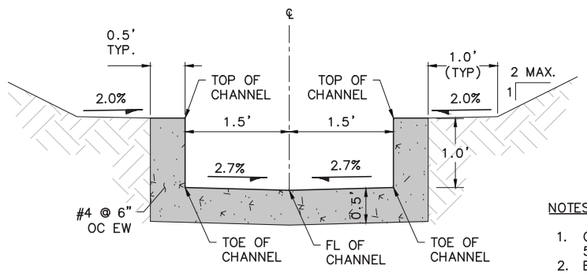


NOTE:

1. CONTRACTOR SHALL MINIMIZE OVEREXCAVATION TO PROTECT OAK TREE ROOTS.

TYPICAL RIP-RAP CHANNEL SECTION (2)

SCALE: 1"=1' — SHT 7

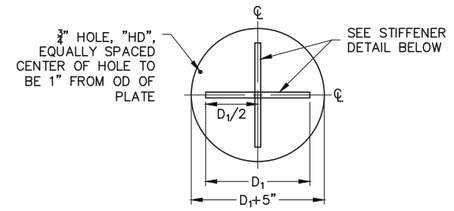


NOTES:

1. CONCRETE SHALL BE 560-C-3250.
2. EXPOSED CORNERS SHALL BE ¾" CHAMFERED.

TYPICAL OVERFLOW CHANNEL SECTION (3)

SCALE: 1"=1' — SHT 7



BOTTOM VIEW TOP PLATE

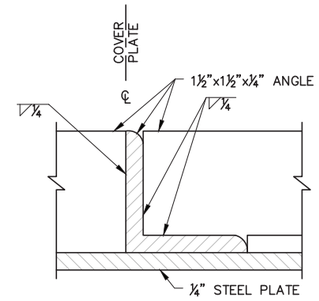
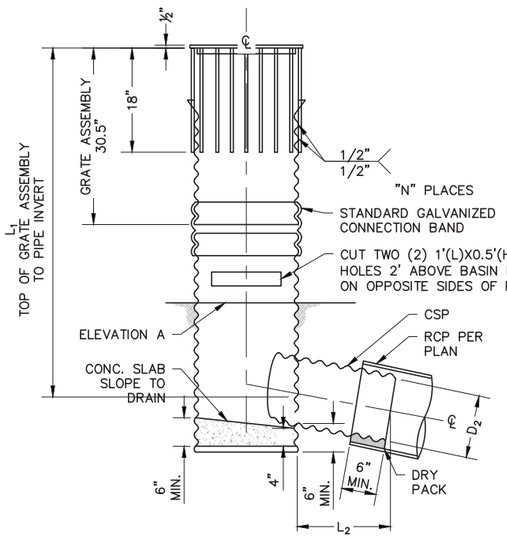
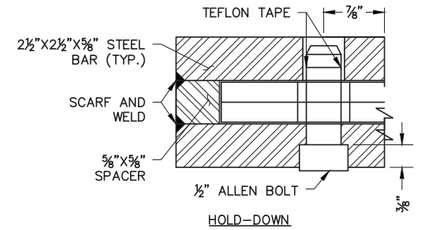


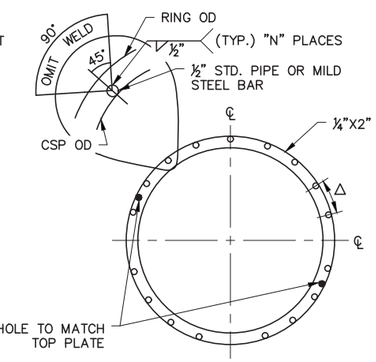
PLATE STIFFENER



SECTION VIEW



HOLD-DOWN



BOTTOM VIEW CAGE RETAINER RING

NOTES

1. RISER PIPE SHALL EXTEND TO ELEVATION A.
2. CORRUGATED STEEL PIPE SHALL CONFORM TO AASHTO M-36.
3. GRATE ASSEMBLY SHALL BE GALVANIZED AFTER FABRICATION.
4. N = NUMBER OF BARS ON GRATE ASSEMBLY.
5. GAUGE OF PIPE FOR DIAMETER D2 SHALL BE SAME AS FOR RISER.
6. RISER AND STUB SHALL BE SHOP FABRICATED AND GALVANIZED AFTER WELDING.
7. A STAINLESS STEEL MARKER PER THE SPECIAL PROVISIONS WITH THE WORDS "NO DUMPING DRAINS TO OCEAN" SHALL BE BOLTED ONTO GRATE.

RISER PIPE INLET DETAIL (4)

SCALE: 1"=1' — SHT 7

DIMENSION TABLE	
D_1	48"
D_2	24"
HD	2
ELEVATION A	308.05
L_1	7.56'
L_2	3'
△	40°
N	9
CSP GUAGE	16

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DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

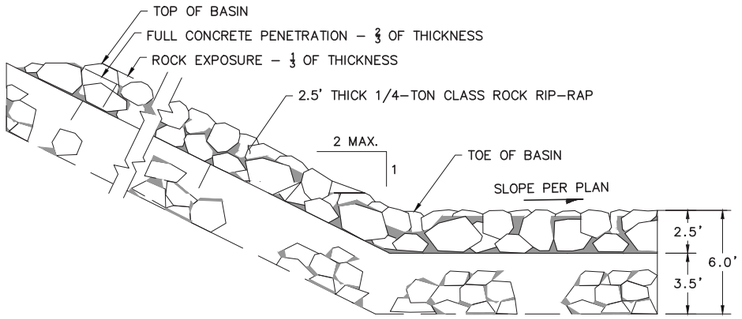
CITY OF THOUSAND OAKS

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

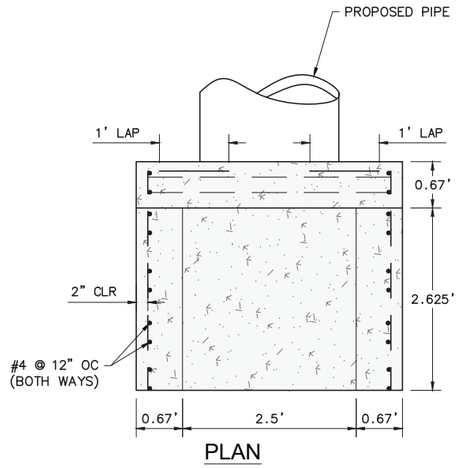
CIVIL DETAILS 1

CITY OF THOUSAND OAKS DWG. 20-22A

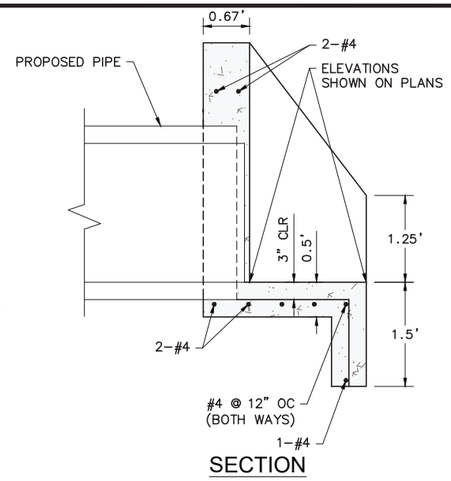
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CONCRETE RIP-RAP BANK SECTION 5
SCALE: NTS — SHT 7



PLAN

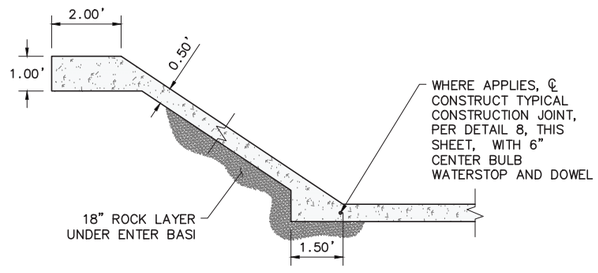


SECTION

NOTES:

1. CONCRETE SHALL BE 560–C–3250.
2. EXPOSED CORNERS SHALL BE ¾" CHAMFERED.

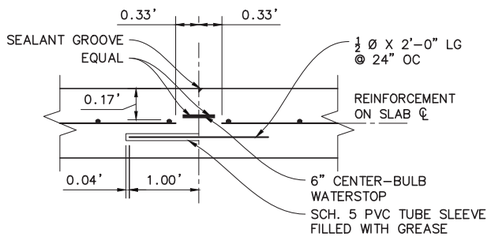
HEADWALL DETAIL 6
SCALE: 1"=1' — SHT 9



NOTES:

1. REINFORCEMENT SHALL BE #4 @ 12" OC EW.

CONCRETE BANK TYPICAL SECTION 7
SCALE: NTS — SHT 8



TYPICAL CONSTRUCTION JOINT 8
SCALE: NTS — SHT 8

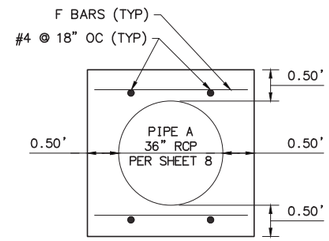
NOTES:

1. D, E, H & G BARS ARE #5.
2. F BARS ARE #4 @ 6" OC.
3. W BARS ARE #5 @ 12" OC.
4. REINFORCING STEEL SHALL TERMINATE 1.5" CLEAR OF CONCRETE SURFACE UNLESS OTHERWISE SHOWN.

PLAN

SECTION A-A

PIPE TO VAULT CONNECTION DETAIL 9
SCALE: NTS — SHT 8



SECTION B-B

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DRAFTED BY: DATE XX/XX/XX — XX
CHECKED: DATE XX/XX/XX — CHG

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY — R.C.E. No. 69056 — DATE

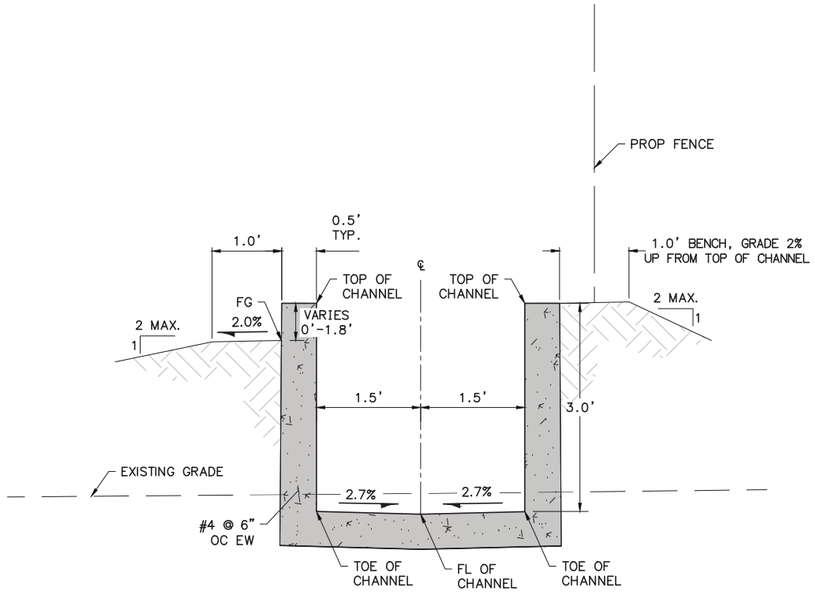
REGISTERED PROFESSIONAL ENGINEER — CHARLES H. GREELY — No. 69056 EXP. 06-30-22 — CIVIL — STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER — DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER — DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER — DATE

CITY OF THOUSAND OAKS
HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)
CIVIL DETAILS 2

CITY OF THOUSAND OAKS DWG. 20-22A

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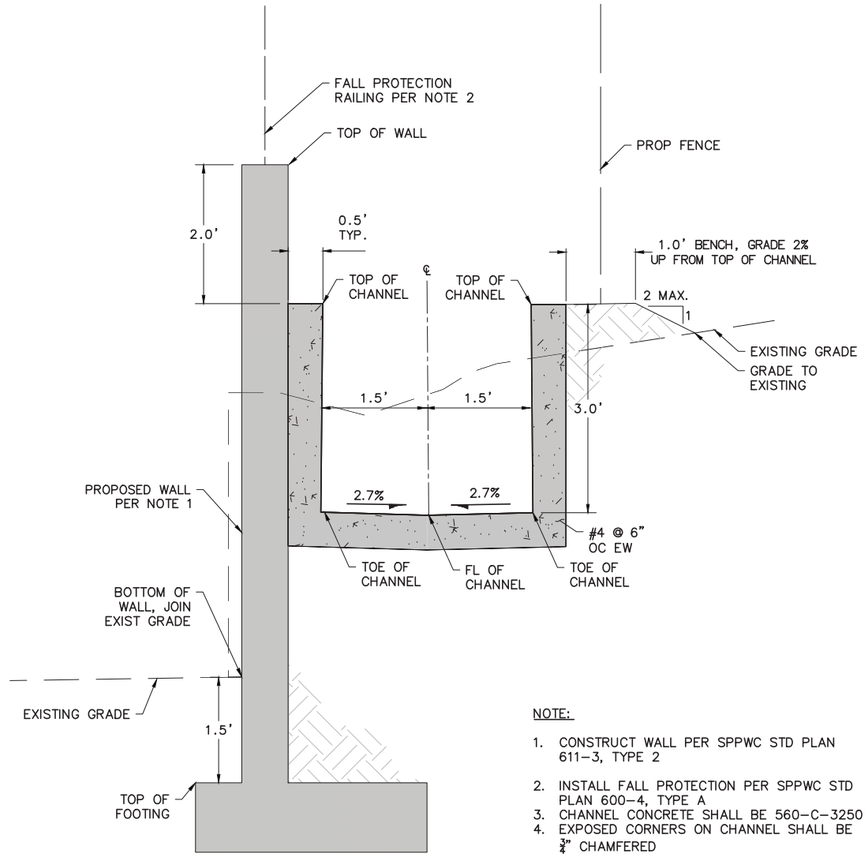


NOTES:

1. CONCRETE SHALL BE 560-C-3250
2. EXPOSED CORNERS SHALL BE ¾" CHAMFERED

CHANNEL TYPICAL SECTION VIEW
STA 10+06.86 TO STA 10+32.15

SCALE: 1"=1'



NOTE:

1. CONSTRUCT WALL PER SPPWC STD PLAN 611-3, TYPE 2
2. INSTALL FALL PROTECTION PER SPPWC STD PLAN 600-4, TYPE A
3. CHANNEL CONCRETE SHALL BE 560-C-3250
4. EXPOSED CORNERS ON CHANNEL SHALL BE ¾" CHAMFERED

CHANNEL TYPICAL SECTION VIEW
STA 10+32.15 TO STA 13+40.68

SCALE: 1"=1'

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DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

CHARLES H. GREELY R.C.E. No. 69056 DATE

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CITY OF THOUSAND OAKS
REVIEWED BY: PROJECT ENGINEER DATE
REVIEWED BY: ENGINEERING DIVISION MANAGER DATE
APPROVED BY: NADER HEYDARI, CITY ENGINEER DATE

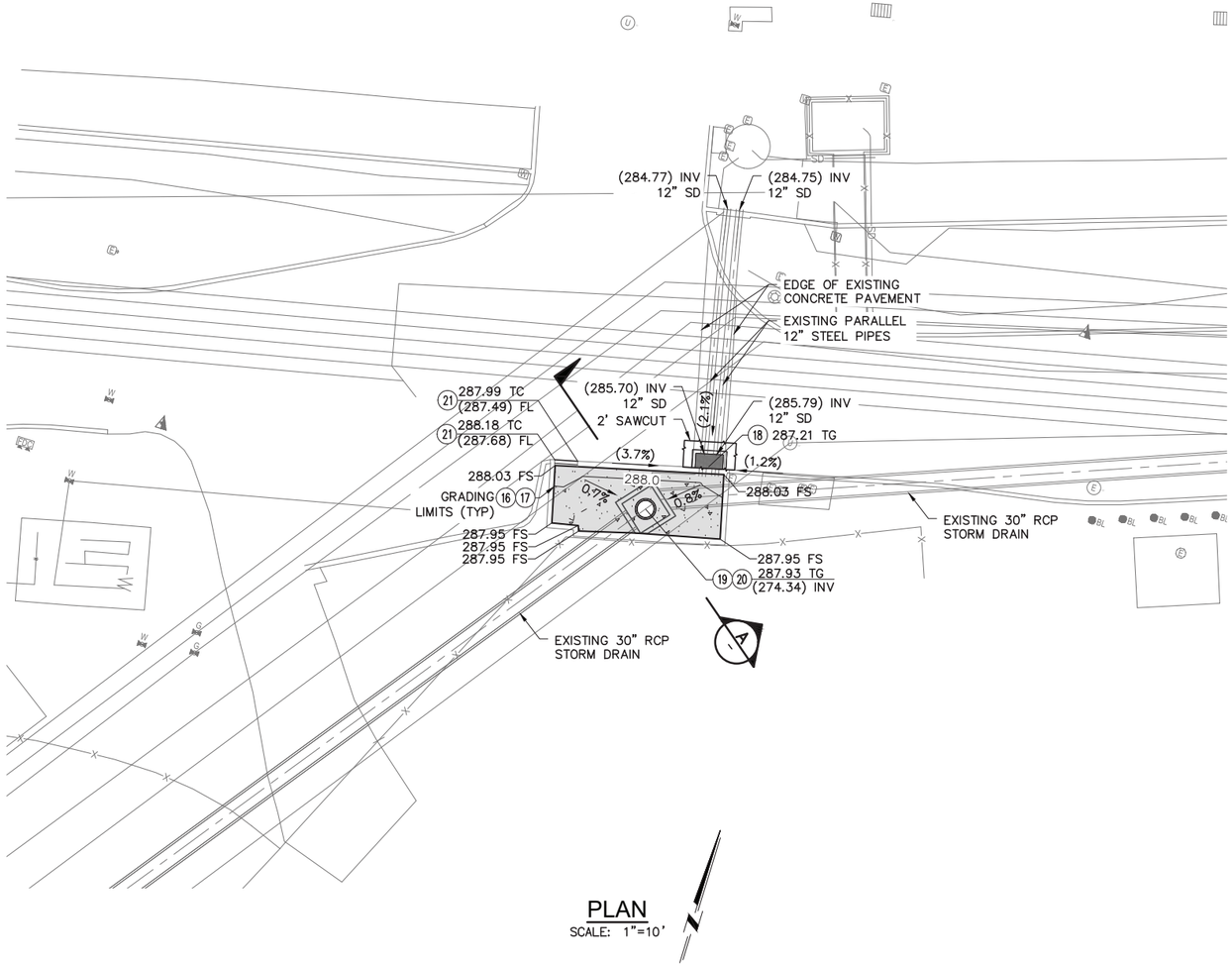
CITY OF THOUSAND OAKS

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

CHANNEL SECTIONS

CITY OF THOUSAND OAKS DWG. 20-22A

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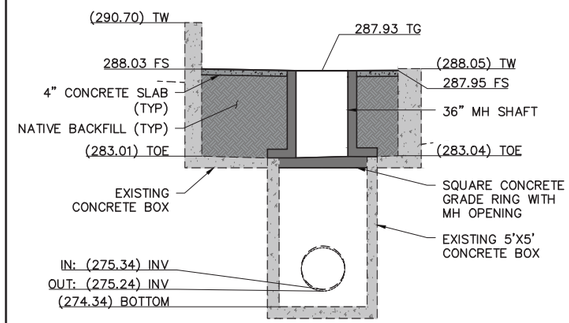
PLAN
SCALE: 1"=10'

(X) CONSTRUCTION NOTES

16. BACKFILL EXISTING CONCRETE STRUCTURE WITH NATIVE SOIL.
17. CONSTRUCT 4" CONCRETE SLAB ON GRADE.
18. INSTALL GRATED INLET AND CONSTRUCT CONNECTION TO EXIST 12" STEEL PIPES (2) PER SPPWC STD PLAN 303-3 (NO. OF GRATES 1-2). CUT EXIST 12" STEEL PIPES TO BE FLUSH WITH CONCRETE BOX AT CONNECTION. REPAIR AC PAVEMENT PER CITY OF THOUSAND OAKS STD PLATE NO. 8-14.
19. INSTALL SQUARE PRECAST CONCRETE GRADE RING AND FLAT TOP WITH 36" ID MH OPENING ON TOP OF EXISTING 5'X5' (INTERIOR DIMENSIONS) CONCRETE BOX, FILL VOIDS AT CONNECTION WITH CLASS C MORTAR (SSPWC SECT. 201-5.1).
20. INSTALL 36" MH SHAFT SPPWC STD 326, NO REDUCER AND 30" MH FRAME AND COVER PER SPPWC STD 632-4, COVER SHALL HAVE OPEN GRATING.
21. FORM 6" CURB INTEGRAL WITH EXISTING STRUCTURE TO REMAIN TO LIMITS SHOWN ON PLANS PER MODIFIED SPPWC STD PLAN 120-2, TYPE C1-6.

NOTES

1. CONTRACTOR SHALL COMPACT TO MINIMUM 95% RELATIVE COMPACTION PER ASTM D-1557.
2. ALL EXISTING UTILITY AND SURFACE IMPROVEMENTS ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.



GRAPHIC SCALE
0 4' 8'
SCALE: 1" = 4'

SECTION A
SCALE: 1"=4'

100% DESIGN SUBMITTAL
DATE: 5/6/2022
NOT FOR CONSTRUCTION

GRAPHIC SCALE
0 10' 20'
SCALE: 1" = 10'

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REV.	SYMBOL	DESCRIPTION OF CHANGE	R.C.E.	DATE	C.T.O.	DATE

DATE XX/XX/XX
XX
DESIGNED
DATE XX/XX/XX
XX
DRAFTED BY
DATE XX/XX/XX
CHG
CHECKED

PREPARED BY
DUDEK
3685 Main Street, Suite 250
Riverside, CA 92501
951.300.2100 Fax 951.300.2105

REGISTERED PROFESSIONAL ENGINEER CHARLES H. GREELY No. 69056 EXP. 06-30-22 CIVIL STATE OF CALIFORNIA

CHARLES H. GREELY R.C.E. No. 69056 DATE

CITY OF THOUSAND OAKS
REVIEWED BY:
PROJECT ENGINEER DATE
REVIEWED BY:
ENGINEERING DIVISION MANAGER DATE
APPROVED BY:
NADER HEYDARI, CITY ENGINEER DATE

CITY OF THOUSAND OAKS

HILL CANYON TREATMENT PLANT STORMWATER DIVERSION (CI 5427)

MANHOLE AND INLET MODIFICATIONS

CITY OF THOUSAND OAKS DWG. 20-22A

SHEET 14 OF 14

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Appendix B

Aquatic Resources Delineation Report

Aquatic Resources Delineation Report

Hill Canyon Treatment Plant Stormwater Diversion Project

MARCH 2023

Prepared for:

CITY OF THOUSAND OAKS
2100 E. Thousand Oaks Boulevard
Thousand Oaks, California 91362
Contact: Nader Heydari

Prepared by:

DUDEK

621 Chapala Street
Santa Barbara, California 93101
Contact: Melissa Blundell
mblundell@dudek.com

Printed on 30% post-consumer recycled material.

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A Photo Documentation
B Data Forms

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
OHWM	ordinary high-water mark
Project	Hill Canyon Treatment Plant Stormwater Diversion Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers

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1 Introduction

This Aquatic Resources Delineation Report is being prepared for the City of Thousand Oaks for the Hill Canyon Treatment Plant Stormwater Diversion Project (Project). The delineation was performed to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 USC 1344); Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act; and/or California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the Project site using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation.

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1. Access to the Project site is not restricted, but if a site visit is requested, the Project applicant or agent will accompany regulatory staff to the Project site. City of Thousand Oaks is the Project applicant and landowner.

Table 1. Applicant and Agent Contact Information

Applicant	City of Thousand Oaks	**Agent**	Phoenix Civil Engineering
Contact Name	Nader Heydari	**Contact Name**	Jon Turner
Address	2100 E. Thousand Oaks Boulevard Thousand Oaks, California 91362	**Address**	535 E. Main Street Santa Paula, California 93060
Phone	805.449.2392	**Phone**	805.658.6800
Fax	NA	**Fax**	NA
Email	nheydari@toaks.org	**Email**	jturner@phoenixcivil.com

2 Site Description and Landscape Setting

The Hill Canyon Treatment Plant (Assessor's Parcel Numbers 552-013-001 and 667-012-017) is located at 9600 Santa Rosa Road, Thousand Oaks, California (Figure 1, Project Location). The Project site is located within U.S. Geological Survey 7.5-minute Newberry Park quadrangle, Section 00 of Township 2 North and Range 20 West; the approximate center of the Project site is longitude 34°12′39.00″W and latitude 118°55′16.02″N

(34.210832; −118.921117). To drive to the Project site from Camarillo, take Santa Rosa Road east and turn right onto Hill Canyon Road, which will take you to the entrance of Hill Canyon Treatment Plant. The Project site is located between two publicly owned open space systems including Wildwood Regional Park, approximately 1,765 acres, and Conejo Canyons Open Space, approximately 1,430 acres. As a result, the surrounding area is predominantly open space with residential and commercial properties approximately 0.25 miles south and east of the site.

A Biological Survey Area (BSA) was considered as the review area for this Project site. The BSA includes the proposed Project impact areas (Project site) and a 100-foot buffer. Topography within the BSA is variable, characterized by moderately steep slopes that lead down towards a vegetated canyon containing a linear aquatic feature. This unnamed feature originates southeast of the site within Wildwood Regional Park. Elevation ranges from approximately 280 feet above mean sea level in the southwestern portion of the BSA (near the manhole work area) to 400 feet above mean sea level south of the proposed debris basin.

2.1 Soils

Soil types within and surrounding the BSA are shown on Figure 2. As shown on Figure 2, soils within the natural landscapes of the BSA consist mainly of Hambright very rocky loam (HaG; 15% to 75% slopes), a shallow, well-drained soil which typically occurs on plateaus, basalt flows, and hillslopes (USDA-NRCS 2022a). Vina gravelly loam (VnC; 2% to 9% slopes) occurs along the northwestern portions of the BSA and primarily within the existing treatment plant. A third soil type, Vina loam (VaC; 2% to 9% slopes) also occurs in a portion of the existing treatment plant. The Vina soil series consists of very deep, well-drained soils (USDA-NRCS 2022a). These soils are not considered hydric soils (USDA-NRCS 2022b).

2.2 Vegetation

The natural vegetated lands of the BSA are composed of a combination of vegetation communities including Chamise – black sage – sugarbush scrub, California brittlebrush – California sagebrush scrub, lemonade berry scrub, and lemonade berry scrub–California sagebrush scrub. Along with the scrub communities, mature oak trees (California black oak [*Quercus kelloggii*], coast/interior live oak [*Q. agrifolia/wislizeni*]) and scattered toyon (*Heteromeles arbutifolia*) and other scrub shrubs are present. In the southern portion of the BSA, near the manhole work area, California sycamore–arroyo willow woodlands were mapped along Arroyo Conejo creek and non-native grasslands were present. Since the creek and majority of non-native grasslands are located outside of the BSA, only the fringes of these communities entered the edges of the BSA near the manhole work area.

The scrub communities and oaks near the linear aquatic feature on site do not appear to be significantly supported by this channel, as individual oaks are present along the hillslope where the channel is not present and do not necessarily originate or line the linear aquatic feature banks (Appendix A, Photo Documentation).

2.3 Watershed

The BSA is located within the Ventura-San Gabriel Coastal basin Hydrologic Unit (180701) and Upper Conejo Arroyo subwatershed Hydrologic Unit (180701030104). The Upper Conejo Arroyo subwatershed covers an area of 27,665 acres (112 square kilometers) and encompasses the areas of Potrero Valley, Conejo Valley, and east to Oakbrook Regional Park (ArcGIS 2022). See Figure 3, Hydrologic Setting.

2.4 National Wetland Inventory

The BSA contains one mapped resource from the U.S. Fish and Wildlife Service's National Wetland Inventory data (USFWS 2022; see Figure 4). This resource is located along the northeastern portion of the BSA (i.e., area associated with the debris basin), originates from the undeveloped hills along the east, and travels downslope to the treatment plant. This feature is categorized as Freshwater Forested/Shrub Wetland (PSAA Cowardin classification). This categorization would suggest the presence of a wetland feature consisting of an area dominated by woody vegetation, with surface water present for brief periods of time during the growing season.

3 Aquatic Resources Delineation Methods

Dudek Biologist Heather Moine conducted an aquatic resources delineation for the BSA in March 2022. Table 2 summarizes the site conditions and timing of the survey.

Table 2. Schedule of the Aquatic Resources Delineation

Date	Hours[1]	Personnel	Conditions
03/21/2022	9:07 a.m.–5:20 p.m.	Heather Moine	59°F–73°F; 20%–40% cloud cover; 1–4 mph wind

Notes: °F = degrees Fahrenheit, mph = miles per hour.
[1] The total site visit included aquatic resources delineation, supplemental vegetation mapping, and rare plant surveys.

Jurisdictional boundaries were mapped in the field using ESRI Field Maps and a Trimble® R1 GNSS Receiver with submeter accuracy and aerial imagery. Following the fieldwork, aquatic resources were digitized using ArcGIS. The jurisdiction-specific methods used to delineate USACE, CDFW, and RWQCB are described below.

Maps are included at the end of this report, including Project Location (Figure 1), Soils (Figure 2), Hydrologic Setting (Figure 3), and Potential Jurisdictional Aquatic Resources (Figure 4).

U.S. Army Corps of Engineers Jurisdictional Delineation Methods

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with ESRI Field Maps on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual.

Wetland Determination Forms were taken at certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present; hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. USACE OHWM Forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. Data forms can be found in Appendix B.

California Department of Fish and Wildlife Jurisdictional Delineation Methods

The delineation defined areas under the jurisdiction of the CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code. CDFW asserts jurisdiction over rivers, streams, and lakes to the extent of the top of bank. The term "bank" is interpreted to encompass the physical bank of the stream that rises vertically above and horizontally away from it (Vyverberg 2010). Top of bank was mapped as the physical break in slope between the channel and surrounding upland. CDFW also asserts jurisdiction over riparian vegetation associated with these features. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). Additionally, waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed.

Regional Water Quality Control Board Jurisdictional Delineation Methods

In 2019, the State Water Resources Control Board issued the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). These procedures define wetlands that encompass "the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands." The SWRCB defines wetlands as "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). Wetland waters subject to RWQCB jurisdiction were mapped based on methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). Non-wetland waters subject to RWQCB jurisdiction were delineated to the extent of the top of bank and riparian vegetation, as appropriate, as described above.

4 Aquatic Resources Narrative

On March 21, 2022, Ms. Moine performed an aquatic resources delineation. Potentially jurisdictional aquatic features mapped include a concrete v-ditch, connecting swale, and an ephemeral channel (Figure 4). These features are located within and directly adjacent to the proposed debris basin. Of these features, only the ephemeral channel is anticipated to require additional permits pursuant to the Porter-Cologne Water Quality Control Act and California Fish and Game Code for impacts to the channel. However, as recommended below, written concurrence from the resource agencies (RWQCB, CDFW, and USACE) on the jurisdictional status for both features is highly recommended.

Concrete V-Ditch (RWQCB)

The concrete v-ditch is an existing stormwater control feature within the Hill Canyon Treatment Plant that directs flows to drain-inlets along the v-ditch (Figure 4). The drain inlets are regularly maintained by Hill Canyon Treatment Plant staff as part of storm preparedness activities. These inlets capture storm flows and drain them to the sludge drying beds as part of the stormwater capture program (Capron 2017; City of Thousand Oaks 2019). Since the flows associated with the v-ditch are currently subject to the adopted Waste Discharge Requirements and National Pollutant Discharge Elimination System permits for the Hill Canyon Treatment Plant (Order No. R4-2019-0137, NPDES No. CA0056294), compliance with this existing permit should apply to this feature and further permits are not anticipated to be necessary from the RWQCB. We understand the Hill Canyon Treatment Plant had previously attained status as a zero-discharge facility. An Industrial General Permit Notice of Non-Applicability was previously granted by the RWQCB, and the City is petitioning to retain this status with site modifications to re-route off-site flows from the natural canyon and directly to Arroyo Conejo Creek (Capron 2017; City of Thousand Oaks 2019). In addition, the concrete v-ditch is unlikely to be jurisdictional to USACE under the Clean Water Act, as the feature is ephemeral and current flows lack a connection with a traditional navigable water. Similarly, the feature lacks a bed and bank often associated with CDFW jurisdictional rivers, stream, or lakes.

Ephemeral Channel (RWQCB/CDFW)

A narrow ephemeral channel is present in the BSA within and adjacent to the proposed debris basin (Figure 4). The channel is located within the natural canyon and extends to the existing concrete v-ditch. This channel is characterized by an OHWM and a bed, with portions of the channel containing a bank. Blue elderberry (*Sambucus mexicana*) is present along this feature providing limited riparian habitat. In addition, a short 12-foot swale connects the feature in the eastern portion of the BSA. These features are anticipated to be jurisdictional to CDFW and the RWQCB. Given that the feature is ephemeral and lacks connection with a traditional navigable water, it is unlikely to be jurisdictional to USACE.

4.1 Waters of the United States

As described above, no features observed are anticipated to be Waters of the United States; and therefore, not anticipated to be under the jurisdiction of the U.S. Army Corps of Engineers. The concrete v-ditch is ephemeral and current flows lack a connection with a traditional navigable water. The ephemeral channel does not have direct connection to a traditional navigable water, is characterized by low volume or infrequent flows, and flows through this feature are directed through the existing treatment plant.

4.2 Waters of the State

Regional Water Quality Control Board (RWQCB)

The concrete v-ditch and ephemeral channel, described above, are anticipated to be under the jurisdiction of the RWQCB. Therefore, approximately 0.04 acre (534 linear feet) of features are anticipated to be subject to regulation by the RWQCB under the Porter-Cologne Water Quality Control Act. Table 3 provides a summary of these features. However, based on existing permits only the channel is anticipated to require additional permitting for project-related activities.

Table 3. RWQCB Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Non-Wetland Waters		
Ephemeral channel (including top of bank)	34.210854, -118.920971	0.01 acre (530 square feet) 219 linear feet
Upland Swale	34.210701 -118.920611	< 0.01 (12 square feet)[2] 12 linear feet
Concrete v-ditch	34.211035, -118.921058	0.02 acre (758 square feet) 303 linear feet
Riparian		
Blue Elderberry (outside of ephemeral channel and bank)	34.210892 -118.920957	< 0.01 (332 square feet) 23 linear feet[3]
	Total[1]	**0.04 acre (1,632 square feet) 534 linear feet[3]**

Notes: [1]Totals may not sum due to rounding. [2] Swale width estimated at 1 foot. [3] Riparian linear feet not included in total due to overlapping with the ephemeral channel.

California Department of Fish and Wildlife

The ephemeral channel described above is anticipated to be regulated by CDFW. Since CDFW regulates from bank to bank, certain portions of the BSA where the top of a channel bank extended beyond the OHWM are subject to regulation by CDFW as streambed. These areas are displayed on Figure 4. The oak trees located adjacent to the channel feature may not be jurisdictional to CDFW (but will require confirmation from CDFW). The oak trees on-site and along this channel feature do not readily appear to originate from the channel feature or appear to significantly benefit from the channel flows. The oaks near the channel originate uphill from the channel feature on upland slopes. In addition, based on the surrounding environment, oak trees are scattered throughout the upland slopes and terrain suggesting that the presence of oaks along the channel would have been present irrespective of the channel's presence. Therefore, the oaks adjacent to the channel are unlikely to be categorized as riparian vegetation that is typically under CDFW jurisdiction. However, one blue elderberry plant is located along the channel and is mapped as riparian under CDFW jurisdiction.

Therefore, approximately 0.02 acres (231 linear feet) of features are anticipated to be subject to regulation by the CDFW under the California Fish and Game Code Section 1600 et seq. The full extent of CDFW jurisdictional areas are those described in Table 4.

Table 4. CDFW Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Streambed		
Ephemeral channel (including top of bank)	34.210854, -118.920971	0.01 acre (530 square feet) 219 linear feet

Table 4. CDFW Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Upland Swale	34.210701 -118.920611	< 0.01 (12 square feet)[2] 12 linear feet
Riparian		
Blue elderberry (*Sambucus mexicana*)	34.210892, -118.9210957	< 0.01 (332 square feet) 23 linear feet[3]
	Total[1]	**0.02 acre (874 square feet)** **231 linear feet[3]**

Notes: [1]Totals may not sum due to rounding. [2] Swale width estimated at 1 foot. [3] Riparian linear feet not included in total due to overlapping with the ephemeral channel.

5 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this Aquatic Resources Delineation Report, approximately 0.03 acres (1,300 square feet) of non-wetland waters of the state and an additional < 0.01 acre (332 square feet) of riparian habitat are potentially regulated by the RWQCB and/or CDFW. The features described in this report are not anticipated to be under the jurisdiction of the USACE. This report can be used by those agencies to determine if they would regulate the features described herein.

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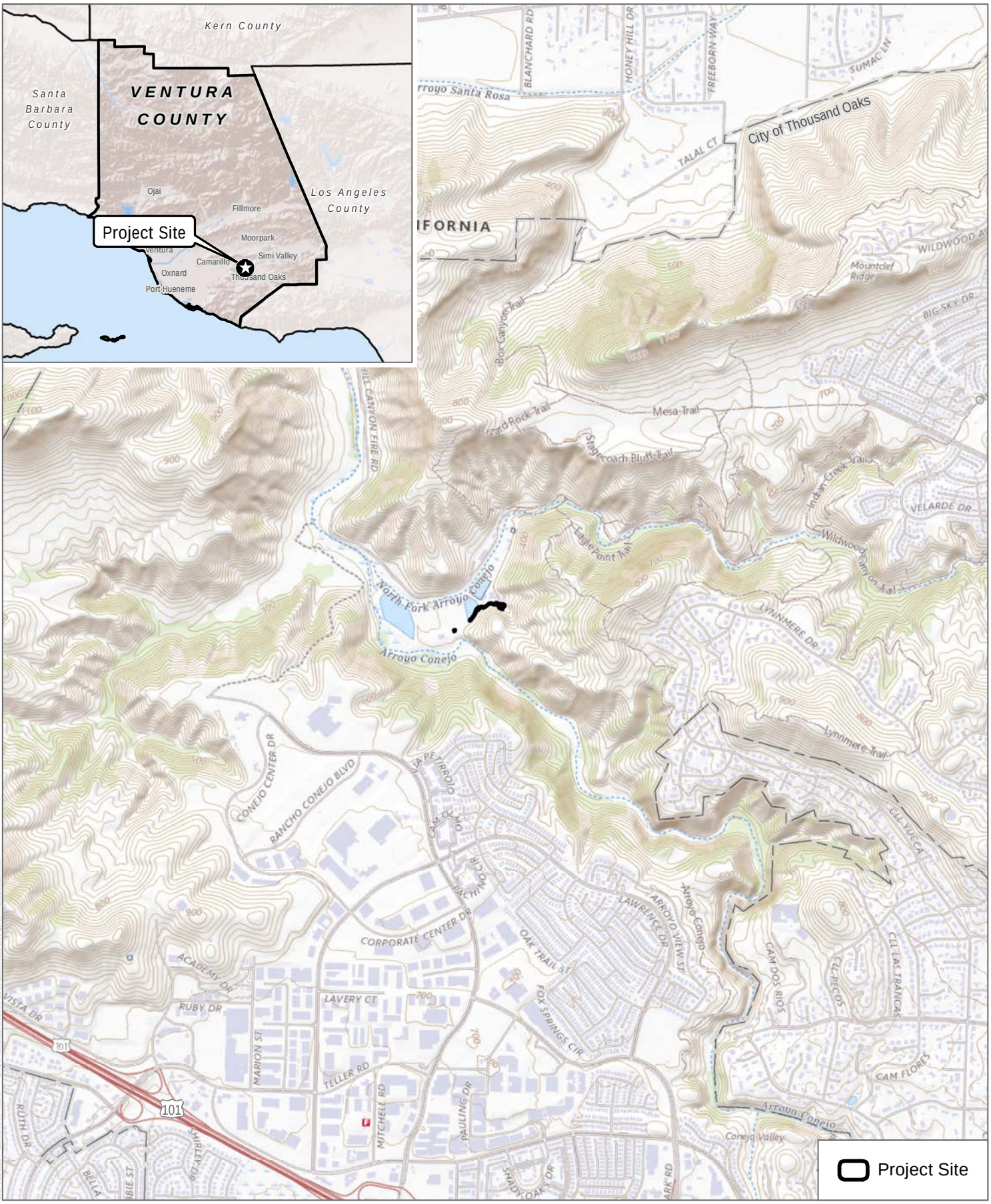
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SOURCE: Source

FIGURE 1

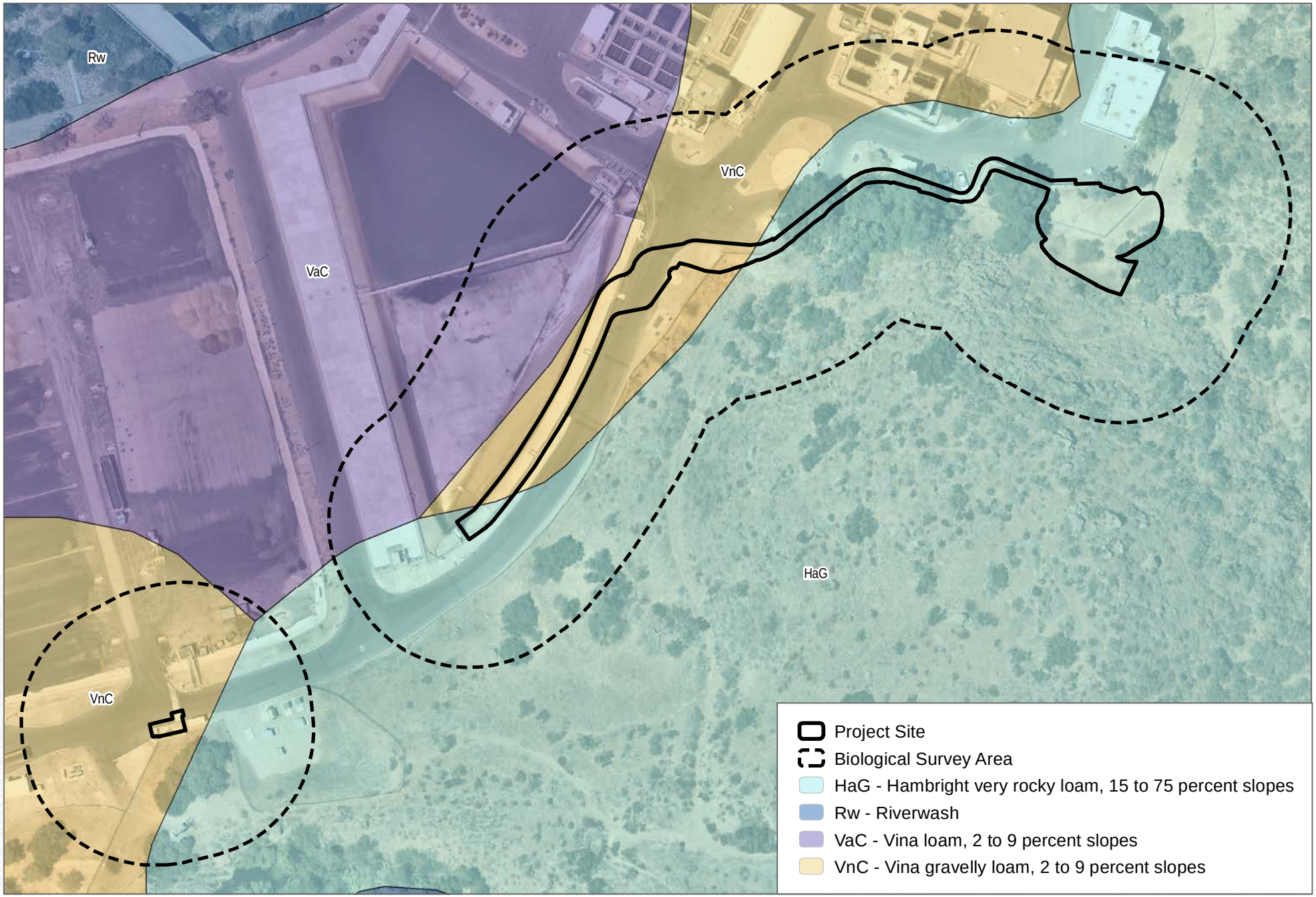
Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project

DUDEK

0 1,000 2,000 Feet

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SOURCE: NearMap 2021

DUDEK

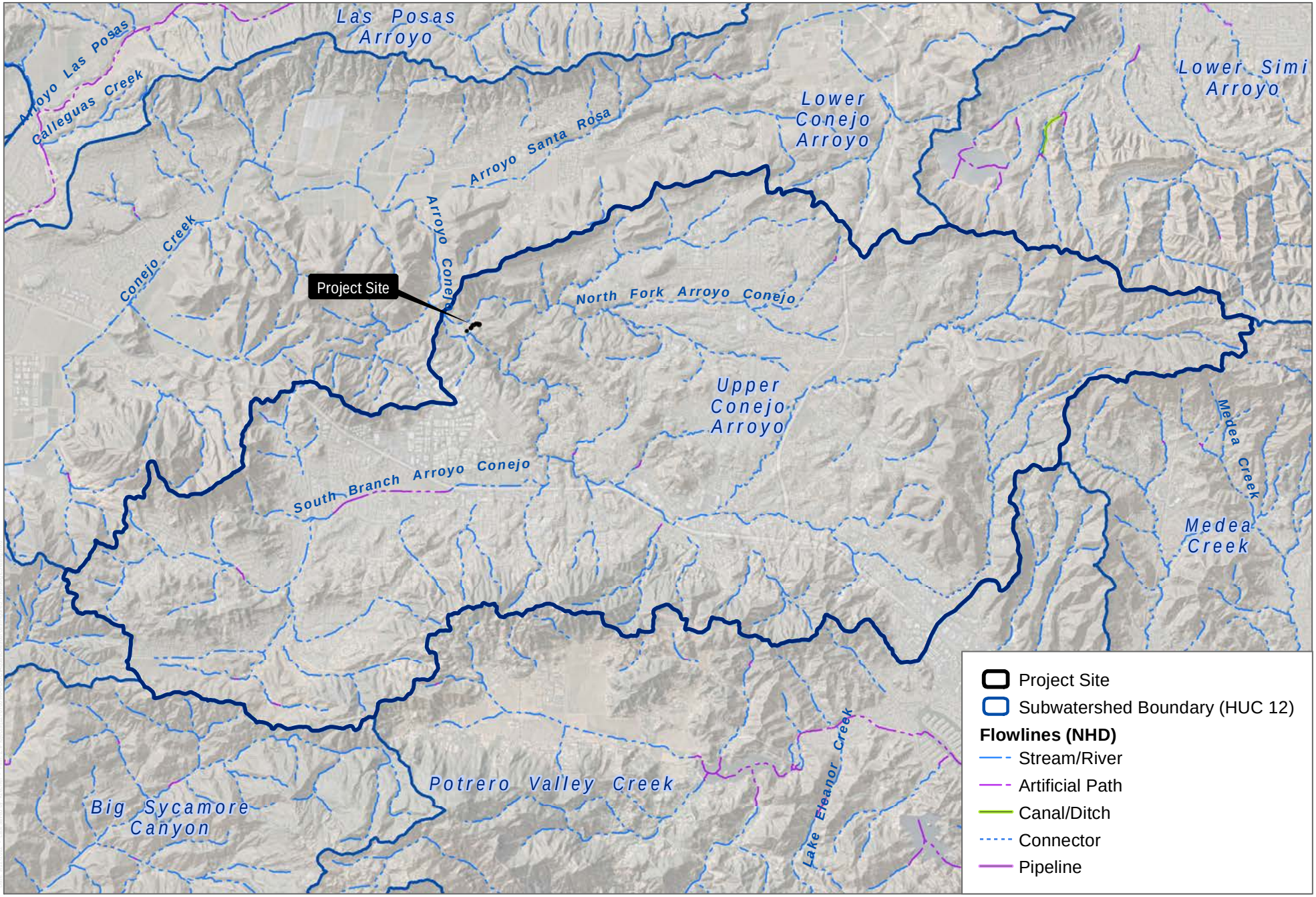
0 50 100 Feet

FIGURE 2

Soils

Hill Canyon Treatment Plant Stormwater Diversion Project

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SOURCE: NearMap 2021, USGS NHD and WBD

DUDEK

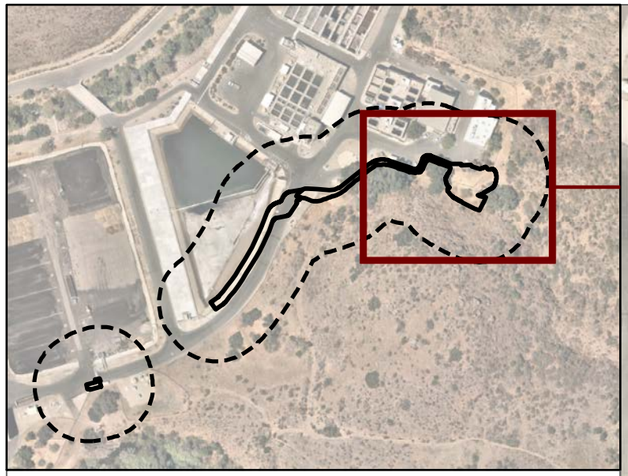
0 0.5 1 Miles

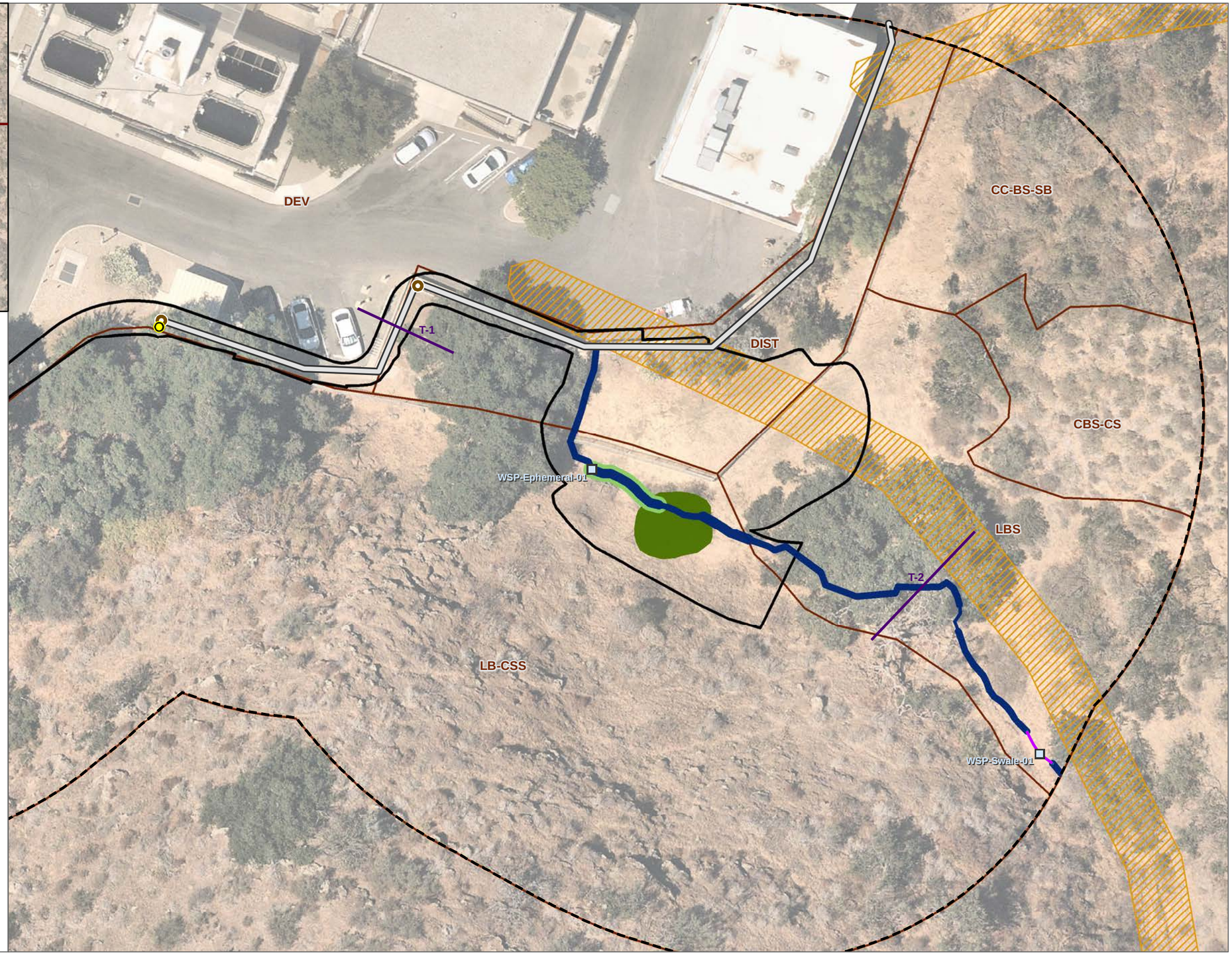
FIGURE 3

Hydrologic Setting

Hill Canyon Treatment Plant Stormwater Diversion Project

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- Project Site
- Biological Survey Area
- Wetland Sampling Point
- Transect
- 12-inch Corrugated Metal Pipe
- 6-inch PVC Pipe
- Non-Wetland Waters of the State - Concrete V-ditch

Potential Jurisdictional Aquatic Resources

Regional Water Quality Control Board

- Non-Wetland Waters - Ephemeral Channel
- Non-Wetland Waters - Ephemeral Channel (bank)
- Riparian
- Non-Wetland Waters - Swale

California Department of Fish and Wildlife

- Streambed
- Streambed and Bank
- Riparian
- Swale

NWI Wetland

- Freshwater Forested/Shrub Wetland

Vegetation Communities and Land Covers

CBS-CS : California brittle brush - California sagebrush scrub
CC-BS-SB : Chamise - Black sage - Sugarbush scrub
LB-CSS : Lemonade berry - California sagebrush scrub
LBS : Lemonade berry scrub
DIST : Disturbed
DEV : Developed

SOURCE: NearMap 2021, USFWS NWI Wetland

DUDEK

0 15 30 Feet

FIGURE 4

Potential Jurisdictional Aquatic Resources

Hill Canyon Treatment Plant Stormwater Diversion Project

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Appendix A
Photo Documentation



Photo 1. Portion of habitat proposed for the debris basin. Photo oriented west. February 8, 2021



Photo 2. Oak trees upslope from the ephemeral channel. Photo oriented northeast. February 8, 2021



Photo 3. View of location proposed for the debris basin. Photo oriented southwest. February 17, 2021



Photo 4. Ephemeral channel downslope from oak trees shown in Photo 2. Photo oriented southeast. February 8, 2021.



Photo 5. Ephemeral channel within and near the southeast edge of the BSA. Photo oriented southeast. February 8, 2021



Photo 6. Manhole work location. Photo oriented east. February 8, 2021.



Photo 7. Concrete v-ditch and drain along the existing treatment plant. Photo oriented west.
March 21, 2022.



Photo 8. Concrete v-ditch and drain along the existing treatment plant. Photo oriented north.
March 21, 2022. .



Photo 9. Swale (1-foot width) located near the western edge of the BSA. Photo oriented north. March 21, 2022



Photo 10. Wetland Sampling Point Swale-01. Photo oriented southeast. March 21, 2022.



Photo 11. Wetland Sampling Point Ephemeral-01. Photo oriented southeast. March 21, 2022..



Photo 12. Conejo dudleya (*Dudleya parva*) located uphill from the proposed debris basin June 24, 2022

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Appendix B
Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TO HCTP City/County: Thousand Oaks, Ventura Sampling Date: 3/24/2022

Applicant/Owner: City of Thousand Oaks State: CA Sampling Point: Swale-01

Investigator(s): Heather Moine Section, Township, Range: 36, 02N, 20W

Landform (hillslope, terrace, etc.): canyon bottom Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C-Mediterranean CA Lat: 34.210712°N Long: 118.920602°W Datum: WGS84

Soil Map Unit Name: Hambright very rocky loam 15-75% slopes NWI classification: PSSA (Freshwater Forested/Shrub Wetland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: —)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ø			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 m²)			
1. Keckiella cordifolia	10	Y	NL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 10 m²)			
1. Brassica nigra	25		NL
2. Carduus pycnocephalus	15		NL
3. Amsinckia menziesii	<1		NL
4. Bromus diandrus	10		NL
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: —)			
1. Ø			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: Ø (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: Ø (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	Ø	x 1 =	Ø
FACW species	Ø	x 2 =	Ø
FAC species	Ø	x 3 =	Ø
FACU species	Ø	x 4 =	Ø
UPL species	Ø	x 5 =	Ø
Column Totals:	Ø (A)		Ø (B)

Prevalence Index = B/A = error

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/2	100	—	—	—	—	unable to form ball, to much gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: too many gravel pieces to get soil profile

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): Ø

Water Table Present? Yes _____ No X Depth (inches): Ø

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): Ø

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

OHWM DATA SHEET

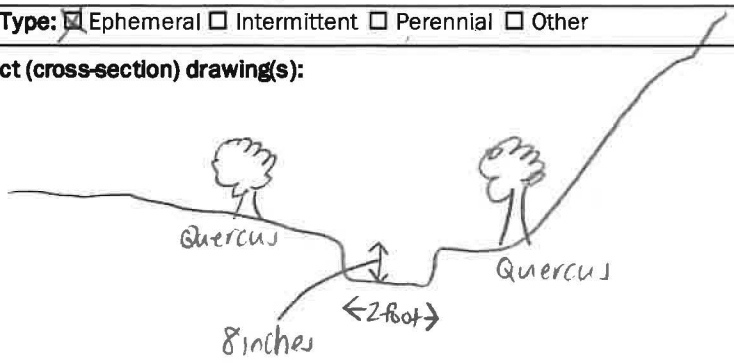
Project: TO HCTP **Date:** 3/21/2022 **Feature ID:** Ephemeral

Investigator(s): Heather Molnic **Transect ID:** Ephermeral-OHWM-01

Site Location: City of Thousand Oaks Hill Canyon Treatment Plant

Feature Type: ☒ Ephemeral ☐ Intermittent ☐ Perennial ☐ Other

Transect (cross-section) drawing(s): View Facing: ESE



☐ Transect length 45 feet
☐ OHWM width
☐ Channel depth
☐ Photo

OHWM varies over length of ephemeral feature

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☐ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☒ Wracking
- ☐ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☒ Scour
- ☐ Deposition
- ☐ Bed and banks
- ☐ Water staining
- ☒ Change in plant community and/or cover*

☒ Break in Slope at OHWM*: ☐ Sharp (>60°) ☒ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt	Sand	Gravel	Cobbles	Boulders
Above OHWM	X	X	Ø	Ø	Ø
Below OHWM	X	X	X	X	Ø

high amount leaf litter

Total Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	50	15	35	Ø
Below OHWM	Ø	Ø	15	85

some overhanging trees and shrubs but not rooted below OHWM

Veg Stage: ☐ Early (herbs & seedlings) ☐ Mid (herbs, shrubs, saplings) ☒ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Quercus Bromus diandrus Marah macrocarpa Pholistoma auritum Carduus pycnocephalus Melica	Sambucus nigra caerulea Bromus diandrus	Bromus diandrus Pholistoma auritum

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

overall natural condition
downstream end of feature combines w/ concrete v-ditch

Hydrology

☐ Flowing water	Avg. depth: Ø	Min. depth: Ø
☐ Standing water	Temp: Ø	Max. depth: Ø
☐ Saturated		
☒ Dry		

Checklist of resources (if available):

☒ Aerial photography	☒ Vegetation maps	☒ GPS unit
☐ Remotely-sensed images	☒ Soil maps	☐ Stream gage data
☒ Topographic maps	☐ Rainfall/precipitation data	☐ Other studies:
☐ Geologic maps	☐ Existing delineation(s) for site	

Other drawings (aerial view), notes:

NHD flowline =
- Stream/river: hydrographic category = ephemeral

NWI
- PSSA
- freshwater forested/shrub wetland

Feature occurs at the bottom of a canyon. The majority of the feature OHWM and TOB are coterminous. There is a portion of the feature in the downstream portion with a TOB larger than the OHWM

Other forms related to this feature: ☐ Yes ☐ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)
☐ Low flow channel or other representative section (OHWM datasheet)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TO HCTP City/County: Thousand Oaks, Ventura Sampling Date: 3/21/2022

Applicant/Owner: City of Thousand Oaks State: CA Sampling Point: Ephemeral-01

Investigator(s): Heather Moine Section, Township, Range: 36, 02N, 20W

Landform (hillslope, terrace, etc.): canyon bottom Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): C-Mediterrakean CA Lat: 34.210942°N Long: 118.921047°W Datum: WGS 84

Soil Map Unit Name: Hambright very rocky loam 15-75% slopes NWI classification: PSSA Freshwater Forested/Shrub Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present? ?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Soil sare composed of predominately gravel & cobble and unable to excavate soil pit. However, two FACU plants observed and other plants NL,

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: —)	Absolute % Cover	Dominant Species?	Indicator Status
1. ∅			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: —)			
1. Toxicodendron diversilobum	2		FACU
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 10m²)			
1. Urtica urens	1		NL
2. Cardiuc pycnocephalus	2		NL
3. Silybum orientale	2		NL
4. Capsella bursa-pastoris	<1		FACU
5. Eucrypta chrysanthemifolia	<1		NL
6. Phalistoma auritum	2		NL
7. Brassica nigra	2		NL
8. Bromus diandrus	1		NL
	10 = Total Cover		
Woody Vine Stratum (Plot size: —)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 88 % Cover of Biotic Crust ∅

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Soils composed of gravel and cobbles, unable to exravate soil pit

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- X Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): Ø

Water Table Present? Yes _____ No X Depth (inches): Ø

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): Ø

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

OHWM DATA SHEET

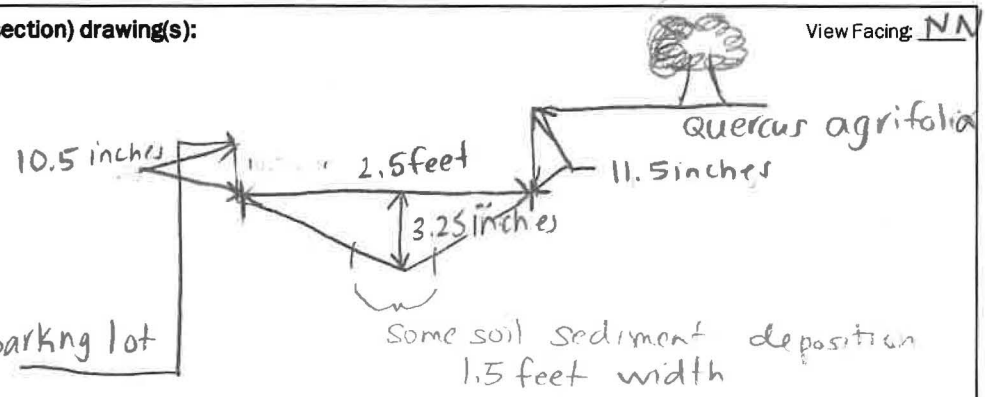
Project: TO HCTP **Date:** 3/21/2022 **Feature ID:** Concrete v-ditch

Investigator(s): Heather Moine **Transect ID:** Concrete v-ditch - OHWM-01

Site Location: City of Thousand Oaks
Hill Canyon Treatment Plant

Feature Type: ☒ Ephemeral ☐ Intermittent ☐ Perennial ☐ Other

Transect (cross-section) drawing(s): View Facing: NNE



☐ Transect length
☐ OHWM width
☐ Channel depth
☐ Photo

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☐ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☐ Wracking
- ☐ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☐ Scour
- ☒ Deposition sediment deposition
- ☐ Bed and banks
- ☐ Water staining
- ☐ Change in plant community and/or cover*

☐ Break in Slope at OHWM*: ☐ Sharp (>60°) ☐ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt	Sand	Gravel	Cobbles	Boulders
Above OHWM	X	X	X	Ø	Ø
Below OHWM	Ø	Ø	Ø	Ø	Ø

Total Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	20	Ø	10	70 asphalt & dirt
Below OHWM	Ø	Ø	Ø	Concrete 100%

Veg Stage: ☐ Early (herbs & seedlings) ☐ Mid (herbs, shrubs, saplings) ☐ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Lupinus bicolor Brassica nigra Quercus agrifolia Eucrypta chrysanthemifolia Sisymbrium orientale	Ø	Ø

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

Concrete v-ditch
culvert outfalls
- 2 1-foot corrugated metal drop/vertical outfalls
- 1 6-inch PVC horizontal outfall

Hydrology

☐ Flowing water	Avg. depth: Ø	Min. depth: Ø
☐ Standing water	Temp: Ø	Max. depth: Ø
☐ Saturated		
☒ Dry		

Checklist of resources (if available):

☒ Aerial photography	☒ Vegetation maps	☒ GPS unit
☐ Remotely-sensed images	☒ Soil maps	☐ Stream gage data
☐ Topographic maps	☐ Rainfall/precipitation data	☐ Other studies:
☐ Geologic maps	☐ Existing delineation(s) for site	

Other drawings (aerial view), notes:

Other forms related to this feature: ☐ Yes ☒ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)

☐ Low flow channel or other representative section (OHWM datasheet)

Appendix C
Photo Documentation



Photo 1. Portion of habitat proposed for the debris basin. Photo oriented west. February 8, 2021.



Photo 2. Oak trees upslope from the ephemeral channel. Photo oriented northeast. February 8, 2021



Photo 3. View of location proposed for the debris basin. Photo oriented southwest. February 17, 2021



Photo 4. Ephemeral channel downslope from oak trees shown in Photo 2. Photo oriented southeast. February 8, 2021.



Photo 5. Ephemeral channel within and near the southeast edge of the BSA. Photo oriented southeast. February 8, 2021



Photo 6. Manhole work location. Photo oriented east. February 8, 2021.



Photo 7. Concrete v-ditch and drain along the existing treatment plant. Photo oriented west.
March 21, 2022.



Photo 8. Concrete v-ditch and drain along the existing treatment plant. Photo oriented north.
March 21, 2022.



Photo 9. Swale (1-foot width) located near the western edge of the BSA. Photo oriented north. March 21, 2022.



Photo 10. Wetland Sampling Point Swale-01. Photo oriented southeast. March 21, 2022.



Photo 11. Wetland Sampling Point Ephemeral-01. Photo oriented southeast. March 21, 2022..



Photo 12. Conejo dudleya (*Dudleya parva*) located uphill from the proposed debris basin June 24, 2022

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Appendix D
Plant and Wildlife Species Observed

Plant Species

Dicots

ADOXACEAE—MUSKROOT FAMILY

Sambucus mexicana—blue elderberry

AMARANTHACEAE—AMARANTH FAMILY

* *Amaranthus albus*—prostrate pigweed

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Rhus integrifolia—lemonade berry

* *Schinus molle*—Peruvian peppertree

* *Schinus terebinthifolius*—Brazilian peppertree

Toxicodendron diversilobum—poison oak

APIACEAE—CARROT FAMILY

Bowlesia incana—hoary bowlesia

APOCYNACEAE—DOGBANE FAMILY

* *Nerium oleander*—oleander

ASTERACEAE—SUNFLOWER FAMILY

Acourtia microcephala—sacapellote

Artemisia californica—California sagebrush

Baccharis pilularis—coyote brush

Brickellia californica—California brickellbush

* *Carduus pycnocephalus* ssp. *pycnocephalus*—Italian plumeless thistle

* *Centaurea melitensis*—Maltese star-thistle

Corethrogyne filaginifolia—sand-aster

Encelia californica—California brittle bush

* *Erigeron bonariensis*—asthmaweed

Eriophyllum confertiflorum var. *confertiflorum*—golden-yarrow

Lasthenia gracilis—needle goldfields

Malacothrix saxatilis var. *commutata*—cliff desertdandelion

Pseudognaphalium californicum—ladies' tobacco

Rafinesquia californica—California plumeseed

* *Senecio vulgaris*—old-man-in-the-Spring

* *Silybum marianum*—blessed milkthistle

* *Sonchus asper*—spiny sowthistle

Stephanomeria virgata—rod wirelettuce
Uropappus lindleyi—Lindley's silverpuffs

BORAGINACEAE—BORAGE FAMILY

Amsinckia menziesii—Menzies' fiddleneck
Cryptantha intermedia var. *intermedia*—Clearwater cryptantha
Emmenanthe penduliflora var. *penduliflora*—whisperingbells
Eucrypta chrysanthemifolia var. *chrysanthemifolia*—spotted hideseed
Phacelia cicutaria var. *hispida*—caterpillar phacelia
Pholistoma auritum var. *auritum*—blue fiestaflower

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
* *Capsella bursa-pastoris*—shepherd's purse
* *Hirschfeldia incana*—shortpod mustard
* *Sisymbrium orientale*—Indian hedgemustard
Thysanocarpus laciniatus—mountain fringepod

CACTACEAE—CACTUS FAMILY

Opuntia littoralis—coast prickly pear

CAPRIFOLIACEAE—HONEYSUCKLE FAMILY

Lonicera subspicata var. *denudata*—Santa Barbara honeysuckle

CARYOPHYLLACEAE—PINK FAMILY

* *Stellaria media*—common chickweed

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Atriplex semibaccata*—Australian saltbush
Chenopodium californicum—California goosefoot
* *Salsola tragus*—prickly Russian thistle

CONVOLVULACEAE—MORNING-GLORY FAMILY

Calystegia macrostegia ssp. *intermedia*—island false bindweed
* *Convolvulus arvensis*—field bindweed

CRASSULACEAE—STONECROP FAMILY

Dudleya lanceolata—lanceleaf liveforever
Dudleya parva—Conejo dudleya

CUCURBITACEAE—GOURD FAMILY

Marah macrocarpa—Cucamonga manroot

FABACEAE—LEGUME FAMILY

Acmispon glaber var. *glaber*—common deerweed
Lupinus bicolor—miniature lupine
* *Medicago polymorpha*—burclover
* *Melilotus indicus*—annual yellow sweetclover

FAGACEAE—OAK FAMILY

Quercus agrifolia var. *agrifolia*—coast live oak
Quercus berberidifolia—Inland scrub oak
* *Quercus ilex*—holly oak

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill

LAMIACEAE—MINT FAMILY

* *Lamium amplexicaule*—henbit deadnettle
* *Marrubium vulgare*—horehound
Salvia leucophylla—purple sage
Salvia mellifera—black sage

MALVACEAE—MALLOW FAMILY

* *Malva parviflora*—cheeseweed mallow

MONTIACEAE—MONTIA FAMILY

Claytonia perfoliata—miner's lettuce
Claytonia rubra ssp. *rubra*—redstem springbeauty

MYRSINACEAE—MYRSINE FAMILY

* *Lysimachia arvensis*—scarlet pimpernel

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum
* *Eucalyptus polyanthemos*—redbox

NYCTAGINACEAE—FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia*—California four o'clock

ONAGRACEAE—EVENING PRIMROSE FAMILY

Camissoniopsis micrantha—miniature suncup
Clarkia unguiculata—elegant clarkia

Epilobium canum—hummingbird trumpet
Eulobus californicus—California suncup

PAEONIACEAE—PEONY FAMILY

Paeonia californica—California peony

PHRYMACEAE—LOPSEED FAMILY

Diplacus aurantiacus—bush monkeyflower

PLANTAGINACEAE—PLANTAIN FAMILY

Collinsia heterophylla—purple Chinese houses
Keckiella cordifolia—heartleaf keckiella

POLEMONIACEAE—PHLOX FAMILY

Gilia angelensis—chaparral gilia

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum elongatum var. *elongatum*—longstem buckwheat
Eriogonum fasciculatum var. *foliolosum*—California buckwheat
Pterostegia drymarioides—woodland pterostegia
* *Rumex crispus*—curly dock

RHAMNACEAE—BUCKTHORN FAMILY

Ceanothus megacarpus var. *megacarpus*—bigpod ceanothus
Rhamnus ilicifolia—hollyleaf redberry

ROSACEAE—ROSE FAMILY

Adenostoma fasciculatum—chamise
Cercocarpus betuloides var. *betuloides*—birchleaf mountain mahogany
Heteromeles arbutifolia—toyon
Prunus ilicifolia ssp. *ilicifolia*—mainland cherry

RUBIACEAE—MADDER FAMILY

Galium angustifolium ssp. *angustifolium*—narrowleaf bedstraw
Galium aparine—stickywilly

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco
Solanum xanti—Purple nightshade

URTICACEAE—NETTLE FAMILY

Parietaria hespera—rillita pellitory
* *Urtica urens*—dwarf nettle

Ferns and Fern Allies

POLYPODIACEAE—POLYPODY FAMILY

Polypodium californicum—California polypody

PTERIDACEAE—BRAKE FAMILY

Pellaea andromedifolia—coffee cliffbrake

Pentagramma triangularis ssp. *triangularis*—goldback fern

SELAGINELLACEAE—SPIKE-MOSS FAMILY

Selaginella bigelovii—bushy spikemoss

Monocots

AGAVACEAE—AGAVE FAMILY

Hesperoyucca whipplei—chaparral yucca

LILIACEAE—LILY FAMILY

Fritillaria biflora var. *biflora*—chocolate lily

POACEAE—GRASS FAMILY

* *Avena barbata*—slender oat

* *Bromus diandrus*—ripgut brome

* *Bromus hordeaceus*—soft brome

* *Bromus madritensis*—compact brome

* *Bromus rubens*—red brome

Elymus condensatus—giant wild rye

* *Festuca myuros*—rat-tail fescue

* *Lamarckia aurea*—goldentop grass

Melica imperfecta—smallflower melicgrass

* *Schismus barbatus*—common Mediterranean grass

Stipa lepida—foothill needlegrass

THEMIDACEAE—BRODIAEA FAMILY

Dipterostemon capitatus ssp. *capitatus*—bluedicks

* signifies introduced (non-native) species

Wildlife Species

Reptiles

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard (possible)

Birds

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay

Corvus brachyrhynchos—American crow

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Toxostoma redivivum—California thrasher

PARIDAE—CHICKADEES AND TITMICE

Baeolophus inornatus—oak titmouse

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis—dark-eyed junco

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

PICIDAE—WOODPECKERS AND ALLIES

Dryobates nuttallii—Nuttall's woodpecker

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea—blue-gray gnatcatcher

REGULIDAE—KINGLETS

Regulus calendula—ruby-crowned kinglet

SYLVIIDAE—SYLVIID WARBLERS

Chamaea fasciata—wrentit

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

TROGLODYTIDAE—WRENS

Troglodytes aedon—house wren

Mammals

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp.—woodrat (middens)

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

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Appendix E

Special-Status Plant Species Not Expected or with Low Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
Abronia maritima	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/0–330	Not expected to occur. No suitable coastal dune habitat is present within the BSA to support this species.
Asplenium vespertinum	western spleenwort	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub; Rocky/perennial rhizomatous herb/Feb–June/590–3,280	Not expected to occur. The site is outside of the species' known elevation range.
Astragalus brauntonii	Braunton's milk-vetch	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/perennial herb/Jan–Aug/15–2,095	Low potential to occur. Suitable chaparral and coastal scrub habitats are present within the BSA to support this species; however, nearly all observations of this species seem to be clustered approximately 5-8 miles east of the project site (CDFW 2022a). The nearest California Natural Diversity Database (CNDDB) occurrence was observed in a small opening among shrubs and coast live oaks in 2013 and is mapped approximately 3.5 miles southeast of the project site (CDFW 2022a). In addition, this species was not observed during the 2022 rare plant surveys.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,505	Not expected to occur. No suitable coastal habitat is present within the BSA to support this species. There are no CNDDB, or Calflora observations within 5 miles of the project site (CDFW 2022a, Calflora 2022).
Baccharis malibuensis	Malibu baccharis	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial deciduous shrub/Aug/490–1,000	Not expected to occur. The site is outside of the species' known elevation range.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2	Chaparral, Coastal scrub; Burned areas, Disturbed areas, Loam (sometimes), Sandy	Low potential to occur. Suitable chaparral and coastal scrub habitats are present within the BSA to support this

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
			(sometimes)/annual herb/(Jan)Mar–June/35–4,000	species. In addition, the BSA has the disturbed habitat adjacent to coastal scrub that this species prefers. However, there are no sandy or loamy soils present on the BSA that could support this species. The nearest occurrence was documented by the University of California Los Angeles (UCLA) Herbarium in 2001 and is mapped approximately 1.7 miles northeast of the project site (Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/50–2,295	Not Observed. Suitable chaparral and coastal scrub habitats are present within the BSA to support this species. The nearest occurrence was documented by the UCLA Herbarium in 2001 and is mapped approximately 0.9 miles northeast of the Project site (Calflora 2022). In addition, there are more recent observations made by unaffiliated individuals in the same area (Calflora 2022). However, this species was not observed during the 2022 rare plant surveys.
Calochortus clavatus var. *clavatus*	club-haired mariposa lily	None/None/4.3	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Clay, Rocky, Serpentinite (usually)/perennial bulbiferous herb/(Mar)May–June/100–4,265	Low potential to occur. Suitable chaparral and coastal scrub habitats are present within the BSA along with a rocky substrate to support this species. However, there are no clay or serpentine soils present. The nearest occurrence was documented by the UCLA Herbarium in 2003 and is mapped approximately 1.3 miles northeast of the project site

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				(Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Calochortus clavatus var. *gracilis*	slender mariposa-lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/Mar–June(Nov)/1,045–3,280	Not expected to occur. The site is outside of the species' known elevation range.
Calochortus plummerae	Plummer's mariposa-lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; Granitic, Rocky/perennial bulbiferous herb/May–July/330–5,575	Not Observed. Suitable chaparral and coastal scrub habitats are present within the BSA to support this species. In addition, there is rocky substrate present. The nearest occurrence was documented by the UCLA Herbarium in 2003 and is mapped approximately 2.4 miles northwest of the Project site (Calflora 2022). However, this species was not observed during the 2022 rare plant surveys.
Calystegia peirsonii	Peirson's morning-glory	None/None/4.2	Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/Apr–June/100–4,920	Not expected to occur. While suitable chaparral habitat is present within the BSA, the only observations of this species within Ventura county are along its border with Los Angeles (LA) County (Calflora 2022).
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Cismontane woodland, Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Clay (sometimes), Sandy (sometimes)/annual herb/Mar–May(June)/0–985	Low potential to occur. While suitable coastal scrub habitat is present within the BSA to support this species, there are no clay or sandy soils present. The majority of the observations for this species have been made in or south of LA County (Calflora 2022). The nearest occurrence was documented by the UCLA Herbarium in 2001 and is mapped approximately 1.5 miles northeast of the project site (Calflora 2022). In addition,

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				this species was not observed during the 2022 rare plant surveys.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1	Marshes and swamps, Valley and foothill grassland, Vernal pools/annual herb/May–Nov/0–1,570	Not expected to occur. No suitable marsh and swamp, grassland, or vernal pool habitats are present within the BSA to support this species.
Cercocarpus betuloides var. blancheae	island mountain-mahogany	None/None/4.3	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/Feb–May/100–1,965	Not expected to occur. While suitable chaparral habitat is present within the BSA, all nearby occurrences are outdated. In addition, this species is mostly known to occur on the Channel Islands. The nearest occurrence was documented by the UC Riverside Herbarium in 1998 and is mapped approximately 5 miles northeast of the project site (Calflora 2022).
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub, Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. While coastal scrub is present within the BSA, there is no coastal bluff scrub habitat present within the BSA to support this species.
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps/annual herb (hemiparasitic)/May–Oct(Nov)/0–100	Not expected to occur. The site is outside of the species' known elevation range. Additionally, there are no coastal dune, marsh, or swamp habitats present within the BSA to support this species.
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Openings, Rocky (sometimes), Sandy (sometimes)/annual herb/Apr–June/900–4,000	Not expected to occur. The site is outside of the species' known elevation range.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/(Feb)Mar–June(Aug)/15–985	Not expected to occur. There is suitable coastal scrub habitat present to support this species; however, there are no reputable occurrences within Ventura

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				County (Calflora 2022). The majority of reliable occurrences have been made on the Channel Islands, and along the coast south of Ventura County (Calflora 2022).
Convolvulus simulans	small-flowered morning-glory	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Seeps, Serpentinite/annual herb/Mar–July/100–2,425	Not Observed. There is suitable coastal scrub habitat present to support this species. The nearest occurrence was observed by a member of the Santa Barbara Botanic Garden (BG) Clifton Smith Herbarium in 2016 and mapped approximately 0.25 miles southeast and uphill of the Project site on clay loam (Calflora 2022). In addition, there are at least four more occurrences observed within 2 miles of the Project site in the last thirty years (Calflora 2022). However, this species was not observed during the 2022 rare plant surveys.
Deinandra minthornii	Santa Susana tarplant	None/SR/1B.2	Chaparral, Coastal scrub; Rocky/perennial deciduous shrub/July–Nov/920–2,490	Not expected to occur. The site is outside of the species' known elevation range.
Delphinium parryi ssp. *blochmaniae*	dune larkspur	None/None/1B.2	Chaparral, Coastal dunes/perennial herb/Apr–June/0–655	Not expected to occur. Some suitable chaparral habitat is present; however, there is no sandy substrate or dune habitat present to support this species within the BSA. The nearest occurrence was documented by the Cal State University (CSU) LA Herbarium in 1969 and is mapped approximately 7 miles southwest of the project site (Calflora 2022).
Delphinium parryi ssp. *purpureum*	Mt. Pinos larkspur	None/None/4.3	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland/perennial herb/May–June/3,280–8,530	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
Dichondra occidentalis	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar–July/165–1,640	Low potential to occur. While some chaparral habitat is present to support this species, the majority of occurrences have been observed in more coastal areas (Calflora 2022). The nearest occurrence was documented by the UCLA Herbarium in 2001 and mapped approximately 1.8 miles northeast of the project site (Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentinite/perennial herb/Apr–June/15–1,475	Not Observed. Suitable chaparral and coastal scrub habitats, along with a rocky substrate are present to support this species within the BSA. The nearest CNDDB occurrence was observed in 2016 on a volcanic outcrop with little to no soil and is mapped approximately 1.3 miles southwest of the Project site (CDFW 2022a). However, this species was not observed during the 2022 rare plant surveys.
Dudleya cymosa ssp. *agourensis*	Agoura Hills dudleya	FT/None/1B.2	Chaparral, Cismontane woodland; Rocky, Volcanic/perennial herb/May–June/655–1,640	Not expected to occur. The site is outside of the species' known elevation range.
Dudleya cymosa ssp. *marcescens*	marcescent dudleya	FT/SR/1B.2	Chaparral; Rocky, Volcanic/perennial herb/Apr–July/490–1,705	Not expected to occur. The site is outside of the species' known elevation range.
Dudleya cymosa ssp. *ovatifolia*	Santa Monica dudleya	FT/None/1B.1	Chaparral, Coastal scrub; Rocky, Volcanic (sometimes)/perennial herb/Mar–June/490–5,495	Not expected to occur. The site is outside of the species' known elevation range.
Dudleya verityi	Verity's dudleya	FT/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Rocky, Volcanic/perennial herb/May–June/195–395	Low potential to occur. Suitable chaparral and coastal scrub habitats, and rocky substrate are present to support this species within the BSA. The nearest CNDDB occurrence was

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				observed in 2003 on volcanic rock and cliffs and is mapped approximately 3.8 miles west of the project site (CDFW 2022a). In addition, this species was not observed during the 2022 rare plant surveys.
Eriogonum crocatum	conejo buckwheat	None/SR/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Rocky/perennial herb/Apr–July/165–1,900	Not Observed. Suitable chaparral and coastal scrub habitats, and rocky substrate are present to support this species within the BSA. The nearest CNDDB occurrence was observed in 2010 on volcanic cliffs above a stream and is mapped approximately 0.8 miles east of the Project site (CDFW 2022a). In addition, there are numerous occurrences within 5 miles of the Project site (CDFW 2022a). However, this species was not observed during the 2022 rare plant surveys.
Erysimum insulare	island wallflower	None/None/1B.3	Coastal bluff scrub, Coastal dunes/perennial herb/Mar–July/0–985	Not expected to occur. Suitable coastal bluff scrub or coastal dune habitats are not present to support this species.
Erysimum suffrutescens	suffrutescent wallflower	None/None/4.2	Chaparral, Coastal bluff scrub, Coastal dunes, Coastal scrub/perennial herb/Jan–July(Aug)/0–490	Not expected to occur. Some chaparral habitat is present to support this species; however, the only occurrences observed in Ventura County are located in the Santa Monica Mountains by Point Mugu Beach (Calflora 2022).
Galium cliftonsmithii	Santa Barbara bedstraw	None/None/4.3	Cismontane woodland/perennial herb/May–July/655–4,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Hordeum intercedens	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland, Vernal	Not expected to occur. While there is some coastal scrub habitat present within the BSA, this species is typically

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
			pools/annual herb/Mar–June/15–3,280	associated with vernal pools or wetland habitats. There are no occurrences mapped within 5 miles of the project site (Calflora 2022).
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/perennial herb/Feb–July(Sep)/230–2,655	Low potential to occur. Suitable chaparral and coastal scrub habitats, and gravelly substrate are present to support this species within the BSA. The nearest CNDDB occurrence was observed in 2011 on a north-facing slope among native grasses and is mapped approximately 6.4 miles northeast of the project site (CDFW 2022a). In addition, this species was not observed during the 2022 rare plant surveys.
Juglans californica	Southern California black walnut	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial deciduous tree/Mar–Aug/165–2,950	Not expected to occur. This conspicuous tree was not observed during the February 2021 field survey.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/None/4.2	Coastal dunes, Marshes and swamps, Meadows and seeps/perennial rhizomatous herb/(Mar)May–June/10–2,950	Not expected to occur. There are no seep, meadow, coastal dune, marsh, or swamp habitats present to support this species.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1	Marshes and swamps, Playas, Vernal pools/annual herb/Feb–June/5–4,000	Not expected to occur. There are no marsh, swamp, playa, or vernal pool habitats present to support this species.
Lepechinia fragrans	fragrant pitcher sage	None/None/4.2	Chaparral/perennial shrub/Mar–Oct/65–4,295	Not expected to occur. Some chaparral habitat is present to support this species within the BSA. The nearest occurrence was documented by UCLA Herbarium in 2001 and mapped approximately 5.25 miles south of the project site (Caflora 2022). In addition, the majority of occurrences within Ventura County are located in the Santa Monica Mountains,

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				south of the 101 Freeway (Calflora 2022).
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/Jan–July/5–2,900	Low potential to occur. Suitable chaparral and coastal scrub habitats are present to support this species within the BSA. The nearest occurrence was documented by University of California Berkeley BG in 2017 and mapped approximately 3.85 miles west of the project site (Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Lilium humboldtii ssp. *humboldtii*	Humboldt lily	None/None/4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest; Openings/perennial bulbiferous herb/May–July(Aug)/295–4,195	Not expected to occur. Some suitable chaparral habitat is present to support this species within the BSA. There are no occurrences mapped within 5 miles of the project site (Calflora 2022). Most of the Southern California occurrences of this species are most likely a misidentification of *Lilium humboldtii* ssp. *ocellatum*.
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland; Openings/perennial bulbiferous herb/Mar–July(Aug)/100–5,905	Low potential to occur. Some suitable chaparral habitat and shaded openings from coast live oaks are present to support this species within the BSA. There are no occurrences within 5 miles of the project site (Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Lupinus paynei	Payne's bush lupine	None/None/1B.1	Coastal scrub, Riparian scrub, Valley and foothill grassland; Sandy/perennial shrub/Mar–Apr(May–July)/720–1,375	Not expected to occur. The site is outside of the species' known elevation range.
Monardella hypoleuca ssp. *hypoleuca*	white-veined monardella	None/None/1B.3	Chaparral, Cismontane woodland/perennial herb/(Apr)May–Aug(Sep–Dec)/165–5,000	Not expected to occur. Some suitable chaparral habitat is present to support this species; however, most occurrences

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				of this species are in the Santa Ynez Mountains, northwest of the project site. There are no CNDDB, or Calflora occurrences within 5 miles of the project site (Calflora 2022, CDFW 2022a).
Monardella sinuata ssp. *gerryi*	Gerry's curly-leaved monardella	None/None/1B.1	Coastal scrub; Openings, Sandy/annual herb/Apr–June/490–805	Not expected to occur. The site is outside of the species' known elevation range.
Navarretia ojaiensis	Ojai navarretia	None/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/annual herb/May–July/900–2,030	Not expected to occur. The site is outside of the species' known elevation range.
Nolina cismontana	chaparral nolina	None/None/1B.2	Chaparral, Coastal scrub/perennial evergreen shrub/(Mar)May–July/460–4,180	Not expected to occur. The site is outside of the species' known elevation range.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/50–2,165	Not expected to occur. Vernal pool habitat is not present to support this species within the BSA.
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/annual herb/(Feb)Mar–Aug/100–2,260	Not Observed. Suitable chaparral and coastal scrub habitats are present to support this species within the BSA. The nearest CNDDB occurrence was observed in 1997 on a disturbed grassland and is mapped approximately 0.6 miles northeast of the Project site (CDFW 2022a). In addition, there are numerous CNDDB and Calflora occurrences within 5 miles of the Project site (CDFW 2022a; Calflora 2022). However, this species was not observed during the 2022 rare plant surveys.
Phacelia hubbyi	Hubby's phacelia	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland/annual herb/Apr–July/0–3,280	Low potential to occur. Suitable chaparral and coastal scrub habitats are present to support this species within the BSA. There are no occurrences mapped within 5 miles of the project site (Calflora

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				2022). In addition, this species was not observed during the 2022 rare plant surveys.
Piperia michaelii	Michael's rein orchid	None/None/4.2	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal scrub, Lower montane coniferous forest/perennial herb/Apr–Aug/10–3,000	Not expected to occur. Suitable chaparral and coastal scrub habitats are present to support this species; however, the majority of occurrences have been observed north of Ventura County (Calflora 2022). The nearest unaffiliated occurrence was observed in 2008 and mapped approximately 6.7 miles southeast of the project site (Calflora 2022).
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial herb/(July)Aug–Nov(Dec)/0–6,885	Not expected to occur. Suitable chaparral and coastal scrub habitats are present to support this species within the BSA; however, there are no nearby occurrences. No CNDDB or Calflora occurrences are within 5 miles of the project site (CDFW 2022a).
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub/perennial evergreen shrub/Feb–Apr(May–Aug)/50–1,310	Not expected to occur. This conspicuous tree was not observed during the February 2021 field survey.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub/annual herb/Jan–Apr(May)/50–2,620	Not Observed. Suitable chaparral and coastal scrub habitats are present to support this species within the BSA. The nearest CNDDB occurrence was observed in 2016 and is mapped approximately 0.8 miles northeast of the Project site (CDFW 2022a). However, this species was not observed during the 2022 rare plant surveys.
Suaeda californica	California seablite	FE/None/1B.1	Marshes and swamps/perennial evergreen shrub/July–Oct/0–50	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/CRPR)[1]	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur in the Biological Survey Area (BSA)
				Additionally, there are no marsh or swamp habitats present within the BSA to support this species.
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps/perennial herb/(Jan–May)July–Oct/0–15	Not expected to occur. The site is outside of the species' known elevation range. Additionally, there are no marsh or swamp habitats present within the BSA to support this species.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps/perennial evergreen shrub/Jan–Dec/0–165	Not expected to occur. The site is outside of the species' known elevation range. Additionally, there are no coastal bluff scrub, coastal dune, marsh, or swamp habitats present within the BSA to support this species.
Texosporium sancti-jacobi	woven-spored lichen	None/None/3	Chaparral/crustose lichen (terricolous)//195–2,165	Low potential to occur. Some suitable chaparral habitat is present, along with areas of bare soil to support this species within the BSA. While there are no occurrences mapped within 5 miles of the project site, this species is under recorded and still has potential to occur in the area (Calflora 2022). In addition, this species was not observed during the 2022 rare plant surveys.
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern	None/None/2B.2	Meadows and seeps/perennial rhizomatous herb/Jan–Sep/165–2,000	Not expected to occur. There are no suitable meadow or seep habitats present to support this species within the BSA.
Tortula californica	California screw moss	None/None/1B.2	Chenopod scrub, Valley and foothill grassland/moss//35–4,790	Not expected to occur. There are no suitable chenopod scrub, or valley and foothill grassland habitats present to support this species within the BSA.

[1] The federal and state status of species is based on the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022b).

FE: Federally listed as endangered
FT: Federally listed as threatened
SE: State listed as endangered
SR: State Rare

California Rare Plant Rank
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
- CRPR 3: Review List: Plants about which more information is needed
- CRPR 4: Watch List: Plants of limited distribution
  - .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

Calflora. 2022. "Search for Plants." http://calflora.org/search.html

CDFW (California Department of Fish and Wildlife). 2022a. California Natural Diversity Database (CNDDB). RareFind 5.2.14 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2022b. Special Vascular Plants, Bryophytes, and Lichens List. California Department of Fish and Wildlife. Sacramento, California. July 2022. https://www.dfg.ca.gov/wildlife/nongame/list.html.

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Appendix F
CDFW CNDDB Form

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
P.O. Box 944209
Sacramento, CA 94244-2090
CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 06/24/2022

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Dudleya parva*

Common Name: Conejo dudleya

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: appx.150 Subsequent Visit? ( ) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Heather Moine
Address: 621 Chapala Street
Santa Barbara, CA 93101
E-mail Address: hmoine@dudek.com
Phone: (805) 403-6241

Plant Information

Phenology:

0	90	10
% vegetative	% flowering	% fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

See coordinates below and included shapefiles

County: Ventura Landowner / Mgr: City of Thousand Oaks

Quad Name: Newbury Park Elevation: 360 feet

T 02N R 20W Sec 36 , ___ 1/4 of ___ 1/4, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T ___ R ___ Sec ___ , ___ 1/4 of ___ 1/4, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Trimble R1

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** (●) Horizontal Accuracy: 3 feet meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)

Coordinates: Multiple polygons - center points (34.2106835641, -118.920825831) (34.2107221456, -118.921071272) (34.2107643442, -118.921231632) (34.210754683, -118.921439649) See included shapefiles.

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

California sagebrush scrub with dominant Artemisia californica and associated native Eriogonum elongatum, Eriogonum fasciculatum, Melica imperfecta, Salvia leucophylla, Selaginella bigelovii, Toxicodendron diversilobum and non-native Avena barbata, Bromus diandrus, Bromus madritensis, and Carduus pycnocephalus. Volcanic outcrop, Hambright very rocky loam, 15 to 75 percent slopes (USDA NRCS), north facing slope

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: City of Thousand Oaks water treatment to north and west, open space to east and south

Visible disturbances: wildlife paths

Threats: non-native plant species, wildlife paths

Comments:

Determination: *(check one or more, and fill in blanks)*

[X] Keyed (cite reference): Jepson eFlora (6/2022); Jepson Manual, 2nd (2012)
[ ] Compared with specimen housed at: _____
[X] Compared with photo / drawing in: CalPhotos (6/2022)
[ ] By another person (name): _____
[ ] Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[X]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? ( ) yes ( ) no

Appendix G

Special-Status Wildlife Species with Low Potential or Not Expected to Occur

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Invertebrates				
Atractelmis wawona	Wawona riffle beetle	None/None	Aquatic; found in riffles of rapid, small to medium clear mountain streams; 2,000 to 5,000 feet above mean sea level	Not expected to occur. The BSA is outside of this species known range. In addition, no suitable aquatic habitat is present to support this species.
Bombus crotchii	Crotch bumble bee	None/None	Open grassland and scrub communities supporting suitable floral resources.	Low potential to occur. Suitable scrub habitat with floral resources are present within a portion of the BSA. However, the project site is located at the interface of existing development (treatment plant) and open space, limiting the amount of floral resources present within the BSA. In addition, the nearest CNDDB occurrence was observed in roadside mountain chaparral in 2020 and is mapped approximately 4.9 miles southwest of the BSA (CDFW 2022a).
Cicindela hirticollis gravida	sandy beach tiger beetle	None/None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico	Not expected to occur. No suitable coastal habitat is present within the BSA to support this species.
Cicindela senilis frosti	senile tiger beetle	None/None	Inhabits marine shoreline, from Central California coast south to saltmarshes of San Diego; also found at Lake Elsinore	Not expected to occur. No suitable marine shoreline habitat is present within the BSA to support this species.
Coelus globosus	globose dune beetle	None/None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico	Not expected to occur. No suitable coastal sand dune habitat is present within the BSA to support this species.
Danaus plexippus pop. 1	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur. No suitable wind-protected tree groves are present within the BSA to support this species.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and	Not expected to occur. The BSA is located outside the species current

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
			chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta, Antirrhinum coulterianum, and Plantago patagonica* (Silverado Occurrence Complex)	known range. In addition, no suitable host plants are present within the BSA to support this species.
Helminthoglypta traskii traskii	Trask shoulderband	None/None	Known from Ventura, Los Angeles, Orange, and San Diego Counties; also reported from northwestern Baja California	Low potential to occur. The BSA is located at the interface of development (treatment plant) and open space, thereby limiting habitat available for this species within the BSA.
Panoquina errans	wandering skipper	None/None	Saltmarsh	Not expected to occur. No suitable saltmarsh habitat is present within the BSA to support this species.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No vernal pool, or ephemeral pond habitat is present within the BSA to support this species.
Trimerotropis occidentiloides	Santa Monica grasshopper	None/None	Known only from the Santa Monica Mountains	Not expected to occur. The project site is outside of the Santa Monica Mountains.
Tryonia imitator	mimic tryonia (=California brackishwater snail)	None/None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Not expected to occur. No coastal lagoon, estuary, or saltmarsh habitat is present within the BSA to support this species.
Fish				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. No suitable aquatic resources are present within the BSA to support this species.

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Eucyclogobius newberryi	tidewater goby	FE/None	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. No suitable aquatic resources are present within the BSA to support this species.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE/FP, SE	Slow-moving and backwater areas	Not expected to occur. No suitable aquatic resources are present within the BSA to support this species.
Gila orcuttii	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. No suitable aquatic resources are present within the BSA to support this species.
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/None	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. No suitable aquatic resources are present within the BSA to support this species.
Amphibians				
Spea hammondii	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. No suitable grassland, vernal pool, or ephemeral wetland habitat is present within the BSA to support this species. In addition, there are no occurrences of this species within 5.0 miles of the BSA (CDFW 2022a).
Reptiles				
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	Low potential to occur. Loose soils on-site may be suitable to support the species. However, there are no CNDDB occurrences mapped within 5.0 miles of the BSA; and only two occurrences documented in 1994 and 1995 in Ventura County (CDFW 2022a).

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Diadophis punctatus modestus	San Bernardino ring-necked snake	None/None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland	Low potential to occur. Although nearest CNDDB occurrence was observed in an avocado orchard in 2015 and mapped approximately 2.7 miles north of the BSA (CDFW 2022a), the BSA lacks the regular moist habitat utilized by this species.
Emys marmorata	western 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. Although this species is known to occur in Arroyo Conejo Creek, approximately 150 feet south of the BSA (CDFW 2022a), no suitable aquatic resources are present within the BSA to support this species.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable aquatic resources are present within the BSA to support this species. In addition, the nearest known occurrence was observed in 1995 approximately 3.8 miles west of the BSA along Conejo Creek (CDFW 2022a).
Thamnophis sirtalis 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. No suitable aquatic resources, or marsh habitat is present within the BSA to support this species. In addition, there are no occurrences of this species within 5.0 miles of the BSA (CDFW 2022a).
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	None/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. No suitable freshwater aquatic resources, or emergent wetland habitat is present to support nesting of this species. In addition, the most recent occurrence of this species within Ventura County is located along the south edge of the County where the species was observed in 1994 (CDFW 2022a).

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Aquila chrysaetos (nesting & wintering)	golden eagle	None/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	Low potential to occur. Although the BSA is contiguous with open space, in California this species nests primarily in open grassland and oak savannas, and less often in oak woodlands and open shrublands. In addition, this species is not regularly observed in the surrounding open space (eBird 2022) and the most recent documented occurrence of this species is from the south edge of Ventura County observed in 1989 (CDFW 2022a).
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Low potential to occur. Although suitable sagebrush and chaparral habitat is present within the BSA, this species is not known to regularly occur in the area, with the most recent occurrence documented in 2013 and 2020 in the adjacent open space west and east of the site, respectively (eBird 2022); and the nearest CNDDB occurrence observed in 2015 and located approximately 9.7 miles northeast (CDFW 2022a).
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	None/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur. The BSA lacks the open grassland habitats and abundant ground squirrel burrows preferred and utilized by this species. In addition, there are no CNDDB occurrences of this species within 5.0 miles of the BSA (CDFW 2022a) and only one eBird record near the open grasslands of Wildwood Regional Park (eBird 2022).

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Buteo regalis (wintering)	ferruginous hawk	None/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	Low potential to winter. Although the adjacent open space provides open dry country suitable for this species, the BSA is located on the edge of existing development (treatment plant) and within a canyon which does not provide suitable wintering habitat for this species. In addition, this species is not known to regularly occur in the region with the only CNDDB occurrence observed in 1991 and located along the coast within Point Mugu Naval Air Station (CDFW 2022a); and most recent eBird occurrence in Wildwood Regional Park observed in 2009 (eBird 2022).
Charadrius alexandrinus nivosus (nesting)	western snowy plover	FT/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 nest. No suitable coastal flats, suitable sandy nesting substrates, or associated aquatic resources are present within the BSA to support nesting of this species.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to nest. The BSA lacks suitable riparian habitat to support this species.
Elanus leucurus (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. Although suitable oak trees are present within the BSA and there are multiple observations of this species mostly during wintering or migratory periods in Wildwood Regional Park (eBird 2022), documented nesting occurrences are sporadic in Ventura County, with the nearest occurrence located approximately 6.0 miles northeast of the BSA (CDFW 2022a).

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Empidonax traillii extimus (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 nest. The BSA lacks suitable riparian habitat to support this species. In addition, there are no known occurrences of this species within 5.0 miles of the BSA (CDFW 2022a).
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Not expected to occur. The BSA lacks suitable open habitats, including grassland and disturbed landscapes, preferred by this species. In addition, there are no known CNDDB records within 5.0 miles of the BSA (CDFW 2022a); and the only eBird occurrence in the vicinity was observed in 2004 (eBird 2022).
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Not expected to occur. No suitable coastal saltmarsh habitat is present within the BSA to support this species.
Pelecanus occidentalis californicus (nesting colonies & communal roosts)	California brown pelican	FPD/FP, SCD	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands	Not expected to nest. No suitable coastal marine or estuarine environments are present within the BSA to support this species.
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable coastal wetland habitat is present within the BSA to support this species.
Riparia riparia (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 nest. No suitable vertical banks or similar habitat present within the BSA to support the nesting of this species.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. The BSA lacks suitable riparian habitat to support this species.

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Sternula antillarum browni (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 shallow estuaries, sandy beaches, or exposed tidal flats are present within the BSA to support the nesting of this species.
Vireo bellii pusillus (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. The BSA lacks suitable riparian habitat to support this species. In addition, the nearest occurrence is approximately 1.5 miles north of the BSA along Arroyo Santa Rosa (CDFW 2022a).
Mammals				
Aeorestes cinereus	northern hoary bat	None/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	Low potential to roost. Although suitable oak woodland are present for roosting, this species was last documented in Ventura County in 1949 in Fillmore; and more recently observed in 2004 in the Santa Monica Mountains, over 10 miles southeast of the BSA (CDFW 2022a).
Antrozous pallidus	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 roost. The BSA contains limited suitable tree cavities to provide roosting opportunities for this species. In addition, the nearest occurrence was detected acoustically during surveys between 2002 and 2004 and is mapped approximately 8.7 miles east of the BSA (CDFW 2022a).
Eumops perotis californicus	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 roost. The BSA lacks suitable caves, cliffs, rocks, or similar habitats to provide roosting opportunities. In addition, the nearest occurrence was detected acoustically during surveys between 2002 and 2004 and is mapped approximately 8.7 miles east of the BSA (CDFW 2022a).

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
Lasiurus blossevillii	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	Low potential to roost. Although suitable trees (particularly oaks) are present within the BSA, there are no documented occurrences of this species within Ventura County; with the closest occurrence documented in 2004 over 10 miles southeast of the BSA within the Santa Monica Mountains (CDFW 2022a).
Microtus californicus stephensi	south coast marsh vole	None/SSC	Tidal marshes	Not expected to occur. No suitable tidal marshes are present within the BSA to support this species.
Myotis ciliolabrum	western small-footed myotis	None/None	Arid woodlands and shrublands, but near water; roosts in caves, crevices, mines, abandoned buildings	Low potential to roost. The BSA lacks suitable caves, cliffs, rocks, or similar habitats to provide roosting opportunities. In addition, the nearest occurrence was detected acoustically during surveys between 2002 and 2004 and is mapped approximately 8.7 miles east of the BSA (CDFW 2022a).
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Low potential to roost. Although suitable trees for roosting may be present within the BSA, there are no documented occurrences of this species within Ventura County; with the closest occurrence documented in 2004 over 10 miles southeast of the BSA within the Santa Monica Mountains (CDFW 2022a).
Puma concolor	puma	None/SC	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats	Low potential to occur. Although the BSA is contiguous with greater open space areas suitable for this species, the BSA is located on the edge of fenced development (treatment plant) and does not provide the open terrain

Species Name	Common Name	Status (Federal/State)[1]	Habitat	Potential to Occur in the Biological Survey Area (BSA)
			throughout California, except deserts	suitable for wildlife movement or the sustained prey deer populations.
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC	Saltmarsh, saltgrass, dense willow, bulrush	Not expected to occur. No suitable saltmarsh, saltgrass, dense willow, or bullrush habitat is present within the BSA to support this species.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Low potential to occur. Although the BSA is contiguous with greater open space areas and may support suitable friable soils, no suitable burrows for this species was observed during field surveys. In addition, the BSA is located on the edge of development (treatment plant) and does not provide the open terrain suitable for movement southwest across the terrain. Additionally, the nearest most recent occurrence is documented approximately 5.9 miles northeast of the BSA in Moorpark (CDFW 2022a).

[1] The federal and state status of species is based on the Special Animals List (CDFW 2022b).

Status Abbreviations
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal candidate species (former Category 1 candidates)
FPD: Federally proposed for delisting
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 listed as endangered
ST: State listed as threatened
SC: State candidate for listing as threatened or endangered
SCD: State candidate for delisting

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Appendix B2

Aquatic Resources Delineation Report

Aquatic Resources Delineation Report

Hill Canyon Treatment Plant Stormwater Diversion Project

MARCH 2023

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
OHWM	ordinary high-water mark
Project	Hill Canyon Treatment Plant Stormwater Diversion Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers

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1 Introduction

This Aquatic Resources Delineation Report is being prepared for the City of Thousand Oaks for the Hill Canyon Treatment Plant Stormwater Diversion Project (Project). The delineation was performed to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 USC 1344); Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act; and/or California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the Project site using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation.

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1. Access to the Project site is not restricted, but if a site visit is requested, the Project applicant or agent will accompany regulatory staff to the Project site. City of Thousand Oaks is the Project applicant and landowner.

Table 1. Applicant and Agent Contact Information

Applicant	City of Thousand Oaks	**Agent**	Phoenix Civil Engineering
Contact Name	Nader Heydari	**Contact Name**	Jon Turner
Address	2100 E. Thousand Oaks Boulevard Thousand Oaks, California 91362	**Address**	535 E. Main Street Santa Paula, California 93060
Phone	805.449.2392	**Phone**	805.658.6800
Fax	NA	**Fax**	NA
Email	nheydari@toaks.org	**Email**	jturner@phoenixcivil.com

2 Site Description and Landscape Setting

The Hill Canyon Treatment Plant (Assessor's Parcel Numbers 552-013-001 and 667-012-017) is located at 9600 Santa Rosa Road, Thousand Oaks, California (Figure 1, Project Location). The Project site is located within U.S. Geological Survey 7.5-minute Newberry Park quadrangle, Section 00 of Township 2 North and Range 20 West; the approximate center of the Project site is longitude 34°12′39.00″W and latitude 118°55′16.02″N

(34.210832; −118.921117). To drive to the Project site from Camarillo, take Santa Rosa Road east and turn right onto Hill Canyon Road, which will take you to the entrance of Hill Canyon Treatment Plant. The Project site is located between two publicly owned open space systems including Wildwood Regional Park, approximately 1,765 acres, and Conejo Canyons Open Space, approximately 1,430 acres. As a result, the surrounding area is predominantly open space with residential and commercial properties approximately 0.25 miles south and east of the site.

A Biological Survey Area (BSA) was considered as the review area for this Project site. The BSA includes the proposed Project impact areas (Project site) and a 100-foot buffer. Topography within the BSA is variable, characterized by moderately steep slopes that lead down towards a vegetated canyon containing a linear aquatic feature. This unnamed feature originates southeast of the site within Wildwood Regional Park. Elevation ranges from approximately 280 feet above mean sea level in the southwestern portion of the BSA (near the manhole work area) to 400 feet above mean sea level south of the proposed debris basin.

2.1 Soils

Soil types within and surrounding the BSA are shown on Figure 2. As shown on Figure 2, soils within the natural landscapes of the BSA consist mainly of Hambright very rocky loam (HaG; 15% to 75% slopes), a shallow, well-drained soil which typically occurs on plateaus, basalt flows, and hillslopes (USDA-NRCS 2022a). Vina gravelly loam (VnC; 2% to 9% slopes) occurs along the northwestern portions of the BSA and primarily within the existing treatment plant. A third soil type, Vina loam (VaC; 2% to 9% slopes) also occurs in a portion of the existing treatment plant. The Vina soil series consists of very deep, well-drained soils (USDA-NRCS 2022a). These soils are not considered hydric soils (USDA-NRCS 2022b).

2.2 Vegetation

The natural vegetated lands of the BSA are composed of a combination of vegetation communities including Chamise – black sage – sugarbush scrub, California brittlebrush – California sagebrush scrub, lemonade berry scrub, and lemonade berry scrub–California sagebrush scrub. Along with the scrub communities, mature oak trees (California black oak [*Quercus kelloggii*], coast/interior live oak [*Q. agrifolia/wislizeni*]) and scattered toyon (*Heteromeles arbutifolia*) and other scrub shrubs are present. In the southern portion of the BSA, near the manhole work area, California sycamore–arroyo willow woodlands were mapped along Arroyo Conejo creek and non-native grasslands were present. Since the creek and majority of non-native grasslands are located outside of the BSA, only the fringes of these communities entered the edges of the BSA near the manhole work area.

The scrub communities and oaks near the linear aquatic feature on site do not appear to be significantly supported by this channel, as individual oaks are present along the hillslope where the channel is not present and do not necessarily originate or line the linear aquatic feature banks (Appendix A, Photo Documentation).

2.3 Watershed

The BSA is located within the Ventura-San Gabriel Coastal basin Hydrologic Unit (180701) and Upper Conejo Arroyo subwatershed Hydrologic Unit (180701030104). The Upper Conejo Arroyo subwatershed covers an area of 27,665 acres (112 square kilometers) and encompasses the areas of Potrero Valley, Conejo Valley, and east to Oakbrook Regional Park (ArcGIS 2022). See Figure 3, Hydrologic Setting.

2.4 National Wetland Inventory

The BSA contains one mapped resource from the U.S. Fish and Wildlife Service's National Wetland Inventory data (USFWS 2022; see Figure 4). This resource is located along the northeastern portion of the BSA (i.e., area associated with the debris basin), originates from the undeveloped hills along the east, and travels downslope to the treatment plant. This feature is categorized as Freshwater Forested/Shrub Wetland (PSAA Cowardin classification). This categorization would suggest the presence of a wetland feature consisting of an area dominated by woody vegetation, with surface water present for brief periods of time during the growing season.

3 Aquatic Resources Delineation Methods

Dudek Biologist Heather Moine conducted an aquatic resources delineation for the BSA in March 2022. Table 2 summarizes the site conditions and timing of the survey.

Table 2. Schedule of the Aquatic Resources Delineation

Date	Hours[1]	Personnel	Conditions
03/21/2022	9:07 a.m.–5:20 p.m.	Heather Moine	59°F–73°F; 20%–40% cloud cover; 1–4 mph wind

Notes: °F = degrees Fahrenheit, mph = miles per hour.
[1] The total site visit included aquatic resources delineation, supplemental vegetation mapping, and rare plant surveys.

Jurisdictional boundaries were mapped in the field using ESRI Field Maps and a Trimble® R1 GNSS Receiver with submeter accuracy and aerial imagery. Following the fieldwork, aquatic resources were digitized using ArcGIS. The jurisdiction-specific methods used to delineate USACE, CDFW, and RWQCB are described below.

Maps are included at the end of this report, including Project Location (Figure 1), Soils (Figure 2), Hydrologic Setting (Figure 3), and Potential Jurisdictional Aquatic Resources (Figure 4).

U.S. Army Corps of Engineers Jurisdictional Delineation Methods

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with ESRI Field Maps on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual.

Wetland Determination Forms were taken at certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present; hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. USACE OHWM Forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. Data forms can be found in Appendix B.

California Department of Fish and Wildlife Jurisdictional Delineation Methods

The delineation defined areas under the jurisdiction of the CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code. CDFW asserts jurisdiction over rivers, streams, and lakes to the extent of the top of bank. The term "bank" is interpreted to encompass the physical bank of the stream that rises vertically above and horizontally away from it (Vyverberg 2010). Top of bank was mapped as the physical break in slope between the channel and surrounding upland. CDFW also asserts jurisdiction over riparian vegetation associated with these features. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). Additionally, waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed.

Regional Water Quality Control Board Jurisdictional Delineation Methods

In 2019, the State Water Resources Control Board issued the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). These procedures define wetlands that encompass "the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands." The SWRCB defines wetlands as "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). Wetland waters subject to RWQCB jurisdiction were mapped based on methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). Non-wetland waters subject to RWQCB jurisdiction were delineated to the extent of the top of bank and riparian vegetation, as appropriate, as described above.

4 Aquatic Resources Narrative

On March 21, 2022, Ms. Moine performed an aquatic resources delineation. Potentially jurisdictional aquatic features mapped include a concrete v-ditch, connecting swale, and an ephemeral channel (Figure 4). These features are located within and directly adjacent to the proposed debris basin. Of these features, only the ephemeral channel is anticipated to require additional permits pursuant to the Porter-Cologne Water Quality Control Act and California Fish and Game Code for impacts to the channel. However, as recommended below, written concurrence from the resource agencies (RWQCB, CDFW, and USACE) on the jurisdictional status for both features is highly recommended.

Concrete V-Ditch (RWQCB)

The concrete v-ditch is an existing stormwater control feature within the Hill Canyon Treatment Plant that directs flows to drain-inlets along the v-ditch (Figure 4). The drain inlets are regularly maintained by Hill Canyon Treatment Plant staff as part of storm preparedness activities. These inlets capture storm flows and drain them to the sludge drying beds as part of the stormwater capture program (Capron 2017; City of Thousand Oaks 2019). Since the flows associated with the v-ditch are currently subject to the adopted Waste Discharge Requirements and National Pollutant Discharge Elimination System permits for the Hill Canyon Treatment Plant (Order No. R4-2019-0137, NPDES No. CA0056294), compliance with this existing permit should apply to this feature and further permits are not anticipated to be necessary from the RWQCB. We understand the Hill Canyon Treatment Plant had previously attained status as a zero-discharge facility. An Industrial General Permit Notice of Non-Applicability was previously granted by the RWQCB, and the City is petitioning to retain this status with site modifications to re-route off-site flows from the natural canyon and directly to Arroyo Conejo Creek (Capron 2017; City of Thousand Oaks 2019). In addition, the concrete v-ditch is unlikely to be jurisdictional to USACE under the Clean Water Act, as the feature is ephemeral and current flows lack a connection with a traditional navigable water. Similarly, the feature lacks a bed and bank often associated with CDFW jurisdictional rivers, stream, or lakes.

Ephemeral Channel (RWQCB/CDFW)

A narrow ephemeral channel is present in the BSA within and adjacent to the proposed debris basin (Figure 4). The channel is located within the natural canyon and extends to the existing concrete v-ditch. This channel is characterized by an OHWM and a bed, with portions of the channel containing a bank. Blue elderberry (*Sambucus mexicana*) is present along this feature providing limited riparian habitat. In addition, a short 12-foot swale connects the feature in the eastern portion of the BSA. These features are anticipated to be jurisdictional to CDFW and the RWQCB. Given that the feature is ephemeral and lacks connection with a traditional navigable water, it is unlikely to be jurisdictional to USACE.

4.1 Waters of the United States

As described above, no features observed are anticipated to be Waters of the United States; and therefore, not anticipated to be under the jurisdiction of the U.S. Army Corps of Engineers. The concrete v-ditch is ephemeral and current flows lack a connection with a traditional navigable water. The ephemeral channel does not have direct connection to a traditional navigable water, is characterized by low volume or infrequent flows, and flows through this feature are directed through the existing treatment plant.

4.2 Waters of the State

Regional Water Quality Control Board (RWQCB)

The concrete v-ditch and ephemeral channel, described above, are anticipated to be under the jurisdiction of the RWQCB. Therefore, approximately 0.04 acre (534 linear feet) of features are anticipated to be subject to regulation by the RWQCB under the Porter-Cologne Water Quality Control Act. Table 3 provides a summary of these features. However, based on existing permits only the channel is anticipated to require additional permitting for project-related activities.

Table 3. RWQCB Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Non-Wetland Waters		
Ephemeral channel (including top of bank)	34.210854, -118.920971	0.01 acre (530 square feet) 219 linear feet
Upland Swale	34.210701 -118.920611	< 0.01 (12 square feet)[2] 12 linear feet
Concrete v-ditch	34.211035, -118.921058	0.02 acre (758 square feet) 303 linear feet
Riparian		
Blue Elderberry (outside of ephemeral channel and bank)	34.210892 -118.920957	< 0.01 (332 square feet) 23 linear feet[3]
	Total[1]	**0.04 acre (1,632 square feet) 534 linear feet[3]**

Notes: [1]Totals may not sum due to rounding. [2] Swale width estimated at 1 foot. [3] Riparian linear feet not included in total due to overlapping with the ephemeral channel.

California Department of Fish and Wildlife

The ephemeral channel described above is anticipated to be regulated by CDFW. Since CDFW regulates from bank to bank, certain portions of the BSA where the top of a channel bank extended beyond the OHWM are subject to regulation by CDFW as streambed. These areas are displayed on Figure 4. The oak trees located adjacent to the channel feature may not be jurisdictional to CDFW (but will require confirmation from CDFW). The oak trees on-site and along this channel feature do not readily appear to originate from the channel feature or appear to significantly benefit from the channel flows. The oaks near the channel originate uphill from the channel feature on upland slopes. In addition, based on the surrounding environment, oak trees are scattered throughout the upland slopes and terrain suggesting that the presence of oaks along the channel would have been present irrespective of the channel's presence. Therefore, the oaks adjacent to the channel are unlikely to be categorized as riparian vegetation that is typically under CDFW jurisdiction. However, one blue elderberry plant is located along the channel and is mapped as riparian under CDFW jurisdiction.

Therefore, approximately 0.02 acres (231 linear feet) of features are anticipated to be subject to regulation by the CDFW under the California Fish and Game Code Section 1600 et seq. The full extent of CDFW jurisdictional areas are those described in Table 4.

Table 4. CDFW Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Streambed		
Ephemeral channel (including top of bank)	34.210854, -118.920971	0.01 acre (530 square feet) 219 linear feet

Table 4. CDFW Aquatic Resource Summary for the Biological Survey Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Biological Survey Area (Acres/Linear Feet)
Upland Swale	34.210701 -118.920611	< 0.01 (12 square feet)[2] 12 linear feet
Riparian		
Blue elderberry (*Sambucus mexicana*)	34.210892, -118.9210957	< 0.01 (332 square feet) 23 linear feet[3]
	Total[1]	**0.02 acre (874 square feet)** **231 linear feet[3]**

Notes: [1]Totals may not sum due to rounding. [2] Swale width estimated at 1 foot. [3] Riparian linear feet not included in total due to overlapping with the ephemeral channel.

5 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this Aquatic Resources Delineation Report, approximately 0.03 acres (1,300 square feet) of non-wetland waters of the state and an additional < 0.01 acre (332 square feet) of riparian habitat are potentially regulated by the RWQCB and/or CDFW. The features described in this report are not anticipated to be under the jurisdiction of the USACE. This report can be used by those agencies to determine if they would regulate the features described herein.

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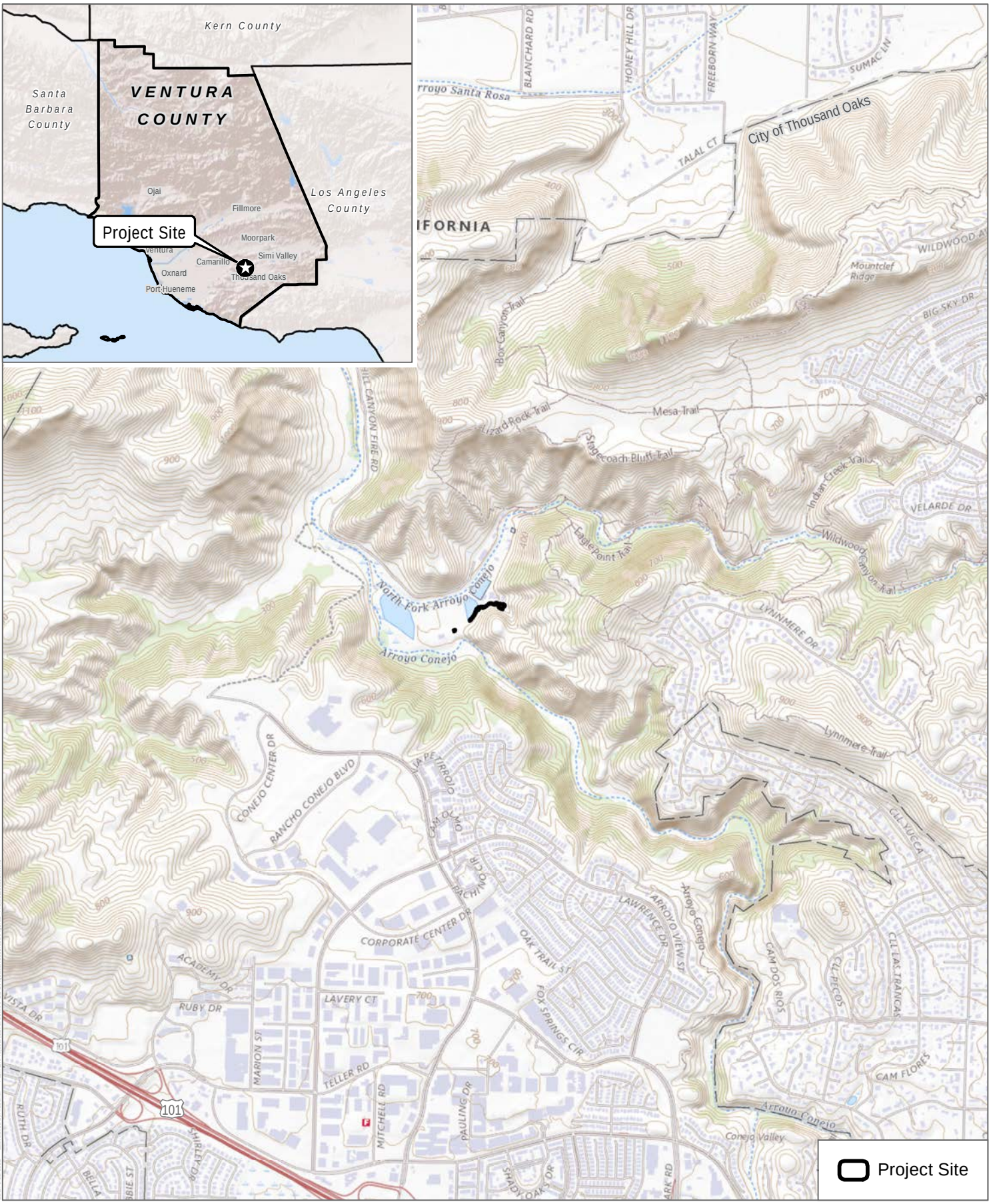
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SOURCE: Source

FIGURE 1

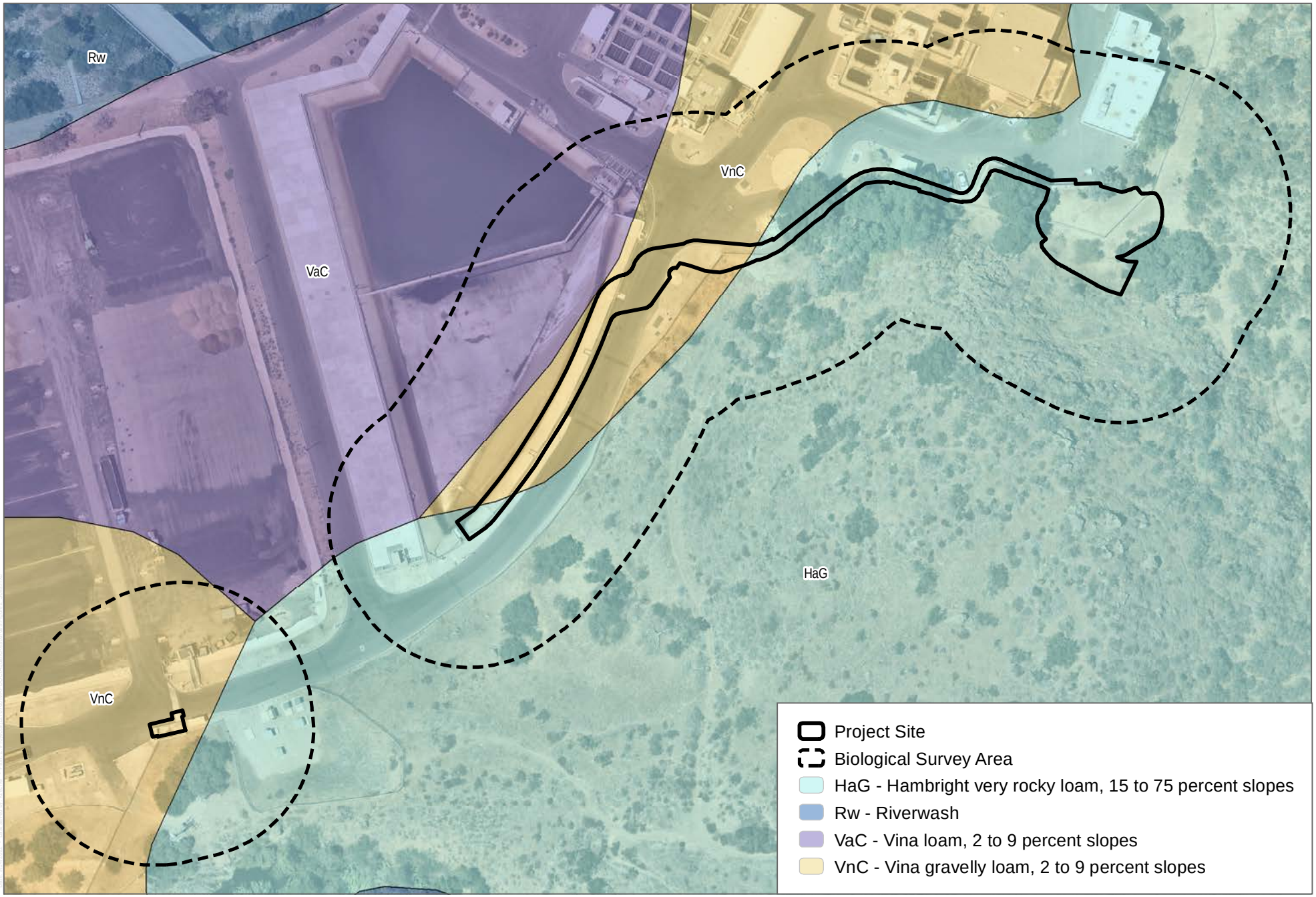
Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project

DUDEK

0 1,000 2,000 Feet

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SOURCE: NearMap 2021

DUDEK

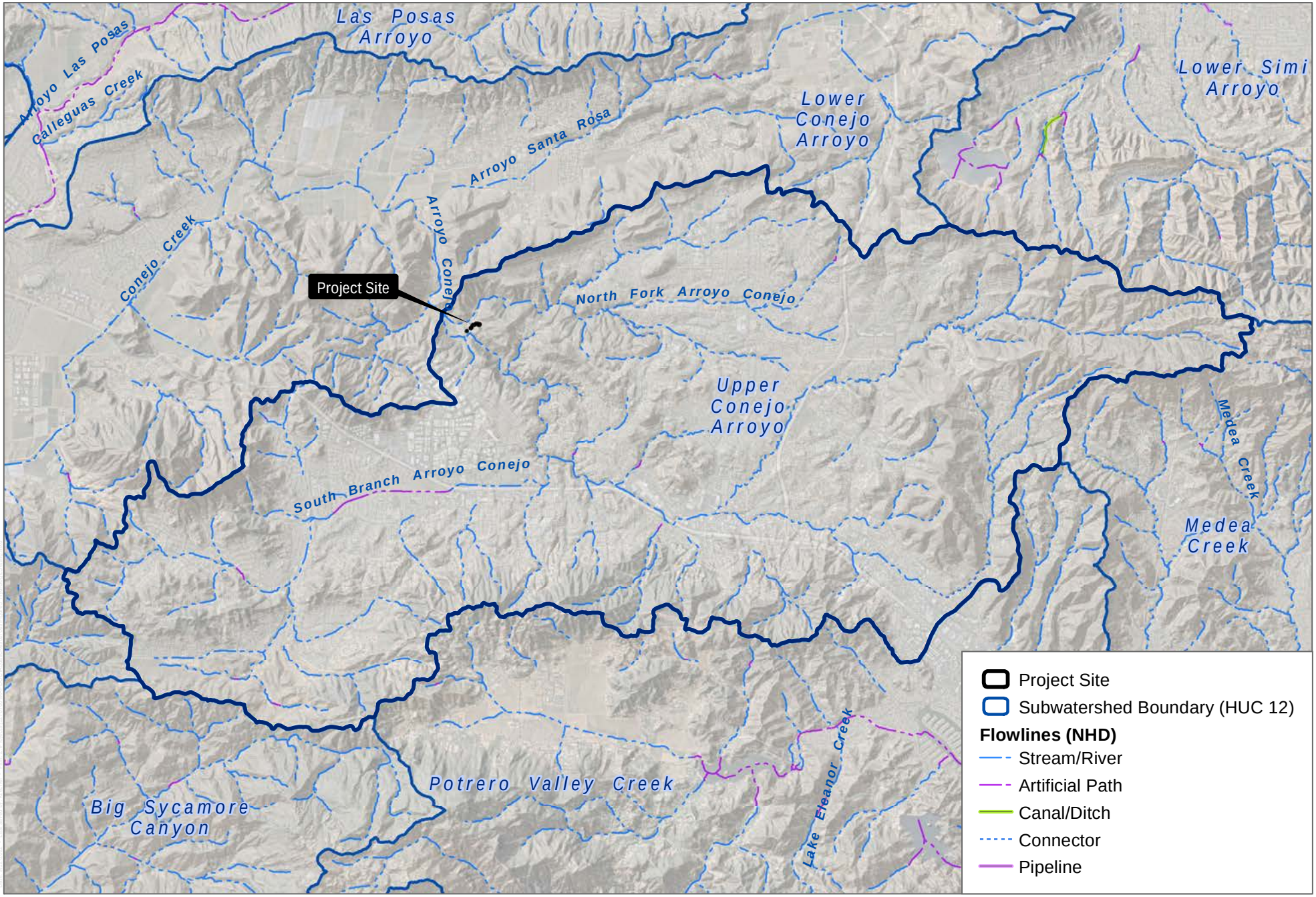
0 50 100 Feet

FIGURE 2

Soils

Hill Canyon Treatment Plant Stormwater Diversion Project

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SOURCE: NearMap 2021, USGS NHD and WBD

DUDEK

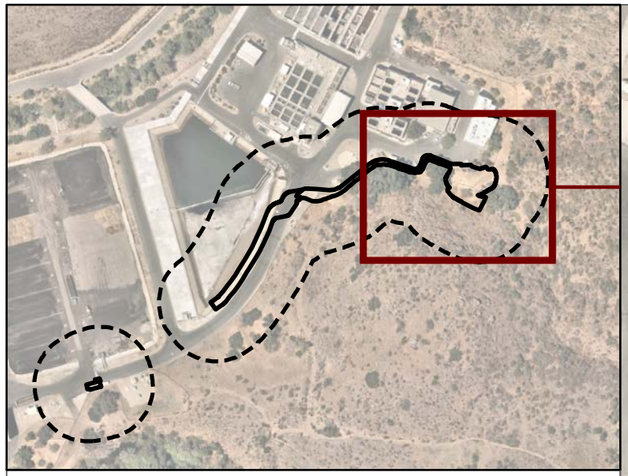
0 0.5 1 Miles

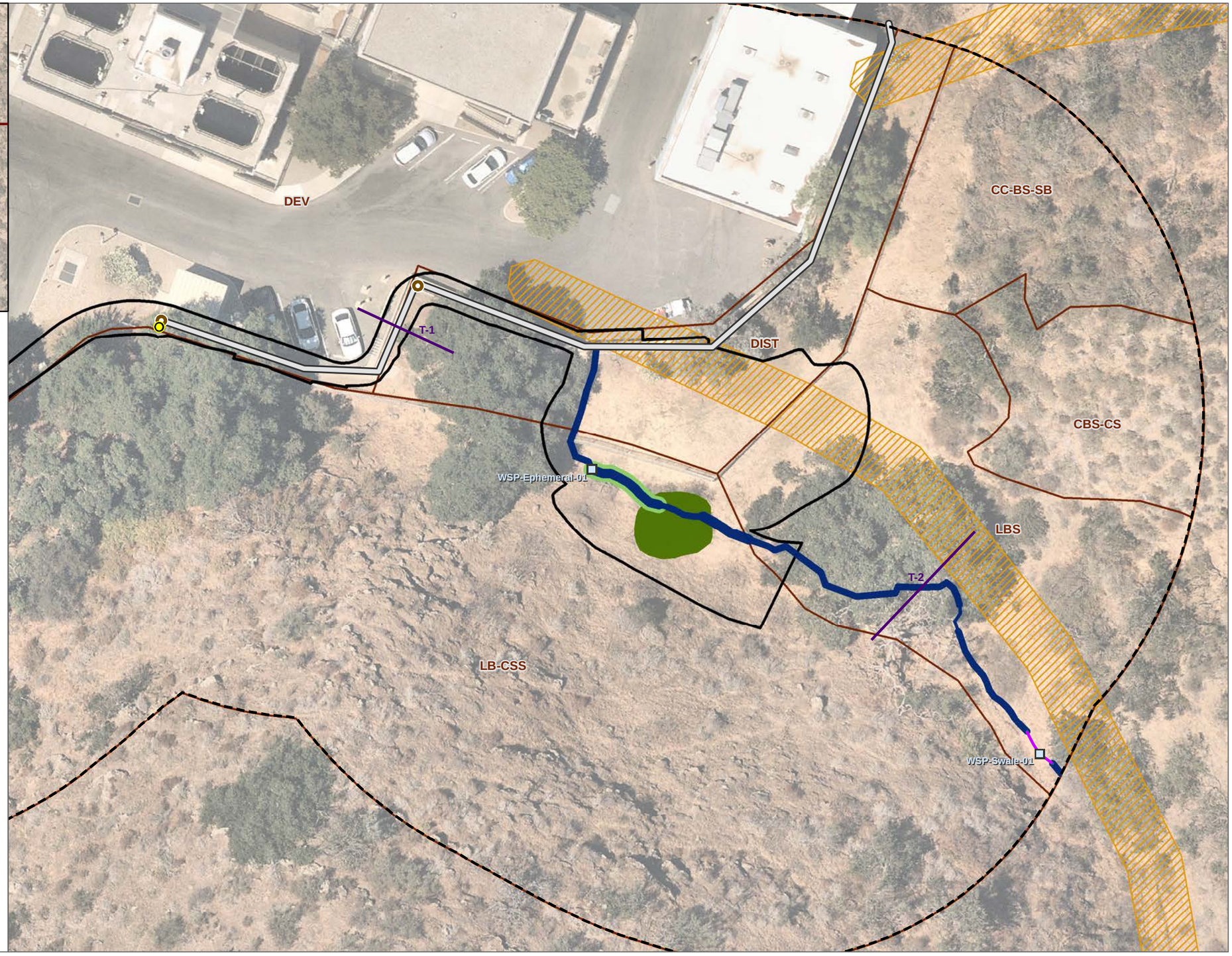
FIGURE 3

Hydrologic Setting

Hill Canyon Treatment Plant Stormwater Diversion Project

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- Project Site
- Biological Survey Area
- Wetland Sampling Point
- Transect
- 12-inch Corrugated Metal Pipe
- 6-inch PVC Pipe
- Non-Wetland Waters of the State - Concrete V-ditch

Potential Jurisdictional Aquatic Resources

Regional Water Quality Control Board

- Non-Wetland Waters - Ephemeral Channel
- Non-Wetland Waters - Ephemeral Channel (bank)
- Riparian
- Non-Wetland Waters - Swale

California Department of Fish and Wildlife

- Streambed
- Streambed and Bank
- Riparian
- Swale

NWI Wetland

- Freshwater Forested/Shrub Wetland

Vegetation Communities and Land Covers

CBS-CS : California brittle brush - California sagebrush scrub
CC-BS-SB : Chamise - Black sage - Sugarbush scrub
LB-CSS : Lemonade berry - California sagebrush scrub
LBS : Lemonade berry scrub
DIST : Disturbed
DEV : Developed

SOURCE: NearMap 2021, USFWS NWI Wetland

DUDEK

0 15 30 Feet

FIGURE 4

Potential Jurisdictional Aquatic Resources

Hill Canyon Treatment Plant Stormwater Diversion Project

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Appendix A
Photo Documentation



Photo 1. Portion of habitat proposed for the debris basin. Photo oriented west. February 8, 2021



Photo 2. Oak trees upslope from the ephemeral channel. Photo oriented northeast. February 8, 2021



Photo 3. View of location proposed for the debris basin. Photo oriented southwest. February 17, 2021



Photo 4. Ephemeral channel downslope from oak trees shown in Photo 2. Photo oriented southeast. February 8, 2021.



Photo 5. Ephemeral channel within and near the southeast edge of the BSA. Photo oriented southeast. February 8, 2021



Photo 6. Manhole work location. Photo oriented east. February 8, 2021.



Photo 7. Concrete v-ditch and drain along the existing treatment plant. Photo oriented west.
March 21, 2022.



Photo 8. Concrete v-ditch and drain along the existing treatment plant. Photo oriented north.
March 21, 2022. .



Photo 9. Swale (1-foot width) located near the western edge of the BSA. Photo oriented north. March 21, 2022



Photo 10. Wetland Sampling Point Swale-01. Photo oriented southeast. March 21, 2022.



Photo 11. Wetland Sampling Point Ephemeral-01. Photo oriented southeast. March 21, 2022..



Photo 12. Conejo dudleya (*Dudleya parva*) located uphill from the proposed debris basin June 24, 2022

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Appendix B
Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TO HCTP City/County: Thousand Oaks, Ventura Sampling Date: 3/24/2022

Applicant/Owner: City of Thousand Oaks State: CA Sampling Point: Swale-01

Investigator(s): Heather Moine Section, Township, Range: 36, 02N, 20W

Landform (hillslope, terrace, etc.): canyon bottom Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C-Mediterranean CA Lat: 34.210712°N Long: 118.920602°W Datum: WGS84

Soil Map Unit Name: Hambright very rocky loam 15-75% slopes NWI classification: PSSA (Freshwater Forested/Shrub Wetland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: —)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ø			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 m²)			
1. Keckiella cordifolia	10	Y	NL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 10 m²)			
1. Brassica nigra	25		NL
2. Carduus pycnocephalus	15		NL
3. Amsinckia menziesii	<1		NL
4. Bromus diandrus	10		NL
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: —)			
1. Ø			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: Ø (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: Ø (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	Ø	x 1 =	Ø
FACW species	Ø	x 2 =	Ø
FAC species	Ø	x 3 =	Ø
FACU species	Ø	x 4 =	Ø
UPL species	Ø	x 5 =	Ø
Column Totals:	Ø (A)		Ø (B)

Prevalence Index = B/A = error

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/2	100	—	—	—	—	unable to form ball, to much gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: too many gravel pieces to get soil profile

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): Ø

Water Table Present? Yes _____ No X Depth (inches): Ø

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): Ø

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

OHWM DATA SHEET

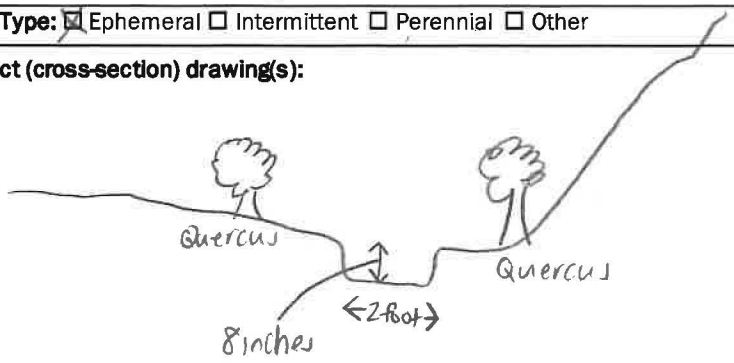
Project: TO HCTP **Date:** 3/21/2022 **Feature ID:** Ephemeral

Investigator(s): Heather Molnic **Transect ID:** Ephermeral-OHWM-01

Site Location: City of Thousand Oaks Hill Canyon Treatment Plant

Feature Type: ☒ Ephemeral ☐ Intermittent ☐ Perennial ☐ Other

Transect (cross-section) drawing(s): View Facing: ESE



☐ Transect length 45 feet
☐ OHWM width
☐ Channel depth
☐ Photo

OHWM varies over length of ephemeral feature

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☐ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☒ Wracking
- ☐ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☒ Scour
- ☐ Deposition
- ☐ Bed and banks
- ☐ Water staining
- ☒ Change in plant community and/or cover*

☒ Break in Slope at OHWM*: ☐ Sharp (>60°) ☒ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt	Sand	Gravel	Cobbles	Boulders
Above OHWM	X	X	Ø	Ø	Ø
Below OHWM	X	X	X	X	Ø

high amount leaf litter

Total Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	50	15	35	Ø
Below OHWM	Ø	Ø	15	85

some overhanging trees and shrubs but not rooted below OHWM

Veg Stage: ☐ Early (herbs & seedlings) ☐ Mid (herbs, shrubs, saplings) ☒ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Quercus Bromus diandrus Marah macrocarpa Pholistoma auritum Carduus pycnocephalus Melica	Sambucus nigra caerulea Bromus diandrus	Bromus diandrus Pholistoma auritum

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

overall natural condition
downstream end of feature combines w/ concrete v-ditch

Hydrology

☐ Flowing water	Avg. depth: Ø	Min. depth: Ø
☐ Standing water	Temp: Ø	Max. depth: Ø
☐ Saturated		
☒ Dry		

Checklist of resources (if available):

☒ Aerial photography	☒ Vegetation maps	☒ GPS unit
☐ Remotely-sensed images	☒ Soil maps	☐ Stream gage data
☒ Topographic maps	☐ Rainfall/precipitation data	☐ Other studies:
☐ Geologic maps	☐ Existing delineation(s) for site	

Other drawings (aerial view), notes:

NHD flowline =
- Stream/river: hydrographic category = ephemeral

NWI
- PSSA
- freshwater forested/shrub wetland

Feature occurs at the bottom of a canyon. The majority of the feature OHWM and TOB are coterminous. There is a portion of the feature in the downstream portion with a TOB larger than the OHWM

Other forms related to this feature: ☐ Yes ☐ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)
☐ Low flow channel or other representative section (OHWM datasheet)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TO HCTP City/County: Thousand Oaks, Ventura Sampling Date: 3/21/2022

Applicant/Owner: City of Thousand Oaks State: CA Sampling Point: Ephemeral-01

Investigator(s): Heather Moine Section, Township, Range: 36, 02N, 20W

Landform (hillslope, terrace, etc.): canyon bottom Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): C-Mediterrakean CA Lat: 34.210942°N Long: 118.921047°W Datum: WGS 84

Soil Map Unit Name: Hambright very rocky loam 15-75% slopes NWI classification: PSSA Freshwater Forested/Shrub Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present? ?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Soil sare composed of predominately gravel & cobble and unable to excavate soil pit. However, two FACU plants observed and other plants NL,

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: —)	Absolute % Cover	Dominant Species?	Indicator Status
1. ∅			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: —)			
1. Toxicodendron diversilobum	2		FACU
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 10m²)			
1. Urtica urens	1		NL
2. Cardiuc pycnocephalus	2		NL
3. Silybum orientale	2		NL
4. Capsella bursa-pastoris	<1		FACU
5. Eucrypta chrysanthemifolia	<1		NL
6. Phalistoma auritum	2		NL
7. Brassica nigra	2		NL
8. Bromus diandrus	1		NL
	10 = Total Cover		
Woody Vine Stratum (Plot size: —)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 88 % Cover of Biotic Crust ∅

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Soils composed of gravel and cobbles, unable to exravate soil pit

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- X Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): Ø

Water Table Present? Yes _____ No X Depth (inches): Ø

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): Ø

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

OHWM DATA SHEET

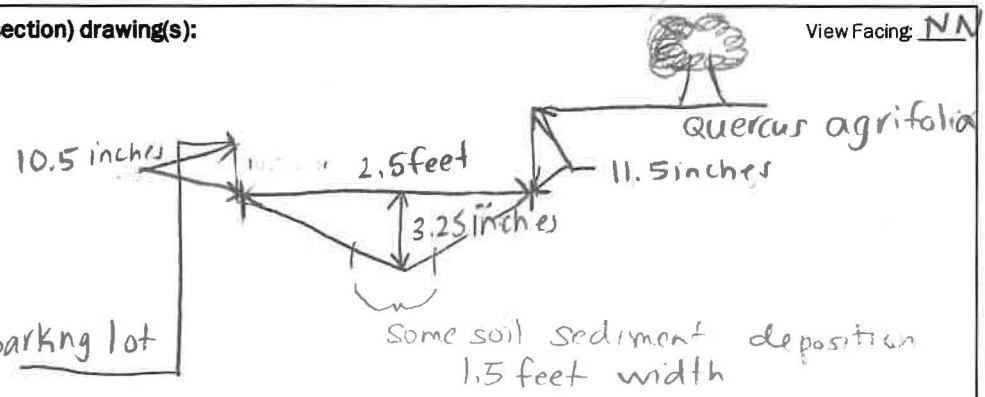
Project: TO HCTP **Date:** 3/21/2022 **Feature ID:** Concrete v-ditch

Investigator(s): Heather Moine **Transect ID:** Concrete v-ditch - OHWM-01

Site Location: City of Thousand Oaks
Hill Canyon Treatment Plant

Feature Type: ☒ Ephemeral ☐ Intermittent ☐ Perennial ☐ Other

Transect (cross-section) drawing(s): View Facing: NNE



☐ Transect length
☐ OHWM width
☐ Channel depth
☐ Photo

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☐ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☐ Wracking
- ☐ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☐ Scour
- ☒ Deposition sediment deposition
- ☐ Bed and banks
- ☐ Water staining
- ☐ Change in plant community and/or cover*

☐ Break in Slope at OHWM*: ☐ Sharp (>60°) ☐ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt	Sand	Gravel	Cobbles	Boulders
Above OHWM	X	X	X	Ø	Ø
Below OHWM	Ø	Ø	Ø	Ø	Ø

Total Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	20	Ø	10	70 asphalt & dirt
Below OHWM	Ø	Ø	Ø	Concrete 100%

Veg Stage: ☐ Early (herbs & seedlings) ☐ Mid (herbs, shrubs, saplings) ☐ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Lupinus bicolor Brassica nigra Quercus agrifolia Eucrypta chrysanthemifolia Sisymbrium orientale	Ø	Ø

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

Concrete v-ditch
culvert outfalls
- 2 1-foot corrugated metal drop/vertical outfalls
- 1 6-inch PVC horizontal outfall

Hydrology

☐ Flowing water	Avg. depth: Ø	Min. depth: Ø
☐ Standing water	Temp: Ø	Max. depth: Ø
☐ Saturated		
☒ Dry		

Checklist of resources (if available):

☒ Aerial photography	☒ Vegetation maps	☒ GPS unit
☐ Remotely-sensed images	☒ Soil maps	☐ Stream gage data
☐ Topographic maps	☐ Rainfall/precipitation data	☐ Other studies:
☐ Geologic maps	☐ Existing delineation(s) for site	

Other drawings (aerial view), notes:

Other forms related to this feature: ☐ Yes ☒ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)

☐ Low flow channel or other representative section (OHWM datasheet)

Appendix C1

Archaeological Resources Assessment

DUDEK
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SANTA BARBARA, CALIFORNIA 93101
T 805.963.0651 F 805.963.2074

April 7, 2023 12767

Nader Heydari
City of Thousand Oaks
2100 thousand Oaks Boulevard
Thousand Oaks, California 91362

Subject: Archaeological Resources Assessment for the Hill Canyon Treatment Plant Stormwater Project, City of Thousand Oaks, Ventura County, California

Dear Nader Heydari:

This letter documents the archaeological resources assessment conducted by Dudek for the Hill Canyon Treatment Plant Stormwater Project (Project), located within the City of Thousand Oaks (City), Ventura County, California. The present study documents the results of a California Historical Resources Information System (CHRIS) records search conducted at the South Central Coastal Information Center (SCCIC), results of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search and a summary of tribal notification efforts by the City pursuant to AB 52, an archaeological pedestrian survey, an analysis of the potential for the proposed Project site to contain archaeological resources, as well as management recommendations. The City of Thousand Oaks is the lead agency responsible for compliance with California Environmental Quality Act (CEQA).

Project Location

The proposed Project site is located at Hill Canyon Treatment Plant in the western limits of the City of Thousand Oaks, Ventura County (Figure 1). The proposed Project site falls on public land survey system (PLSS) Section 36, Township 2 North, Range 20 West on the *Newbury Park*, California 7.5-minute USGS Quadrangle (Attachment A: Figure 1). The proposed Project site, is composed of two parcels (APNs 552-013-001 and 667-012-017). This site is located outside of the urban areas of Thousand Oaks or suburban/agricultural communities along Santa Rosa Road. The general setting of the Hill Canyon Treatment Plant is in the north fork of the Arroyo Conejo Canyon, surrounded on all sides by steep, chaparral and grass covered hills, which are part of the Conejo Canyons Open Space park, the Wildwood Regional Park, and Santa Rosa Valley Park public parks. Arroyo Conejo North Fork, a creek, runs through the middle of the treatment plant and runs first north, then turns west, then north again, winding through the canyon.

Project Description

The Hill Canyon Treatment Plant, which is owned and operated by the City, provides wastewater treatment for the City of Thousand Oaks. The Treatment Plant is a 14 million gallon per day capacity wastewater treatment plant and currently treats an average of 8 million gallons of wastewater per day generated from its domestic, commercial, and industrial customers.

The Treatment Plant is located at the confluence of two watersheds and experiences flooding after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. These high runoff events are followed by a subsequent cleanup and debris removal associated with run-on flows from the tributary canyons that overflow into the Treatment Plant. Under existing conditions, flows are intercepted by a concrete swale that sits behind an existing concrete masonry unit wall, directing flows to drain inlets that connect to an existing 30-inch storm drain system. Recently, the City disconnected the 30-inch storm drain from out letting off site and added a sump pump system to divert flows to an on-site basin; however, this interim solution will not be able to accommodate the 10-year storm event. The maximum capacity of the existing 30-inch storm drain is 50 cubic feet per second. The 10-year combined peak flowrate of the two watersheds is 105 cubic feet per second (cfs). The City determined that it was not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant and therefore the proposed design flow is limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture and contain stormwater flows is necessary. Implementation of the Project would include reestablishing the existing 30-inch storm drain's connection to the original off-site outlet, new pipes to contain on-site flows within the site and a debris basin to contain flooding and the accompanying debris experienced after storm events associated with flows from the tributary canyons that overflow onto the Project site. As such, this Project proposes to modify the existing storm drain and construct new storm drain pipes, create a new debris basin, and build a new channel to connect the debris basin and the storm drain pipes. Construction of the Project, including demolition and new construction, is anticipated to occur over approximately 6 months. During and upon completion of construction, the Project would continue providing wastewater treatment services for the City. Ground disturbance activity will be limited to specific improvement area and is estimated to extend no deeper than 5 five below current grade.

Environmental Setting

The proposed Project site is located in the western region of the City of Thousand Oaks, Ventura County, California (Figure 1) within a 60-acre open space parcel that contains the existing Treatment Plant. The Treatment Plant contains primary treatment facilities, secondary treatment facilities, tertiary treatment facilities, a receiving station to handle solids and fats, oil and grease, energy facilities, and other facilities. The Project site is located between two publicly owned open space systems including Wildwood Regional Park approximately 1,765 acres, and Conejo Canyons Open Space, approximately 1,430 acres. The City of Thousand Oaks General Plan Land Use Element designates the Project site as Institutional (City of Thousand Oaks 2018). The City's online zoning map designates the site as Public, Quasi-Public, and Institutional Lands and Facilities (P-L) (City of Thousand Oaks 2022). The land surrounding the Project site has a land use designation of Existing Parks, Golf Courses, and Open Space (City of Thousand Oaks 2018). Additionally, the land surrounding the Project site is zoned Open Space (OS) (City of Thousand Oaks 2022).

Soils within the proposed Project site are characterized as Hambright very rocky loam (USDA 2022). Hambright very rocky loam exists at 15 to 75 percent slopes and has a profile of 0-2 inches of loam; 2-14 inches of very stony clay loam and; 14-35 inches of unweathered bedrock.

Regulatory Context

Work for this Project was conducted in compliance with the California Environmental Quality Act (CEQA). The regulatory framework as it pertains to cultural resources under CEQA is detailed below.

Under the provisions of CEQA, including the CEQA Statutes (PRC Sections 21083.2 and 21084.1), the CEQA Guidelines (14 CCR 15064.5), and California Public Resources Code (PRC) Section 5024.1 (14 CCR 4850 et seq.), properties expected to be directly or indirectly affected by a proposed project must be evaluated for California Register of Historical Resources (CRHR) eligibility (PRC Section 5024.1).

The purpose of the CRHR is to maintain listings of the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term historical resources includes a resource listed in or determined to be eligible for listing in the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a]). The criteria for listing properties in the CRHR were developed in accordance with previously established criteria developed for listing in the National Register of Historic Places. The California Office of Historic Preservation regards "any physical evidence of human activities over 45 years old" as meriting recordation and evaluation (OHP 1995:2).

State

The California Register of Historical Resources

A cultural resource is considered "historically significant" under CEQA if the resource meets one or more of the criteria for listing on the CRHR. The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing cultural resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR. A resource is considered significant if it:

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; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated in regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Under CEQA, if an archeological site is not a historical resource but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined as follows:

- 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:
    - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
    - Has a special and particular quality, such as being the oldest of its type or the best available example of its type

- Is directly associated with a scientifically recognized important prehistoric or historic event or person

Resources that neither meet any of these criteria for listing in the CRHR nor qualify as a "unique archaeological resource" under CEQA (PRC Section 21083.2) are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" (PRC Section 21083.2[h]).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from a proposed project are thus considered significant if the project (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource, which contributes to its significance; or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

California Environmental Quality Act

As described further, the following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) 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 a 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) and 21083.2(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 listed or eligible for listing in the CRHR, or 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 an "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 a historical resource is materially impaired when a project does any of the following:

(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 (PRC Sections 21083.2(a)–(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 (PRC Section 21083.2(g)).

Impacts on nonunique 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 nonunique archaeological resource qualifies as a TCR (PRC Sections 21074(c) and 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.

California State Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that tribal cultural resources (TCRs) must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains (Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact NAHC within 24 hours (Section 7050.5(c)). NAHC will notify the "most likely descendant." With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains, and items associated with Native Americans.

Local

The City of Thousand Oaks has local designation criteria for both landmarks and points of historical interest, as outlined below:

Sec. 1-9.203. Definitions.

(a) Landmark. For purposes of this article, "landmark" shall mean any object, building, structure, site, area, place, or natural formation which has historic, architectural, archaeological, cultural or aesthetic significance to the City of Thousand Oaks, and:

(1) Exemplifies or reflects special elements of the City's social, aesthetic, engineering, architectural or natural history;

(2) Is associated with events that have made a significant contribution to the broad patterns of the City's cultural heritage;

(3) Is associated with the lives of persons important to the City;

(4) Has yielded or has the potential to yield information important to the prehistory or history of the City; or,

(5) Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, or possesses high artistic values.

(b) Point of Historic Interest. For purposes of this article, "point of historic interest" shall mean any object, building, structure, site, area, place, or natural formation which has historic, architectural, archaeological, cultural or aesthetic significance to the City of Thousand Oaks that:

(1) No longer exists or was associated with historic events, important persons or embodied a distinctive character or architectural style;

(2) Has been altered to the extent that the integrity of the original workmanship, materials or type has been substantially compromised; or,

(3) Is a site of an historic event which has no distinguishable characteristics other than that an historic event occurred there and the site is not of sufficient historic significance to justify the establishment of a landmark.

(§ 1, Ord. 868-NS, eff. September 18, 1984, as amended by § 1, Ord. 1015-NS, eff. December 6, 1988, Ord. 1276-NS, eff. February 12, 1997, and § 1, Ord. 1420-NS, eff. December 17, 2003)

The City of Thousand Oaks General Plan Conservation Element Update (Chapter Eight, Section M) also outlines city-specific policies and implementation measures and how they pertain to cultural resources (City of Thousand Oaks 2013, p. 47).

M. Cultural Resources Policies

CO-33 All information or maps on file with the City pertaining to the location of previously recorded archaeological sites within the Thousand Oaks Planning Area shall remain confidential unless specifically authorized to be released to the public by local Native American organizations.

CO-34 Management of cultural resources such as archaeological sites, historic structures or places shall emphasize resource protection and preservation.

CO-35 The preferred method for protecting any previously recorded archeological site shall be by deed restriction as permanent "open space", in order to prevent any future development or use that might otherwise adversely impact these resources.

CO-36 Decisions pertaining to the disposition of archaeological, historical and cultural resources shall be made in concert with recognized public agencies, groups or individuals having jurisdiction, expertise or interest in these matters, including but not limited to the State Office of Historic Preservation, Thousand Oaks Cultural Heritage Board and local Native American organizations, including other designated representatives and affected property owners.

Implementation Measures

- Continue to conduct archaeological field surveys as deemed to be necessary, while utilizing comprehensive resource management procedures to test, salvage, stabilize and store locally excavated artifacts.
- Support the efforts of local citizens, appointed committees or other designated public agencies and private institutions that are working to conserve archaeological and historic resources. Full public discussion is encouraged prior to any action being taken.

Background Research

SCCIC Records Search

On March 24, 2022, staff at the SCCIC provided the results of a CHRIS records search for the project site and a 0.5-mile radius. Due to COVID-19, the SCCIC notified researchers that they were only able to provide data for Ventura County that has already been digitized. As such, not all available data known to CHRIS may be provided in the records search. The CHRIS records search results provided by the SCCIC included their digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources, Department of Parks and Recreation site records, technical reports, archival resources, and ethnographic references. Additional consulted sources included historical maps of the project site, the National Register of Historic Places, the California Register of Historical Resources (CRHR), the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. The SCCIC records were reviewed to determine whether the implementation of the project would have the potential to impact known cultural resources. The confidential records search results are also provided in Confidential Attachment A.

Previously Conducted Cultural Resource Studies

Results of the cultural resources records search indicate that 19 previous cultural resource studies have been conducted within 0.5-mile of the proposed project site between 1975 and 2006. Of these studies, five (5) overlap the proposed project site; VN-84, -101, –1527, -1573, and -1593. Table 1 lists all 19 previous cultural resources studies, followed by a brief summary of the available reports for sites overlapping the proposed project site.

Table 1. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
00033	Maxwell, Thomas J.	1975	Environmental Impact Report Sch. No. 75051421 Unit "y" Sewer Replacement I.D. No. 76-1258, F.Y. 1975-76	No
00059	Rosen, Martin D.	1977	Evaluation of the Archaeological Resources and Potential Impact of Proposed Development of 632 Acres in Thousand Oaks, California	No
00084	Clewlow, William C. Jr.	1977	An Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California	**Yes**
00101	Rosen, Martin D.	1976	Conejo Canyons Study	**Yes**
00103	Clewlow, William C. Jr.	1978	Preliminary Archaeological Investigations on MGM Ranch: 4-VEN-170, 4-VEN-171, 4-VEN-272, 4-VEN-437, 4-VEN-449	No
00231	Lopez, Robert	1980	A Re-evaluation of the Archaeological Resources Contained Within and Directly or Indirectly Impacted by the 633 Acres Proposed for Tract 3465 Thousand Oaks, Ventura County, California	No
00403	Dillon, Brian D.	1977	CA-VEN-171: Boundary Test Report	No
00914	Whitley, David S.	1985	Archaeological Survey of Portions of the Northrop Corporation Property, Newbury Park, Ventura County, California	No
01087	Clewlow, William C. Jr.	1991	Letter Report on Preliminary Archaeological Mitigative Procedures at Site CA-VEN-170	No
01088	Clewlow, Theresa A. and C.W. Clewlow	1991	Archaeological Investigations at CA-VEN-445 City of Thousand Oaks, California	No
01130	Drover, Christopher E.	1988	Environmental Impact Evaluation: An Archaeological Assessment of Vesting Tentative Tract Map 4366--Rancho Conejo City of Thousand Oaks, California	No
01419	Maxwell, Thomas J.	1976	Unit "Y" Sewer Replacement Sch. No. 75051421 City of Thousand Oaks	No
01527	Allen, Patricia A.	1978	An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc.	**Yes**
01573	Maki, Mary K.	1997	Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California	**Yes**
01593	Bonner, Wayne	1997	Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca.	**Yes**

Table 1. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
01864	Maki, Mary K.	2000	Cultural Resource Monitoring Results for the Dewatering and Generator Building at the Hill Canyon Wastewater Treatment Plant	No
01866	Romani, John F.	2000	Results of Archaeological Phase II/phase III Excavations Damage Assessment and Repatriation of Disinterred Native American Remains in Accordance With the Requirements of NAGPRA at CA-VEN-1602 Hill Canyon Wastewater Treatment Plant	No
02505	Maki, Mary K.	2006	Phase 1 Cultural Resources Investigation of Approximately 0.8 Ac for the Mesa Feeder Crossing Relocation Project Arroyo Conejo, Thousand Oaks, Ventura Co.	No
02637	Whitley, David S.	2002	Extended Phase I Archaeological Survey for the Hill Canyon Wetlands Mitigation Study Area, Thousand Oaks, Ventura County, California	No

Report No. VN-84. *Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California* (Clewlow 1977), documents the results of an archaeological survey and impact assessment consisting of archival record search, literature review and pedestrian survey. The area of study overlaps the southwest area of the current proposed project site, as well as the southernmost extent of the larger, primary section. The report relocated and re-evaluated five previously recorded sites and identified 21 new archaeological sites. None of the sites overlap the current proposed project site. A variety of mitigations measures were recommended, including testing, capping and the creation of open space to preserve the cultural resources noted. It was further recommended that a General Research Design be created for the area, to carry out any mitigation efforts within the framework of a comprehensive research design.

Report No. VN-101. *Conejo Canyons Study* (Martin 1976), documents the results of a study to address existing environmental resources of the Conejo Canyons and to suggest planning policy, criteria and standards for the future use of and conservation of those resources. The area of study overlaps all areas of the current proposed project site. The goal of the survey was to record existing resources; the archaeology analysis component included archival research and recounting of known resources. The records search indicated there were 26-32 known sites recorded, of which 21 were either disturbed or destroyed. The large number of known sites led the study to indicate the area has a high degree of archaeological sensitivity.

Report No. VN-1527. *An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc.* (Allen 1978), documents the results of a historic study of M.G.M. Ranch property as part of a greater study for a planned development. The area of study overlaps the southwest area of the current proposed project site, as well as the southernmost extent of the larger, primary section. The primary focus of the report, formally recorded by Patricia Allen, is the historic record of the M.G.M. property as documented through grants and purchases. Included in the appendix are records of three archaeological resource surveys, although the reports are not attached. The reports indicated that there were 24 known archaeological sites within the boundaries of the Specific Plan and made mitigation recommendations including avoidance, excavation, and cultural monitoring.

Report No. VN-1573. *Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California* (Maki 1997), documents the results of a Phase I cultural resources investigation in the Arroyo Conejo and selected tributary canyons, consisting of archival record research, literature review, consultation with local Native Americans and pedestrian survey. The area of study overlaps the southwestern area of the current proposed project site. The study referenced multiple archaeological sites located on the bluffs and hills above the Arroyo Conejo, but none within the project's Phase I construction zone. Mitigation recommendations included archaeological monitoring and a temporary work halt order should archaeological resources or human remains be unearthed.

Report No. VN-1593. *Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca* (Bonner 1997), documents the results of a Phase I cultural resources assessment of the Acacia Hill Canyon Regional Recreational Facility, consisting of archival records research, literature review, and pedestrian survey of the subject property. The area of study overlaps the southwest area of current proposed project site and is adjacent to the larger, primary section. Mitigation recommendations included archaeological monitoring during any construction activity, including vegetation clearance near known prehistoric sites. The author further recommended subsurface testing should any buried midden component be encountered.

Previously Recorded Cultural Resources

The SCCIC records indicate that 8 cultural resources have been previously recorded within 0.5-mile of the project site, none of which overlap or are adjacent to the project site; however, at least one of the prehistoric archaeological sites is located within 50 meters (165 feet) of the project site. Of these resources, seven are prehistoric-era archaeological sites and one is a historic-era archaeological site. Table 2 summarizes all previously recorded cultural resources identified within the search area.

Table 2. Previously Recorded Cultural Resources within 0.5-Mile Radius of the Proposed Project Site

SCCIC ID	Trinomial	Description	Recording Events	NRHP Status	Located within Project Site (Y/N)
P-56-000170	CA-VEN-000170	Prehistoric Site: Lithic scatter	1967 (King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-000171	CA-VEN-000171	Prehistoric Site: Lithic scatter; groundstone	1967 (C. King); 1981 (Brian D. Dillon); 1989 (Richard Angula and Kenneth Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-000172	CA-VEN-000172	Prehistoric Site: Lithic scatter	1967 (C. King); 1989 (Richard Angula and Kenneth Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-000173	CA-VEN-000173	Prehistoric Site: Lithic scatter; groundstone	1967 (King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-000445	CA-VEN-000445	Prehistoric Site: Lithic scatter	1977 (Whitley, Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO

Table 2. Previously Recorded Cultural Resources within 0.5-Mile Radius of the Proposed Project Site

SCCIC ID	Trinomial	Description	Recording Events	NRHP Status	Located within Project Site (Y/N)
P-56-000446	CA-VEN-000446	Prehistoric Site: Small lithic scatter	1977 (Whitley and Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-001602	-	Prehistoric Site: Marine shell scatter, fire affected rock and projectile point	2000 (M. Maki)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO
P-56-100078	-	Historic Site: Steel plate storage tank	1997 (W. Bonner); 2001 (D. Whitley)	7R: Identified in Reconnaissance Level Survey: Not evaluated	NO

Review of Historical Topographic Maps and Aerial Photographs

Dudek consulted historical topographic maps and aerial photographs through the Nationwide Environmental Title Research, LLC (NETR) and UCSB to better understand any natural or human-made changes to the proposed Project site and surrounding properties over time.

Historical Topographic Maps

The first USGS topographic map showing the Project site dates to 1900 and shows the proposed Project site as undeveloped. There is an unimproved road trending northwest to southeast, along the Arroyo Conejo but it is west of the proposed Project site, running mostly east of and parallel to the drainage. There are two drainages visible on the 1900 map, the Arroyo Conejo flowing north and the North fork of the Arroyo Conejo, which is flowing northwest and converges with the main creek to the west of the proposed Project site. The earliest topographic map seems to show the North fork flowing closer to the south side of the valley, closer to the southwest area of the proposed Project site.

There are no significant changes to the topographic maps until 1943, when the unimproved road is no longer shown near the southwest area of the proposed Project site. The remainder of the area remains undeveloped and unchanged. There are no significant changes until the 1950 topographic map, which more accurately maps the elevations and Arroyo Conejo and North Fork drainages. Although there is once more an unimproved road, it is far west of the proposed Project site. The following topographic maps alternate between the earlier versions of previous maps, until 1967, the first time the Hill Canyon Water Treatment Plant is depicted. A light duty road follows the south side of the valley floor and crosses the southwest area of the proposed Project site. There are no changes to the larger, main area of the proposed Project site.

The 1975 and 1979 topographic maps do not show the water treatment plant, only some elevations lines and the Arroyo Conejo and North Fork Arroyo Conejo drainages. The 2012 topographic map once again depicts the water treatment plant, but no longer indicates the series of roads across the valley. The 2015 and 2018 topographic

maps depict the plant, but do not indicate the existing roads. The hillsides above the valley, the main area of the proposed Project site, remains undeveloped.

Historical Aerial Photographs

A review of historical aerial photographs was conducted as part of the archival research effort from the following years: 1945, 1953, 1959, 1965, 1970, 1978, 1980, 1985, 1989, 2002, 2005, 2009, 2016, and 2018 (NETR 2022, UCSB 2022). Historic aerials were used to obtain approximate dates of construction and dates of alterations for buildings and structures within the Built Environment Study Area. These construction dates and changes to the subject property, as well as the surrounding area, are noted below in Table 4. Circa dates for construction of buildings and structures were chosen by selecting the median year between two aerials photographs dates, whenever aerial photographs were used to estimate the construction (NETR 2022; UCSB 2022).

Table 3. Aerial Photographs

Year	Description
1945	The Subject area was an undeveloped, crescent-shaped valley located in the Simi Hills. The valley floor is being used for agricultural and is recently plowed or disked. The southwest area of the proposed Project site is near the Arroyo Conejo, a north flowing drainage which meanders to the south and west of the proposed Project site. The hillside slopes are undeveloped.
1959	The valley floor appears to be an open field with several unimproved dirt roads around the edges of the valley. One of the roads cuts through the southwest area of the proposed Project site.
1961	In 1961, Hill Canyon Treatment Plant appears under construction. Clearly visible are the original Administration Building; Map ID No. 4: Digester No. 2; Map ID No. 6: Primary Clarifiers No. 1 and No. 4.; and Map ID No. 8: the Cart Garage and Shop Building.
1965	By 1965, here has been mass grading for further construction of the water treatment plant. Construction of the complex appeared complete, and additional buildings were visible including Map ID No. 6: Primary Clarifiers 1, 2, and 4; and Map ID No. 9: Aeration System No. 1. Map ID No. 4: Digestor No. 2 is located directly west side of the North Fork of Arroyo Conejo while the other original components are clustered west of the river. Two large evaporation ponds were also visible directly south of Map ID No. 9: Aeration System No. 1.
1967	Between 1965 and 1967 aerial photographs, Map ID No. 6: Primary Clarifier No. 2 appears to have been constructed, north of Primary Clarifier No. 4
1970	There is evidence of dozer cuts along the edge of the hillside within the larger, main area of the proposed Project site. There is a road that follows along the south edge of the valley and cuts through the southwest area of the proposed Project site.
1977	By 1977, buildings constructed on the campus included Map ID No. 4: Digestor No. 1, Map ID No. 5: North Headworks, Map ID No. 6: Primary Clarifier 3, Map ID No. 9: Aeration Station 2, Map ID No. 12: Secondary Clarifier No. 1, Map ID No. 16: Chlorine Contact Channel, and Map ID No. 26: the Michael Lambert Drying Beds. Three non-extant ancillary buildings are also present on the property in 1977 aerial. There are drying beds near the southwest area, and a road still cuts along the south edge of the valley and through that part of the proposed Project site.
1978	No changes to the subject property or the surrounding area were noted.
1980	Map ID No. 8: Cart Garage and Shop Building receives and addition; Map ID No. 21: Tertiary Filters and Filter Expansions, Map ID No. 22: Chemical Building, Map ID No. 23: Maintenance Building No. 1, Map ID No. 30: Wastewater Reclamation System (c. 1979), were in place by 1980. The hillsides appears unchanged, but the curve of the Project area along the toe of the slope, along the west side, may have been impacted in the grading for the new structures.
1985	No changes to the subject property or the surrounding area were noted.

Table 3. Aerial Photographs

Year	Description
1989	Map ID No. 2: Thickening Building, Map ID No. 19: South Headworks, Map ID No. 12: Secondary Clarifiers No. 1, Map ID No. 17: Filter Backwash Pump Station were in place by 1989.
1994	Map ID No. 29: Mixed Liquor Channel were in place by 1994.
2002	Map ID No. 1: Operations Building, Map ID No. 4: Digestor No. 3, Map ID No. 12: Secondary Clarifiers No. 3, Map ID No. 20: Filter Influent Pump Station No. 2 Map ID No. 24: Maintenance Building No. 2, and Map ID No. 27: Dewatering/Generator Building were in place by 2002.
2005	Map ID No. 7: Maintenance Storage Building, Map ID No. 10: Blower Building No. 1, Map ID No. 11: Primary Effluent Splitter Box, Map ID No. 13: Vehicle Fueling Station, Map ID No. 15: Blower Building No. 2, Map ID No. 14: Wastewater Pump Station, Map ID No. 18: Bio-Reactor Basin No. 3, 4, 5, and 6, Map ID No. 29: Dewatering/Generator Building, and Map ID No. 14: Wastewater Pump, and Map ID No. 28: Sodium Bisuphite Storage Building Station were in place by 2005.
2009	Map ID No. 14: Wastewater Pump Station was expanded by 2009. Map ID No. 3: Biogas Tanks and Map ID No. 20: Filter Influent Pump Station No. 1
2016	No changes to the subject property or the surrounding area were noted.
2018	No changes to the subject property or the surrounding area were noted.

Native American Coordination

NAHC Sacred Lands File Search

A search of the NAHC SLF was conducted on December 8, 2022, to determine the presence of any reported Native American cultural resources within the Project site as listed in the NAHC-maintained SLF (see Confidential Attachment C). The NAHC SLF records search result was negative. Sacred Land Files maintained by the NAHC represent a curation of "ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California" (NAHC 2021) provided by tribal entities and Native American representatives. For various reasons, tribal entities and Native American representatives do no not always report sacred lands or tribal cultural resources to the NAHC; as such, the NAHC's SLF is not necessarily a comprehensive list of known tribal cultural resources and searches of the SLF must be considered in concert with other research and not used as a sole source of information regarding the presence of tribal cultural resources. Additionally, results of the SLF provided relate to the general regional area within and surrounding the Project site and do not necessarily equate to the existence of resources within the specific area occupied by the Project site.

Assembly Bill 52

The Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to tribal cultural resources as part of the CEQA process, and that the lead agency provide tribes who have requested notification with early notice of the proposed Project and, if requested, consultation to inform the CEQA process with respect to tribal cultural resources. As of the time the City decided to undertake the project, no California Native American tribes had requested notification for projects within the City's jurisdiction. As such, no notification letters pursuant to AB 52 were sent and no tribal cultural resources were identified as a result of the AB 52 tribal outreach/consultation process.

Field Survey

Methods

The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 5 meters apart (approximately 15 feet), where feasible. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, groundstone tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent burrows, cut banks, trails and drainages were also visually inspected for exposed subsurface materials. No artifacts were collected during the survey.

All fieldwork was documented using field notes and an Apple Generation 7 iPad (iPad) equipped with ESRI Collector and Avenza PDF Maps software with close-scale georeferenced field maps of the proposed Project site, and aerial photographs. Location-specific photographs were taken using the iPad's 12-mega-pixel resolution camera. Cultural resources identified during this inventory within the proposed Project site were to be recorded on DPR forms, using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995). All field notes, photographs, and records related to the current study are on file with the City. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

Results

An intensive-level archaeological pedestrian survey of the .5-acre proposed Project site was completed on March 21, 2022. Careful attention was given to barren ground including at the base of trees and bushes, within paths/trails and any subsurface soils exposed by burrowing animals. Ground surface visibility within the proposed Project site was variable and as such, in areas of dense ground coverage, surface scrapes were occasionally implemented, when necessary, to enhance detection of archaeological materials that may have been obscured on the surface. Survey results for the Project site are detailed below.

The proposed Project site is currently partially developed and in use as a water treatment plant. The majority of the proposed Project area is undeveloped open space that borders the existing treatment plant. Two separate areas were surveyed on March 21, 2022. The small area near Edison Gate was surveyed first. The exposed ground area provided good to excellent visibility, but only comprised 10 percent of the whole area; the remaining (90 percent) was paved, providing none to poor ground surface visibility. No cultural material was observed. The other survey area included two expanded locations, as well as linear sections connecting the two. Portions of the survey area were behind a chain-link fence, so both sides of the fence were surveyed where possible.

The open space area was covered in oak and chapparal, as well as poison oak and non-native grasses. The edges of the proposed Project site included slopes greater than 30 degrees, where survey was not possible; all other areas were surveyed, including two drainages and a knoll above the southern drainage. More than 98 percent of the proposed Project site is within the open space, 2 percent is north and west of the chain-link fence and has retaining walls and paved sections. Ground surface visibility within the proposed Project site ranged from fair to good, depending on density of ground cover. Basalt bedrock outcrops and weathering volcanic rocks are abundant throughout the proposed Project site. No cultural material was observed.

Soils observed consist of brown to dark, gray-brown sandy loams, with abundant angular rock and gravels. These soils appear consistent with the USDA's description of Hambright very rocky loam, 15 percent slopes.

Conclusions

A CHRIS records search of the project site and a 0.5-mile radius was conducted the results of which revealed that that nineteen previous cultural resource studies have been conducted within 0.5 mile of the proposed Project site between 1975 and 2006; of these studies, five addressed approximately 30 percent of the proposed Project site and included a pedestrian survey. As a result of the previous studies, eight cultural resources, including seven prehistoric archaeological resources and one historic archaeological resource, have been previously recorded within 0.5 mile of the proposed Project site. Although none of these resources are located within or adjacent to the project site, at least one of the prehistoric archaeological sites is located within 50 meters (165 feet) of the project site. Additionally, the project site was constructed in 1961 prior to the enactment of cultural resource laws requiring the assessment of impacts to cultural resources; as a result, no pedestrian survey allowing for observation of native soils prior to development of the plant was conducted and the presence of cultural deposits prior to development is unknown. Furthermore, no tribal cultural resources were identified as a result of the NAHC SLF records search and as of the time the City decided to undertake the proposed Project, no California Native American tribes had requested notification for projects within the City's jurisdiction and no tribal cultural resources were identified as a result of the AB 52 tribal outreach/consultation process.

The areas proposed for ground disturbing improvements were surveyed for archaeological resources as well as evidence for the potential presence of archaeological resources. The results of the pedestrian survey, conducted under less than reliable conditions (due to lack of access and existing pavement obscuring soils), were negative. Current Project design indicates that ground disturbance activity will be limited to specific improvement areas and is estimated to extend no deeper than 5 five below current grade.

Given the presence of known archaeological sites within close proximity of the project site, the obscured nature of surface soils within the proposed improvement areas preventing the observation of native soils, and that portions of the proposed improvement areas area located within previously undisturbed soils, the potential to encounter unknown intact subsurface archaeological deposits and/or features is moderate during ground disturbing activities within native soil. Additionally, this determination is consistent with previously conducted cultural assessments of the project property and surrounding area. In the event that unanticipated archaeological resources are encountered during Project implementation, impacts to these resources would be potentially significant. As such, the management recommendations outlined in the following section are provided to ensure that impacts to unknown archaeological resources and human remains encountered inadvertently during proposed Project implementation would be treated properly resulting in a less than significant impact.

Management Recommendations

The following measures have been developed to ensure that any inadvertent discovery of archaeological resources will be treated appropriately and in accordance with CEQA regulations: preconstruction training, retention of an on-call qualified archaeologist, meeting Secretary of Interior professional standards, to manage monitoring and supplemental survey activities, address inadvertent discoveries, and inadvertent discovery clause implemented and included on all construction plans.

Cultural Resource Monitoring and Inadvertent Discovery Plan. The City shall retain a Principal Investigator/Archaeologist to assess information available (final grading and construction plans, geotechnical testing results, as-built plans, etc.) and determine the depth at which native soils exist and would be impacted by Project implementation. The depth of native soils shall be included in the Plan so as to guide when monitoring is required. Impacts to cultural resources shall be minimized through implementation of pre- and post- construction tasks. Tasks pertaining to cultural resources include the development of a cultural resource monitoring and inadvertent discovery plan (Plan). The purpose of the Plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing activities and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the project. This Plan should define the process to be followed for the identification and management of cultural resources in the project area during construction. Existence of and importance of adherence to this Plan shall be stated on all Project site plans intended for use by those conducting the ground disturbing activities. The Plan will also include the conditions under which monitoring is required pursuant to MM-CUL-3 and the manner of facilitation.

Worker Environmental Awareness Program Training. Prior to commencement of construction activities for all phases of project implementation, the City shall retain a Principal Investigator/Archaeologist to prepare a Worker Environmental Awareness Program (WEAP). The WEAP shall be submitted to the City for review and approval. All construction personnel and monitors who are not trained archaeologists shall be briefed regarding inadvertent discoveries prior to the start of construction activities. A basic presentation and handout or pamphlet shall be prepared in order to ensure proper identification and treatment of inadvertent discoveries. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials and tribal cultural resources that may be identified during construction of the project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker shall also learn the proper procedures to follow in the event that cultural resources, tribal cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor, and archaeologist retained for the project. This requirement shall be noted on all construction plans to ensure implementation.

Archaeological Monitoring. An archaeological technician/monitor overseen by a Principal Investigator/Archaeologist shall observe ground disturbing activities during initial excavation in native soils. Initial excavation is defined as initial construction-related earth moving of sediments from their place of deposition. As it pertains to archaeological monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by project-related construction. A Principal Investigator/Archaeologist shall oversee and establish monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits or material. The archaeological monitor shall be responsible for maintaining daily monitoring logs. This requirement shall be noted on all construction plans to ensure implementation.

Upon completion of all ground disturbing activities, an archaeological monitoring report shall be prepared within 60 days following completion of ground disturbance and submitted to the City for review. This report shall document compliance with approved mitigation, all conducted monitoring efforts, and include an appendix with daily monitoring logs. The final report shall be submitted to the City and the applicable CHRIS information center.

Inadvertent Discovery Clause. In the event that potential prehistoric or historic-era archaeological resources and/or tribal cultural resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring not less than 50 feet of the find shall immediately stop and the Principal

Investigator/Archaeologist must be notified immediately to assess of the discovery and determine whether additional study is warranted. Depending upon the nature of the discovery, the Principal Investigator/Archaeologist may simply record the find and allow work to continue. If the discovery proves potentially significant under CEQA, additional work such as subsurface testing may be warranted. If the discovery is determined significant under CEQA and avoidance is not feasible, data recovery will be required.

In the event that human remains are inadvertently encountered during construction activities, the remains and associated resources shall be treated in accordance with state and local regulations that provide requirements with regard to the accidental discovery of human remains, including California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and CEQA Guidelines Section 15064.5(e). In accordance with these regulations, if human remains are found, the County Coroner must be immediately notified of the discovery. No further excavation or disturbance of the project site or any nearby (no less than 100 feet) area reasonably suspected to overlie adjacent remains can occur until the County Coroner has determined if the remains are potentially human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she is required to immediately notify the Native American Heritage Commission (NAHC). The NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant must then complete their inspection and determine, in consultation with the property owner, the treatment and disposition of the human remains.

Should you have any questions relating to this report and its findings, please do not hesitate to Heather McDaniel McDevitt at hmcdevitt@dudek.com.

Sincerely,



Heather McDaniel McDevitt, MA, RPA
Principal Investigator/Archaeologist

Att: *Attachment A: Figure*
Attachment B. (Confidential) SCCIC Records Search Results
Attachment *C. NAHC SLF Search Results*

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Attachment A

Figure



SOURCE: Source

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project

Attachment B

Confidential SCCIC Records Search Results

Attachment C

NAHC SLF Search Results

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December 20, 2022

Brenda Lee Rogers
Dudek

Via Email to: brogers@dudek.com

Re: 12767 HCTP Stormwater Diversion Project, Ventura County

Dear Ms. Rogers:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Appendix C2

Built Environment Inventory and Evaluation Report

DRAFT

Built Environment Inventory and Evaluation Report

Hill Canyon Treatment Plant Stormwater Diversion Project

MAY 2022

Prepared for:

CITY OF THOUSAND OAKS
2100 Thousand Oaks Boulevard
Thousand Oaks, California 91362
Contact: Nader Heydari

Prepared by:

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38 N. Marengo Avenue
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Printed on 30% post-consumer recycled material.

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACHP	Advisory Council for Historic Preservation
APN	Assessor's Parcel Number
c.	circa
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CRHR	California Register of Historical Resources
MGD	Million Gallons per Day
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
SCCIC	South Central Coastal Information Center

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Executive Summary

Dudek was retained by City of Thousand Oaks to conduct a built environment inventory and evaluation study and report for the proposed Hill Canyon Treatment Plant Stormwater Diversion Project (Project). The Project, as proposed, will modify the existing storm drain and construct new storm drain pipes, create a new debris basin, and build a new channel to connect the debris basin and the storm drain pipes.

The City of Thousand Oaks is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). The proposed Project will take place on the Hill Canyon Treatment Plant property, originally developed in 1961. Several buildings and structures at the Hill Canyon Treatment Plant property are over 45 years old and therefore the property as a whole was evaluated for historical significance, by Secretary of Interior-qualified architectural historians, in order to determine if there would be an impact to historic resources under CEQA.

Efforts to identify historical resources within and adjacent to the Project site included the following components: (1) a California Historical Resources Information System records search covering the Project and a 1-mile radius around its boundary; (2) study area delineation; (3) an intensive-level survey of the study area for built environment resources; (4) archival and building development research; and (5) the evaluation of properties for the National Register of Historic Places (NRHP),California Register of Historical Resources (CRHR), and City of Thousand Oaks Landmark and Pint of Historical Interest eligibility criteria and integrity requirements.

Because the Hill Canyon Treatment Plant was originally developed in 1961 and is a historic-age property, it was evaluated in accordance with the CEQA. This report concludes that the Hill Canyon Treatment Plant does not appear eligible under any NRHP, CRHR, or local City of Thousand Oaks designation criteria. Therefore, the Hill Canyon Treatment Plant is not considered a historical resource for the purposes of CEQA.

This report concludes that the Project, finding under CEQA regarding built environment historical resources is no impact. The Project finding under CEQA is **No Impact to Historic Resources**. No further work is required for historic built environment properties to move forward with the Project.

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1 Introduction

This chapter provides an overview of the proposed Hill Canyon Treatment Plant Stormwater Diversion Project (Project), qualifications of Dudek staff that prepared this report, regulatory setting, and a description of the Built Environment Study Area.

1.1 Project Location and Setting

The Project site (Assessor's Parcel Numbers [APNs] 552-0-130-015, 520-0-300-115, and 667-0-120-170) is located at Hill Canyon Treatment Plant (Figure 1, Project Location). The address for the Treatment Plant is 9600 Santa Rosa Road, and it is located in a remote, natural canyon area, at the confluence of north and south Arroyo Conejo Creek and within the western limits of the City of Thousand Oaks in Ventura County, California. This site is located outside of the urban areas of Thousand Oaks or suburban/agricultural communities along Santa Rosa Road. The general setting of the Hill Canyon Treatment Plant is in the north fork of the Arroyo Conejo Canyon, surrounded on all sides by steep, chaparral and grass covered hills, which are part of the Conejo Canyons Open Space park, the Wildwood Regional Park, and Santa Rosa Valley Park public parks. Arroyo Conejo North Fork, a creek, runs through the middle of the treatment plant and runs first north, then turns west, then north again, winding through the canyon.

1.2 Project Description

The Hill Canyon Treatment Plant, which is owned and operated by the City, provides wastewater treatment for the City of Thousand Oaks. The Treatment Plant is a 14 million gallon per day capacity wastewater treatment plant and currently treats an average of 8 million gallons of wastewater per day generated from its domestic, commercial, and industrial customers.

The Treatment Plant is located at the confluence of two watersheds and experiences flooding after large storm events that exceed the capacity of some drainage facilities for conveying off-site flows. These high runoff events are followed by a subsequent cleanup and debris removal associated with run-on flows from the tributary canyons that overflow into the Treatment Plant. Under existing conditions, flows are intercepted by a concrete swale that sits behind an existing concrete masonry unit wall, directing flows to drain inlets that connect to an existing 30-inch storm drain system. Recently, the City disconnected the 30-inch storm drain from out letting off site and added a sump pump system to divert flows to an on-site basin; however, this interim solution will not be able to accommodate the 10-year storm event. The maximum capacity of the existing 30-inch storm drain is 50 cubic feet per second. The 10-year combined peak flowrate of the two watersheds is 105 cubic feet per second (cfs). The City determined that it was not feasible to increase the size of the 30-inch storm drain due to space constraints within the Treatment Plant and therefore the proposed design flow is limited to the capacity of the existing 30-inch storm drain and another design solution to intercept, capture and contain stormwater flows is necessary. Implementation of the Project would include reestablishing the existing 30-inch storm drain's connection to the original off-site outlet, new pipes to contain on-site flows within the site and a debris basin to contain flooding and the accompanying debris experienced after storm events associated with flows from the tributary canyons that overflow onto the Project site.

As such, this Project proposes to modify the existing storm drain and construct new storm drain pipes, create a new debris basin, and build a new channel to connect the debris basin and the storm drain pipes. Construction of the Project, including demolition and new construction, is anticipated to occur over approximately 6 months. During and upon completion of construction, the Project would continue providing wastewater treatment services for the City. Details about each construction activity are included below.

1.3 Project Team

The Dudek Project team responsible for this report include Dudek Architectural Historian Erin Jones, MA, and Kate G. Kaiser, MSHP. The report was reviewed for quality assurance/quality control by Dudek Senior Architectural Historian Kathryn Haley, MA. All authors and reviewers meet the Secretary of the Interior's Professional Qualification Standards (Title 36 of the Code of Federal Regulations Part 61) for architectural history. Preparer's qualifications are located in Appendix A.

1.4 Regulatory Setting

1.4.1 Federal

The National Register of Historic Places

While there is no federal nexus for this Project, the subject property was evaluated in consideration of NRHP designation criteria. The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

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.

In addition to these basic evaluation criteria, the NRHP outlines further criteria considerations for significance. Moved properties; birthplaces; cemeteries; reconstructed buildings, structures, or objects; commemorative properties; and properties that have achieved significance within the past 50 years are generally not eligible for the NRHP. The criteria considerations are exceptions to these rules, and they allow for the following types of resources to be NRHP eligible (NPS 1995, p. 25):

A a religious property deriving primary significance from architectural or artistic distinction or historical importance;

B a building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;

C a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life;

D a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, from association with historic events;

E a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

F a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

G a property achieving significance within the past 50 years if it is of exceptional importance.

Once the significance of a resource has been determined, the resource then must be assessed for integrity. Integrity is 1) the ability of a property to illustrate history and 2) possession of the physical features necessary to convey the aspect of history with which it is associated (NPS 1995, p. 44). The evaluation of integrity is grounded in an understanding of a property's physical features and how they relate to the property's significance. Historic properties either retain integrity (that is, convey their significance) or they do not. To retain integrity, a property will always possess several, and usually most, of the seven aspects of integrity (NPS 1995, pp. 44–45):

1. Location is the place where the historic property was constructed or the place where the historic event occurred.
2. Design is the combination of elements that create the form, plan, space, structure, and style of a property.
3. Setting is the physical environment of a historic property.
4. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property.
5. Workmanship is the physical evidence of crafts of a particular culture or people during any given period in history or prehistory.
6. Feeling is the property's expression of the aesthetic or historic sense of a particular period.
7. Association is the direct link between an important historic event or person and a historic property.

1.4.2 State

California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural,

engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code Section 5020.1[j]). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code 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 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.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are 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, historical, and tribal cultural resources:

1. California Public Resources Code Section 21083.2(g) defines "unique archaeological resource."
2. California Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of an historical resource.
3. California Public Resources Code Section 21074(a) defines "tribal cultural resources."
4. California Public Resources Code 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.
5. California Public Resources Code 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).

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5[b]). An "historical resource" is any site listed or eligible for listing in the CRHR.

The term "historical resource" also includes any site described in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1[q]).

CEQA also applies to "unique archaeological resources." California Public Resources Code Section 21083.2(g) defines a "unique archaeological resource" as any 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.

All historical resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5[a]). A site or resource that does not meet the definition of "historical resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (California Public Resources Code Section 21083.2[a]; CEQA Guidelines Section 15064.5[c][4]).

Under CEQA a significant cultural impact results from a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5[b][1]; California Public Resources Code Section 5020.1[q]). In turn, the significance of a 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 Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, 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.

1.4.3 Local

The City of Thousand Oaks has local designation criteria for both landmarks and points of historical interest, as outlined below:

Sec. 1-9.203. Definitions.

(a) Landmark. For purposes of this article, "landmark" shall mean any object, building, structure, site, area, place, or natural formation which has historic, architectural, archaeological, cultural or aesthetic significance to the City of Thousand Oaks, and:

(1) Exemplifies or reflects special elements of the City's social, aesthetic, engineering, architectural or natural history;

(2) Is associated with events that have made a significant contribution to the broad patterns of the City's cultural heritage;

(3) Is associated with the lives of persons important to the City;

(4) Has yielded or has the potential to yield information important to the prehistory or history of the City; or,

(5) Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, or possesses high artistic values.

(b) Point of Historic Interest. For purposes of this article, "point of historic interest" shall mean any object, building, structure, site, area, place, or natural formation which has historic, architectural, archaeological, cultural or aesthetic significance to the City of Thousand Oaks that:

(1) No longer exists or was associated with historic events, important persons or embodied a distinctive character or architectural style;

(2) Has been altered to the extent that the integrity of the original workmanship, materials or type has been substantially compromised; or,

(3) Is a site of an historic event which has no distinguishable characteristics other than that an historic event occurred there and the site is not of sufficient historic significance to justify the establishment of a landmark.

(§ 1, Ord. 868-NS, eff. September 18, 1984, as amended by § 1, Ord. 1015-NS, eff. December 6, 1988, Ord. 1276-NS, eff. February 12, 1997, and § 1, Ord. 1420-NS, eff. December 17, 2003)

The City of Thousand Oaks General Plan Conservation Element Update (Chapter Eight, Section M) also outlines city-specific policies and implementation measures and how they pertain to cultural resources (City of Thousand Oaks 2013, p. 47).

M. Cultural Resources Policies

CO-33 All information or maps on file with the City pertaining to the location of previously recorded archaeological sites within the Thousand Oaks Planning Area shall remain confidential unless specifically authorized to be released to the public by local Native American organizations.

CO-34 Management of cultural resources such as archaeological sites, historic structures or places shall emphasize resource protection and preservation.

CO-35 The preferred method for protecting any previously recorded archeological site shall be by deed restriction as permanent "open space", in order to prevent any future development or use that might otherwise adversely impact these resources.

CO-36 Decisions pertaining to the disposition of archaeological, historical and cultural resources shall be made in concert with recognized public agencies, groups or individuals having jurisdiction, expertise or interest in these matters, including but not limited to the State Office of Historic Preservation, Thousand Oaks Cultural Heritage Board and local Native American organizations, including other designated representatives and affected property owners.

Implementation Measures

- Continue to conduct archaeological field surveys as deemed to be necessary, while utilizing comprehensive resource management procedures to test, salvage, stabilize and store locally excavated artifacts.
- Support the efforts of local citizens, appointed committees or other designated public agencies and private institutions that are working to conserve archaeological and historic resources. Full public discussion is encouraged prior to any action being taken.

1.5 Built Environment Study Area

The Built Environment Study Area is shown on Figure 2, which contains Map ID numbers assigned to all buildings and structures at the Hill Canyon Treatment Plant. Delineation of the Built Environment Study Area took into consideration the extent of Project construction and implementation that may lead to impacts to historical resources.

Current professional practice commonly groups activities that could cause a substantial adverse change to historical resources into direct and indirect impact considerations. Direct impact considerations are commonly linked to physical Project construction activities including but not limited to demolition, construction-related ground borne vibration, and property takes. Impact considerations commonly considered indirect are related to potential post-construction effects of a project that is near a historical resource, such as noise, shadow, or visual effects, depending on the circumstances.

As detailed in the Project description, the boundary of the Project site includes the entirety of the 60-acre Hill Canyon Treatment Plant which was initially constructed in 1961 and is located at 9600 Santa Rosa Road (APNs 552-0-130-015, 520-0-300-115, and 667-0-120-170). The proposed Project is limited to the construction of additional storm drain pipes, a debris basin and a channel, located near the confluence of the north and south forks of Arroyo Conejo Creek.

No previously recorded or evaluated built environment properties or previously identified national, state, or local historic districts, were identified within or immediately adjacent to the Project site. In addition, due to the facility's remote location there are no buildings or structures over the age of 45 years located directly adjacent to the Project site. As such, the Built Environment Study Area is limited to the extent of the Project boundary. The Hill Canyon Treatment Plant, a multi-component facility containing buildings and structures over the age of 50, is the only built environment property in the Built Environment Study Area requiring evaluation and consideration under CEQA. Components of

the treatment plant and their corresponding built year are listed below in Table 1 and illustrated in Figure 2. For organizational purposes, buildings and structures are numbered with map identification (Map ID) numbers north to south within the Project site/facility boundary.

Table 1. Property Located in Built Environment Study Area - Hill Canyon Treatment Plant Buildings and Structures

Map ID No	Building/Structure Name (Year Built)
1	Operations Building (c. 1998)
2	Thickening Building (1983)
3	Biogas Tanks (2005)
4	Digester No.1 (1970) Digestor No. 2 (1961) Digestor No. 3 (c. 1998)
5	North Headworks (1961)
6	Primary Clarifier No. 1, and 4 (1961), Primary Clarifier No. 2 (c. 1966), and Primary Clarifier No. 3 (1970)
7	Maintenance Storage Building (2003)
8	Cart Garage and Shop Building (1961)
9	Aeration System No. 1 (1961) Aeration System No. 2 (1970)
10	Blower Building No. 1 (2003)
11	Primary Effluent Splitter Box (2003)
12	Secondary Clarifier No. 1 (1970) Secondary Clarifier No. 2 (1987) Secondary Clarifier No. 3 (c. 1998)
13	Vehicle Fueling Station (2003)
14	Wastewater Pump Station: North building (2003) South structure (c. 2007)
15	Blower Building No. 2 (2003)
16	Chlorine Contact Channel (1970)
17	Filter Backwash Pump Station (1987)
18	Bio-Reactor Basins No. 3, 4, 5, and 6 (2003)
19	South Headworks (1987)
20	Filter Influent Pump Station No. 1 (2005) Filter Influent Pup Station No. 2 (c. 1998)
21	Tertiary Filters and Filter Expansions (c. 1979)
22	Chemical Building (c. 1979)
23	Maintenance Building No. 1 (c. 1979)
24	Maintenance Building No. 2 (c. 1998)
25	Flow Equalization Basin No. 1 and 2 (c. 1998)
26	Michael Lamber Drying Beds (1977)
27	Dewatering/Generator Building (c. 1998)
28	Sodium Bisuphite Storage Structure (2003)

Table 1. Property Located in Built Environment Study Area - Hill Canyon Treatment Plant Buildings and Structures

Map ID No	Building/Structure Name (Year Built)
29	Mixed Liquor Channel (c. 1992)
30	Wastewater Reclamation System (c. 1979)

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2 Methods

This section outlines Dudek's approach to the records search and relevant built environment results, archival and property-specific research, and the field survey summary.

2.1 Records Search Results

On March 24, 2022, staff at the South Central Coast Information Center (SCCIC), located on the campus of California State University, Fullerton, provided the results of a California Historical Records Information System records search for the Project site and a 0.5-mile radius. Due to COVID-19, the SCCIC notified researchers that they are only able to provide data for Ventura County that has already been digitized. As such, not all available data known to California Historical Records Information System may be provided in the records search. The California Historical Records Information System records search results provided by the SCCIC included their digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. The confidential records search results are also provided in the Confidential Appendix B for Dudek's separate archaeological memo.

Previously Recorded Cultural Resources

The SCCIC records indicates that eight cultural resources have been previously recorded within 0.5 miles of the Project site, none of which overlap or are adjacent to the Project site. Seven resources are prehistoric archaeological sites and one is a historic archaeological site. No previously recorded built environment properties were identified in the records search. Table 2, below, summarizes all previously recorded cultural resources, including archaeological resources identified within the search area, preceded by a brief summary of each prehistoric site.

Table 2. Previously Recorded Cultural Resources within a 0.5-Mile Radius of the Project Site

SCCIC ID	Trinomial	Description	Recording Events	NRHP Status	Proximity to Project Site
P-56-000170	CA-VEN-000170	Prehistoric Site: Lithic scatter	1967 (King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	440 meters, 1444 feet (south)
P-56-000171	CA-VEN-000171	Prehistoric Site: Lithic scatter; ground stone	1967 (C. King); 1981 (Brian D. Dillon); 1989 (Richard Angula and Kenneth Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	544 meters, 1785 feet (south)
P-56-000172	CA-VEN-000172	Prehistoric Site: Lithic scatter	1967 (C. King); 1989 (Richard Angula and Kenneth Becker)	7R: Identified in Reconnaissance Level Survey: Not evaluated	596 meters, 1955 feet (south)
P-56-000173	CA-VEN-000173	Prehistoric Site: Lithic scatter; ground stone	1967 (King)	7R: Identified in Reconnaissance Level Survey: Not evaluated	751 meters, 2464 feet (south)
P-56-000445	CA-VEN-000445	Prehistoric Site: Lithic scatter	1977 (Santa Cruz, Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	415 meters, 1362 feet (southwest)

Table 2. Previously Recorded Cultural Resources within a 0.5-Mile Radius of the Project Site

SCCIC ID	Trinomial	Description	Recording Events	NRHP Status	Proximity to Project Site
P-56-000446	CA-VEN-000446	Prehistoric Site: Small lithic scatter	1977 (Whitley and Ivie)	7R: Identified in Reconnaissance Level Survey: Not evaluated	622 meters, 2041 feet (northwest)
P-56-001602	—	Prehistoric Site: Marine shell scatter, fire affected rock and projectile point	2000 (M. Maki)	7R: Identified in Reconnaissance Level Survey: Not evaluated	26 meters, 85 feet (southwest)
P-56-100078	—	Historic Site: Steel plate storage tank	1997 (W. Bonner); 2001 (D. Whitley)	7R: Identified in Reconnaissance Level Survey: Not evaluated	259 meters, 850 feet (west)

Previously Conducted Cultural Resource Studies

Results of the cultural resources records search indicate that 19 previous cultural resource studies have been conducted within 0.5 miles of the Project site between 1975 and 2006. Of these studies, five overlap the Project site; VN-84, -101, –1527, -1573, and -1593. Table 3, below, details all 19 previous cultural resources studies preceded by a brief summary of the available reports overlapping the Project site.

Report No. VN-84

Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California (Clewlow 1977), documents the results of an archaeological survey and impact assessment consisting of archival record search, literature review and pedestrian survey. The area of study overlaps the southwest area of the Project site, as well as the southernmost extent of the larger, primary section. The report relocated and re-evaluated five previously recorded sites and identified 21 new archaeological sites. None of the sites overlap the Project site. A variety of mitigation measures were recommended, including testing, capping and the creation of open space to preserve the cultural resources noted. It was further recommended that a General Research Design be created for the area, to carry out any mitigation efforts within the framework of a comprehensive research design.

Report No. VN-101

Conejo Canyons Study (Rosen 1976), documents the results of a study to address existing environmental resources of the Conejo Canyons and to suggest planning policy, criteria and standards for the future use of and conservation of those resources. The area of study overlaps all areas of the Project site. The goal of the survey was to record existing resources; the archaeology component was archival research and recounting of known resources. The records search indicated there were 26 to 32 known sites recorded, of which 21 were either disturbed or destroyed. The large number of known sites led the study to indicate the area has a high degree of archaeological sensitivity.

Report No. VN-1527

An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc. (Allen 1978), documents the results of a historic study of M.G.M. Ranch property as part of a greater study for a planned

development. The area of study overlaps the southwest area of the Project site, as well as the southernmost extent of the larger, primary section. The primary focus of the report, formally recorded by Patricia Allen, is the historic record of the M.G.M. property as documented through grants and purchases. Included in the appendix are records of three archaeological resource surveys, although the reports are not attached. The reports indicated that there were 24 known archaeological sites within the boundaries of the Specific Plan and mitigation recommendations about avoidance, excavation, and cultural monitoring were included.

Report No. VN-1573

Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California (Maki 1997), documents the results of a Phase I cultural resources investigation in the Arroyo Conejo and selected tributary canyons, consisting of archival record research, literature review, consultation with local Native Americans and pedestrian survey. The area of study overlaps the southwestern area of the Project site. The study referenced multiple archaeological sites located on the bluffs and hills above the Arroyo Conejo, but none within the Project's Phase I construction zone. Mitigation recommendations included archaeological monitoring and a temporary work halt order should archaeological resources or human remains be unearthed.

Report No. VN-1593

Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca (Bonner 1997), documents the results of a Phase I cultural resources assessment of the Acacia Hill Canyon Regional Recreational Facility, consisting of archival records research, literature review, and pedestrian survey of the subject property. The area of study overlaps the southwest area of Project site and is adjacent to the larger, primary section. Mitigation recommendations included archaeological monitoring during any construction activity, including vegetation clearance near known prehistoric sites. The author further recommended subsurface testing should any buried midden component be encountered.

Table 3. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
00033	Maxwell, Thomas J.	1975	Environmental Impact Report Sch. No. 75051421 Unit "y" Sewer Replacement I.D. No. 76-1258, F.Y. 1975-76	No
00059	Rosen, Martin D.	1977	Evaluation of the Archaeological Resources and Potential Impact of Proposed Development of 632 Acres in Thousand Oaks, California	No
00084	Clewlow, William C. Jr.	1977	An Archaeological Resource Survey and Preliminary Impact Assessment of the MGM Ranch Property Thousand Oaks, California	**Yes**
00101	Rosen, Martin D.	1976	Conejo Canyons Study	**Yes**
00103	Clewlow, William C. Jr.	1978	Preliminary Archaeological Investigations on MGM Ranch: 4-VEN-170, 4-VEN-171, 4-VEN-272, 4-VEN-437, 4-VEN-449	No

Table 3. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
00231	Lopez, Robert	1980	A Re-evaluation of the Archaeological Resources Contained Within and Directly or Indirectly Impacted by the 633 Acres Proposed for Tract 3465 Thousand Oaks, Ventura County, California	No
00403	Dillon, Brian D.	1977	CA-VEN-171: Boundary Test Report	No
00914	Whitley, David S.	1985	Archaeological Survey of Portions of the Northrop Corporation Property, Newbury Park, Ventura County, California	No
01087	Clewlow, William C. Jr.	1991	Letter Report on Preliminary Archaeological Mitigative Procedures at Site CA-VEN-170	No
01088	Clewlow, Theresa A. and C.W. Clewlow	1991	Archaeological Investigations at CA-VEN-445 City of Thousand Oaks, California	No
01130	Drover, Christopher E.	1988	Environmental Impact Evaluation: An Archaeological Assessment of Vesting Tentative Tract Map 4366--Rancho Conejo City of Thousand Oaks, California	No
01419	Maxwell, Thomas J.	1976	Unit "Y" Sewer Replacement Sch. No. 75051421 City of Thousand Oaks	No
01527	Allen, Patricia A.	1978	An Historic Study of the Property Known As the M.G.M Ranch a Planned Community by Shapell Industries Inc.	Yes
01573	Maki, Mary K.	1997	Phase 1 Archaeological Survey and Impact Assessment of Approximately 4 Linear Miles for the Unit W & F Interceptor Replacement Project Arroyo Conejo Thousand Oaks, Ventura County, California	Yes
01593	Bonner, Wayne	1997	Cultural Resources Assessment of the Hill Canyon Regional Recreational Facility, Thousand Oaks, Ca.	Yes
01864	Maki, Mary K.	2000	Cultural Resource Monitoring Results for the Dewatering and Generator Building at the Hill Canyon Wastewater Treatment Plant	No
01866	Romani, John F.	2000	Results of Archaeological Phase II/phase III Excavations Damage Assessment and Repatriation of Disinterred Native American Remains in Accordance With the Requirements of NAGPRA at CA-VEN-1602 Hill Canyon Waste Water Treatment Plant	No
02505	Maki, Mary K.	2006	Phase 1 Cultural Resources Investigation of Approximately 0.8 Ac for the Mesa Feeder Crossing Relocation Project Arroyo Conejo, Thousand Oaks, Ventura Co.	No

Table 3. Previous Technical Studies Within a 0.5-Mile Radius of the Project Site

SCCIC Report No. (VN-)	Authors	Date	Title	Addresses Project Site
02637	Whitley, David S.	2002	Extended Phase I Archaeological Survey for the Hill Canyon Wetlands Mitigation Study Area, Thousand Oaks, Ventura County, California	No

2.2 Building Development and Archival Background Research

In addition to the records search results from SCCIC, repositories, historical records, and related additional reports were accessed. These additional sources are summarized below.

Hill Canyon Treatment Plant Record Drawings

In March 2022, City of Thousand Oaks shared four sets of record drawings with Dudek, detailing plant expansions and renovation projects in 1986, 1987, 2003, and 2005. These plan sets were used as source materials in Section 3, Historical Context, and Section 4, Results of Identification and Evaluation Efforts, of this report.

The following record drawings were shared:

- Hill Canyon Wastewater Treatment Plant Equalization Basin Lining Project (James M. Montgomery Consulting Engineers Inc. 1986)
- Hill Canyon Wastewater Treatment Phase 1B Expansion. (James M. Montgomery Consulting Engineers Inc. 1987)
- Hill Canyon Wastewater Treatment Plant Expansion/Upgrade – Phase II. (CH2M Hill 2003)
- Hill Canyon Wastewater Treatment Plant Expansion and Upgrade – Phase III. (CH2M Hill 2005)

City of Thousand Oaks Public Records Request

On April 11, and again on April 26, 2022, Dudek submitted a public records request for the original 1961 as-built drawings and information related to the establishment and purchase of the Hill Canyon Treatment Plant by City of Thousand Oaks. On May 10, 2022, Dudek received a response from Carolyn Valdez, a Records Management Specialist at the Community Development Department. Ms. Valdez gave Dudek staff a permit report showing all permits and inspections of the Hill Canyon Treatment Plant after it became the property of the City in 1966. Earlier permits were not available and Ms. Valdez recommended reaching out to the County of Ventura Resource Management Agency Building and Safety Department to see if they held the original as-builts and records.

County of Ventura Resource Management Agency Building and Safety Department

At the suggestion of City of Thousand Oaks, on May 10, 2022, Dudek submitted a public records request for the original 1961 as-built drawings of the Hill Canyon Treatment Plant or records related to its initial development and the Conejo Valley Sanitary Company. To date, no response has been received.

Thousand Oaks Library

On March 23, 2022, Dudek visited and reviewed the local history collections at the Thousand Oaks Library, including photographs, newspapers articles, books, journals, and archival collections summaries related to the general history and establishment of Thousand Oaks and the Hill Canyon Treatment Plant. These items were used as source materials in Section 3 and Section 4 of this report.

Historical Newspapers

Dudek accessed historical editions of local newspapers while researching for Section 3 and Section 4 of this report. These local newspapers include *Ventura County Star, Ventura County Star-Free Press, t*he *Bakersfield Californian,* the *Los Angeles Evening Citizen News,* the *Los Angeles Times, Santa Cruz Sentinel,* and *Sacramento Bee.*

Historical Aerial Photographs

A review of historical aerial photographs was conducted as part of the archival research effort from the following years: 1959, 1965, 1970, 1978, 1980, 1985, 1989, 2002, 2005, 2009, 2016, and 2018. Historic aerials were used to obtain approximate dates of construction and dates of alterations for buildings and structures within the Built Environment Study Area. These construction dates and changes to the subject property, as well as the surrounding area, are noted below in Table 4. Circa dates for construction of buildings and structures were chosen by selecting the median year between two aerials photographs dates, whenever aerial photographs were used to estimate the construction (NETR 2022; UCSB 2022).

Table 4. Aerial Photographs

Year	Description
1959	The Subject area was an undeveloped, crescent-shaped valley located in the Simi Hills.
1961	In 1961, Hill Canyon Treatment Plant appears under construction. Clearly visible are the original Administration Building; Map ID No. 4: Digester No. 2; Map ID No. 6: Primary Clarifiers No. 1 and No. 4.; and Map ID No. 8: the Cart Garage and Shop Building.
1965	By 1965, construction of the complex appeared complete, and additional buildings were visible including Map ID No. 6: Primary Clarifiers 1, 2, and 4; and Map ID No. 9: Aeration System No. 1. Map ID No. 4: Digestor No. 2 is located directly west side of the North Fork of Arroyo Conejo while the other original components are clustered west of the river. Two large evaporation ponds were also visible directly south of Map ID No. 9: Aeration System No. 1.
1967	Between 1965 and 1967 aerial photographs, Map ID No. 6: Primary Clarifier No. 2 appears to have been constructed, north of Primary Clarifier No. 4
1970	No changes to the subject property or the surrounding area were noted.
1977	By 1977, buildings constructed on the campus included Map ID No. 4: Digestor No. 1, Map ID No. 5: North Headworks, Map ID No. 6: Primary Clarifier 3, Map ID No. 9: Aeration Station 2, Map ID No. 12: Secondary Clarifier No. 1, Map ID No. 16: Chlorine Contact Channel, and Map ID No. 26: the Michael Lambert Drying Beds. Three non-extant ancillary buildings are also present on the property in 1977 aerial.
1978	No changes to the subject property or the surrounding area were noted.
1980	Map ID No. 8: Cart Garage and Shop Building receives and addition; Map ID No. 21: Tertiary Filters and Filter Expansions, Map ID No. 22: Chemical Building, Map ID No. 23: Maintenance Building No. 1, Map ID No. 30: Wastewater Reclamation System (c. 1979), were in place by 1980.
1985	No changes to the subject property or the surrounding area were noted.

Table 4. Aerial Photographs

Year	Description
1989	Map ID No. 2: Thickening Building, Map ID No. 19: South Headworks, Map ID No. 12: Secondary Clarifiers No. 1, Map ID No. 17: Filter Backwash Pump Station were in place by 1989.
1994	Map ID No. 29: Mixed Liquor Channel were in place by 1994.
2002	Map ID No. 1: Operations Building, Map ID No. 4: Digestor No. 3, Map ID No. 12: Secondary Clarifiers No. 3, Map ID No. 20: Filter Influent Pump Station No. 2 Map ID No. 24: Maintenance Building No. 2, and Map ID No. 27: Dewatering/Generator Building were in place by 2002.
2005	Map ID No. 7: Maintenance Storage Building, Map ID No. 10: Blower Building No. 1, Map ID No. 11: Primary Effluent Splitter Box, Map ID No. 13: Vehicle Fueling Station, Map ID No. 15: Blower Building No. 2, Map ID No. 14: Wastewater Pump Station, Map ID No. 18: Bio-Reactor Basin No. 3, 4, 5, and 6, Map ID No. 29: Dewatering/Generator Building, and Map ID No. 14: Wastewater Pump, and Map ID No. 28: Sodium Bisuphite Storage Building Station were in place by 2005.
2009	Map ID No. 14: Wastewater Pump Station was expanded by 2009. Map ID No. 3: Biogas Tanks and Map ID No. 20: Filter Influent Pump Station No. 1
2016	No changes to the subject property or the surrounding area were noted.
2018	No changes to the subject property or the surrounding area were noted.

Source: NETR 2022; UCSB 2022.

2.3 Built Environment Field Methods

Dudek Architectural Historian Kate Kaiser, MSHP, conducted an intensive level survey of the Hill Canyon Treatment plant on March 23, 2022. The survey entailed walking the entire property and documenting the exterior conditions of all buildings proposed for demolition as part of the Project. Each building was documented with notes and photographs, specifically noting character-defining features, spatial relationships, and observed alterations and examining any historic landscape features on the campus. Dudek documented the fieldwork using field notes, digital photography, close-scale field maps, and aerial photographs. Photographs of the campus were taken with a digital camera. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California, office.

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3 Historical Context

3.1 Early Settlement of Conejo Valley and City of Thousand Oaks

Spanish, Russian, and British frontiersmen had intermittently explored California between 1529 and 1769 but did not travel into the Conejo Valley until the late eighteenth century. In 1782, Spanish missionaries established Mission San Buenaventura, one settlement in a network of Catholic missions, in the Conejo Valley. In 1803, the Spanish Crown bestowed thousands of acres, later to be organized as Rancho El Conejo , to two retired soldiers: Ignacio Rodriguez and José Polanco (Bidwell 1989, p. 13). In 1821, after more than a decade of intermittent rebellion and warfare, Mexico declared independence from Spain and endeavored to occupy the remote Northern Californian territory by expanding the Spanish land grant system (Starr 2007, p. 107). Although Polanco opted to settle El Pueblo de Nuestra Señora la Reina de los Ángeles de Porciúncula (Los Angeles), Rodriguez and his family relocated to Rancho El Conejo and raised cattle. When Rodriguez died in 1839, he bequeathed his land to his heirs. In 1822, José de la Guerra y Noriega, a retired Santa Barbara Presidio Comandante, assumed Polanco's unutilized grant and became the predominant rancher in the region (Bidwell 1989, p. 19). De la Guerra y Noriega expanded his holdings to include more than a half-million acres, reaching from the extant Los Angeles County line to the San Luis Obispo, and including land in Sacramento and Marin counties. In Ventura County, de la Guerra y Noriega's land holdings included Rancho El Conejo, measuring 48,178 acres; Rancho Las Posas, totaling 26,623 acres; Rancho Simi, at 113,009 acres; and Rancho Santa Paula y Saticoy, measuring 17,773 acres. De la Guerra y Noriega never lived on Rancho El Conejo, choosing to live and manage his properties from his home in Santa Barbara. Guerra's ranch operators reared cattle, producing beef jerky, tallow, and hides on Rancho El Conejo (Bidwell 1989, p. 20).

De la Guerra y Noriega maintained Rancho El Conejo and his other properties, developed with small, sparse ranching settlements, through the Mexican-era and, after the Treaty of Guadalupe Hidalgo was signed in 1848, into the American-period. Weeks after the United States acquired California, James W. Marshall discovered gold in Coloma, California, catalyzing an influx of gold seekers to flood the rural counties of California. The American emigration into "unimproved" or agriculturally under-developed rancho lands incited litigation between rancho owners, the United States government, and American squatters. Although the Treaty of Guadalupe Hidalgo secured Mexican landowners their full claims, the property owners were required to provide English-language legal documentation and confirm its authenticity to a United States government interested in opening the land to its non-Mexican citizens. The prohibitive cost of lengthy court battles, language barrier, and statewide droughts in the 1850s and 1860s, forced many rancheros to forfeit sections or the entirety of their landholdings between 1848 and the 1870s (Hoover et al. 2002, p. 301).

As de la Guerra y Noriega scrambled to legitimize his holdings to the United States government and ward off interlopers and squatters his four ranchos were devastated by prolonged periods of drought, broken by intermittent storms and flash floods. In 1872, de la Guerra y Noriega sold Rancho Conejo's 48,178 acres to John Edwards and Howard W. Mills, two Santa Barbara residents. Despite the full sale, Edwards and Mills legally acquired a mere 5,000 acres, with the rest sold to cover Noriega's mounting legal debt or opened to American settlers (Bidwell 1989, p. 20). After litigation was settled and legal titles were formalized, Edwards retained the land where present-day Newbury Park and the northern portion of Thousand Oaks was developed. Mills retained the land where present-day Westlake Village and Hidden Valley are located (Bidwell 1989, p. 23).

When de la Guerra y Noriega was forced to sell Rancho El Conejo in 1873, both John Edwards and H.W. Mills, by this time established entrepreneurs, seized the opportunity to own land in the agriculturally viable Conejo Valley. The Edwards family maintained a primary residence in Santa Barbara but hired an on-site supervisor to manage their ranch and only visited occasionally. Mills constructed his primary residence near where the Westlake Village neighborhood is located today. A third emigrant, Egbert Starr Newbury, a health seeker from Minnesota, purchased 2,259 acres in 1873, near present-day "Old Town" Thousand Oaks. Newbury and his family farmed their land and operated a stagecoach stop before purchasing a second, 3,285-acre parcel in the western end of the valley. Arriving emigrants purchased land surrounding Edwards, Mills, and Newbury's land and developed wheat farms, which covered 15,000 acres of the valley by 1875 (Bidwell 1989, p. 23).

As Euro-Americans settled in Conejo Valley, the region's roadways were improved from wagon roads, frequently washed out by rains, to stagecoach lines to facilitate farmers' voyages to the coastal city markets and for mail services. In 1876, Conejo Valley gained a Post Office, the *Ventura Free Press*, the Grand Union Hotel, churches, a one-room school, and commercial businesses (Bidwell 1989, p. 23-26). Irrigation, however, was still not existent in the valley. Farmers who were experimenting with walnut and apricot cultivation relied on "dry farming," a method dependent on the winter rain cycle to produce their crops (Bidwell 1989, p. 23). Cattle ranching, which had become expensive to maintain after the drought-flood disasters of the 1860s, was replaced with grazing vast flocks of sheep (Bidwell 1989, p. 24). As the nineteenth century drew to a close, the agricultural community continued to grow when the first major regional roads, two-track wagon roads constructed by local farmers, linked the Conejo Valley to the ports at Hueneme and Los Angeles. The roads were funded by community citizens after Ventura County agreed to contribute sixty dollars and reduced travel time to regional ports from a multi-day journey to just over twenty-four hours (Bidwell 1989, p. 31). In 1887, the Ventura County Railroad opened, linking Oxnard to Port Hueneme but because of the distance between the transportation network and Conejo Valley, farmers began to send their produce to Simi Valley where the Southern Pacific's Somis Branch rail station loaded both freight and passengers (Bidwell 1989, p. 31; NETR 2022). At the turn of the twentieth century, many of Conejo Valley's original Euro-American settlers had sold or bequeathed their land to the next generation of landowners. In 1902, Conejo Pass Road was constructed with 3,000 dollars from Ventura County, and the rest was obtained through private fundraising (Bidwell 1989, p. 32).

In 1910, Harold and Doctor Edwin Janss purchased 10,000 acres of prime agricultural land from the heirs of John Edwards and developed a ranch for thoroughbred racehorses (Bidwell 1989, 34-35). The Janss brothers organized the Janss Investment Corporation (Janss Corp.) and entered the greater-Los Angeles area's real estate market. Janss Corp. developed the novel practice of chauffeuring clients to view purchasable lots in the Conejo, San Fernando, and Imperial Valleys, as well as in Delano, Yorba Linda, Boyle Heights, the City of Monterey, and Los Angeles. On their private ranch, the Janss brothers raised cattle and horses while cultivating beans and grains. Today, their homestead is the site of "The Oaks" shopping center in downtown Thousand Oaks (Bidwell 1989, p. 35-36; City of Thousand Oaks 2022). Off of their private homestead, the Janss' development company planned a "total community" and subdivided residential lots. As corporations, small real estate companies, and private speculators invested in local development in the 1920s, a second land rush aided Conejo Valley's continuous growth (City of Thousand Oaks 2022).

In 1922, several real estate companies and private developers purchased large parcels in Conejo Valley, subdivided the land, and sold lots to individual buyers. To name the town, the Conejo Valley School District held a contest and awarded five dollars and a small parcel to 14-year-old Bobby Harrington for the most popular name, "Thousand Oaks." At first, lots sold for 10 dollars and early settlers lived in tents while their homes were constructed. By 1924, Thousand Oaks' main street consisted of a residence that housed the Post Office, a small grocery store, a restaurant, and a small library (Bidwell 1989, p. 37; City of Thousand Oaks 2022). In 1927, Louis Goebel opened the Lion Farm in the planned, idyllic community dotted with chicken ranches, small dairy farms, and apricot orchards. Goebel's lion park, later named "Jungleland,"

attracted throngs of visitors that settled in the town, and contributed to the local economy before returning home, or returned a full Hollywood production. Goebel's Lion Farm produced the MGM lion, and scenes from *Birth of a Nation*, *Tarzan*, and *The Adventures of Robin Hood* were filmed at the farm and in Thousand Oaks (City of Thousand Oaks 2022).

As images of Goebel's property were disseminated nationally via popular films, ranchers, businesspeople, entrepreneurs, and families purchased properties in the picturesque rural community. Prominent businesspeople, including newspaper magnate William Randolph Hearst and founder of the Albertson Company grocery chain B.B. Albertson, purchased thousands of acres in Conejo Valley between the late 1920s and early 1930s. In the 1940s, another wave of Hollywood films drew the nation's attention to the region's natural beauty, towering hills, and large ranching properties. In 1956, the Talley Corporation acquired land from Albertson and established the Rancho El Conejo Industrial Park, the region's first business complex (Bidwell 1989, p. 42). In the latter half of the twentieth century, large technology firms, including Packard-Bell Electronics, Westinghouse Astroelectronics Laboratory, and the Semtech Corporation drew new residents, educational programs and universities, and businesses to the valley. Over time, the Rancho El Conejo Industrial Park expanded as new companies relocated to the fast-growing commercial hub of Conejo Valley Industrial Park and, in the twentieth and twenty-first centuries, has employed thousands of Conejo Valley and Thousand Oaks residents (Bidwell 1989, p. 44).

Janss Corp. drove the early development of Thousand Oaks and Conejo Valley. In 1956, Janss Corp. hired Southern California's largest architecture and building firms including Harlan Lee, William Lyon, and Harris Goldberg, and created a ten-year master development plan for homes, schools, parks, commercial areas, and non-polluting industries in Thousand Oaks. Within five years, the town grew from 1,500 residents to 12,000 residents. Janss Corp., continued to develop neighborhoods surrounding Thousand Oaks through the 1960s, transforming the once-small rural community into a contemporary suburban city (Bidwell 1989, p. 43). By the mid-1960s, the area grew to hold commercial and industrial businesses, lodgings, recreational activities, churches, libraries, and public education facilities (Bidwell 1989, p. 43-45).

Construction and growth continued to be the priority for Thousand Oaks in the mid-1960s as hundreds of houses and residential communities were constructed every month, requiring the support of a wastewater treatment plant. During this period of intensive growth, sanitation and water supply became a driving force in the developing community. In 1963, the Janss Corp.-owned Village Water Company laid a pipeline that pumped 720,000 gallons of water a day from wells on two Camarillo ranches to Thousand Oaks, which had expanded to over 9,100 acres and was populated with nearly 20,000 residents. Pulling from local wells and springs, however, was not enough to offset demand in the rapidly expanding town and Thousand Oaks also joined the Metropolitan Water District (Bidwell 1989, p. 48). In 1964, the City of Thousand Oaks was incorporated through a popular community vote. The first agenda item was to create the City of Thousand Oaks Water Department, which obtains its supply from the State Water Project and imports water from Lake Oroville in Northern California, the Calleguas Municipal Water District, and the Calleguas Lake Bard Water Filtration Facility and Reservoir. Today, The City of Thousand Oaks boasts a population of 127,648, and remains a bedroom community for the greater Los Angeles and Ventura areas. The City retains its balance between local industries and residential expansion, while also maintaining recreational and natural open spaces (Bidwell 1989, p. 43-45; City of Thousand Oaks 2022; WaterZen 2022).

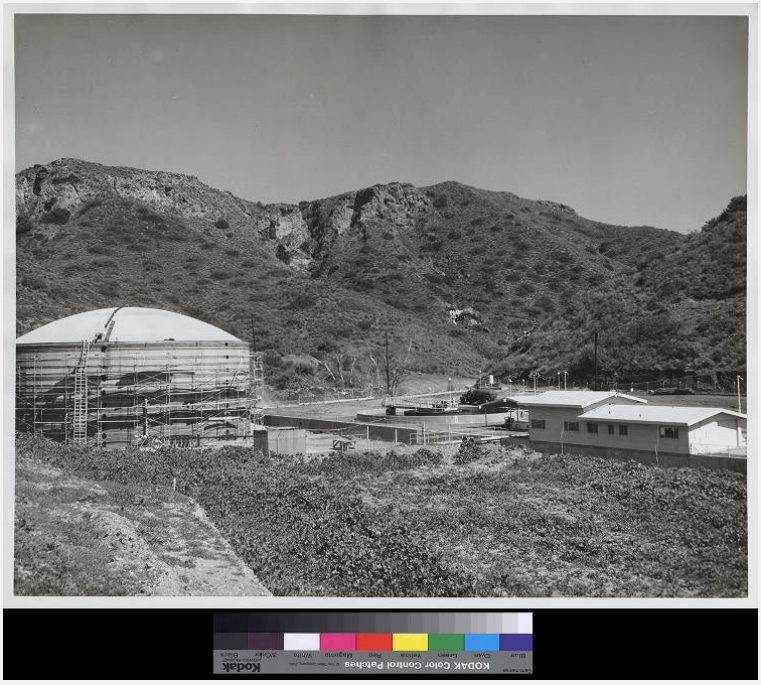
3.2 Subject Property: Hill Canyon Treatment Plant

As the Conejo Valley and Thousand Oaks regions continued to develop in the mid-twentieth century, the need for a centralized wastewater treatment facility was apparent as community growth outpaced the abilities of private septic

tanks, the most common method of waste disposal in the region. As a result, a private company called the Conejo Valley Sanitary Company was formed, and permits were acquired to build a wastewater plant and sewer connections for the communities of Newbury Park and Thousand Oaks. Pomeroy & Associates, a Pasadena engineering firm specializing in wastewater design and studies, was retained to design the plan. Construction of the facility began in December 1959, and utilizes the canyon's natural topography that allows wastewater to be pulled by gravity through two mainlines into the treatment plant, minimizing the electrical and environmental clean-up costs for Thousand Oaks. Janss Corp. and California Lutheran College donated two million dollars to fund the development of the Hill Canyon Treatment Plant (Los Angeles Times 1962, p. 118; Bidwell 1989, p. 49; Ventura County Star 1961, p. 2).

The plant was completed in 1961, and originally included nine buildings and structures: Map ID No. 4: Digestor No. 1, Map ID No. 5: North Headworks, Map ID No. 6: Clarifiers 1, 2, and 4, Map ID No. 8: the Cart Garage and Shop Building, and Map ID No. 9: Aeration Station 1 (Exhibit 1) that are still present at the site. Two large settling ponds and several non-extant buildings were also part of this original phase of construction (Exhibit 2). Initially, the Hill Canyon Treatment Plant was designed to serve up to 90,000 people. After its incorporation in 1964, the City of Thousand Oaks acquired the Hill Canyon Treatment Plant on July 1, 1966, from the Conejo Valley Sanitary Company. Average daily flow design capacity of the plant started around 4 MGD in the late 1960s. The same year, the City hired firm Pomeroy & Associates to add Sludge Dewatering Facilities to the Hill Canyon Plant, just south of the main activity area. This project was completed by 1968. (Bidwell 1989, p. 49; City of Thousand Oaks 1966; City of Thousand Oaks 2022; Gannett-Fleming 2020, p. 1-1; NETR 2022; Pomeroy & Associates 1966, pp.1-7; Ventura County Star 1961, p. 2; UCSB 2022).

Exhibit 1. Hill Canyon Treatment Plant facilities, the digester (left), the activated sludge unit (center), and the office/laboratory (right), under construction c. 1960.



Source: City of Thousand Oaks Library 2022a.

Exhibit 2. 1967 aerial photograph of the Hill Canyon Treatment Plant taken from the MGM Studio property, view facing south.



Source: City of Thousand Oaks Library 2022b.

Since the initial 1960s construction the City completed multiple expansion projects. In 1970, the Phase I Expansion Project for Hill Canyon Treatment plant was approved by the City Council and Mayor. The Phase I construction was developed directly south of the original building complex, included Map ID No. 4: Digester No. 3, Map ID No. 5: North Headworks, Map ID No. 6: Primary Clarifier No. 3, Map ID No. 9: Aeration System No. 2, and Map ID No. 12: Secondary Clarifier No. 1. At the time, domestic, commercial, and industrial customers in the City of Thousand Oaks generated an average of eight million gallons of wastewater per day. The City of Thousand Oaks prepared for continued suburban growth, and approved a treatment plant expansion that accounted for the storage and treatment of fourteen million gallons of wastewater per day (City of Thousand Oaks 1970; Bidwell 1989, p. 47; NETR 2022; UCSB 2022).

In 1977, another expansion project was approved by the City, called Phase 1B. Phase 1B began in 1977 and consisted of multiple projects which extended to 1987. In 1977, the improvements consisted of expanding the property further south and creating two new sludge drying beds (now a solar field), and preparation for Map ID No. 21: Tertiary Filters Building Map ID No. 22: Chemical Building, Map ID No. 23: Maintenance Building No. 1, and Map ID No. 30: the Wastewater Reclamation System (City of Thousand Oaks 1977; James M. Montgomery Consulting Engineers Inc 1977; NETR 2022; UCSB 2022).

The Phase 1B Expansion Project continued into the 1980s. In 1983, Map ID No. 2: Thickening Building, then called a "Sludge/Dewatering Building" was constructed. In 1986 and again in 1987, the plant was expanded again to contain and treat over nine million gallons of sewage and wastewater per day and served 29,000 people. Facilities associated with screening, grit removal, two rounds of removing solid waste, nutrient removal, multimedia filtration, disinfection, and dichlorination were developed. The treated water was discharged into Calleguas Creek, which runs north to south and terminates at the Pacific Ocean at Naval Base Fort Mugu. Solids are buried at the Simi Valley landfill (Bidwell 1989, p. 63; City of Thousand Oaks 2022). By 1987, facilities associated with screening, grit removal, two rounds of removing solid waste, nutrient removal, multimedia filtration, disinfection, and de-chlorination were developed. In 1987, Map ID No. 19: South Headworks, Map ID No. 12: Secondary Clarifiers No. 2, and Map ID No. 17: Filter Backwash Pump Station were constructed (James M. Montgomery Consulting Engineers Inc 1983, 1986, 1987; NETR 2022; UCSB 2022).

Between 1989 and 1994 Map ID No. 29: Mixed Liquor Channel was constructed. In between 1994 and 2002 another plant expansion took place and Map ID No. 1: Operations Building, Map ID No. 4: Digestor No. 3, Map ID No. 12: Secondary Clarifiers No. 3, Map ID No. 20: Filter Influent Pump Station No. 2, Map ID No. 24: Maintenance Building No. 2, Map ID No. 27: Dewatering/Generator Building, and Map ID No. 25: Flow Equalization Basin No. 1 and 2 were built (NETR 2022; UCSB 2022).

In 2003, the plant was expanded again, and Map ID No. 7: Maintenance Storage Building, Map ID No. 10: Blower Building No. 1, Map ID No. 11: Primary Effluent Splitter Box, Map ID No. 13: Vehicle Fueling Station, Map ID No. 14: Wastewater Pump Station, Map ID No. 15: Blower Building No. 2, Map ID No. 18: Bio Reactor Basin No. 3, 4, 5, and 6, Map ID No. 28: Sodium Bisuphite Storage Building 1 were developed on the property (CH2M Hill 2003; NETR 2022; UCSB 2022).

In 2005, another expansion and upgrade project for existing facilities took place. Map ID No. 14: Wastewater Pump Station, Map ID No. 3: Biogas Tanks, and Map ID No. 20: Filter Influent Pump Station No. 1 were constructed. In 2019, the north half of the Map ID No. 26: Michael Lambert Drying Beds were paved and reallocated for parking (CH2M Hill 2005; NETR 2022; UCSB 2022). Since its initial construction in 1961, the site has grown in multiple phases of expansion to the 60-acre facility which currently contains some 30 buildings and structures.

3.3 Engineering Firm: Pomeroy & Associates (1951–1965)

The Hill Canyon Treatment Plant was designed by engineering firm Pomeroy & Associates in 1961. Doctor Richard D. Pomeroy began his sanitary engineering career at the California Institute of Technology in 1926 and obtained a doctorate in philosophy in 1931 (Bakersfield Californian 1951, p. 20). After graduating, Pomeroy taught as an Associate Professor of Sanitary Engineering at Occidental College and the University of Southern California Bakersfield Californian 1951, p. 20). In 1932, he obtained a position at the Los Angeles County Sanitation District before engaging in private consulting work. In 1950, Pomeroy founded his chemistry and civil engineering firm, Pomeroy & Associates (Los Angeles Evening Citizen News 1945, p. 4; Bakersfield Californian 1951, p. 20). Pomeroy & Associates predominantly worked on water supply, sanitation, and corrosion projects (Bakersfield Californian 1951, p. 20). In 1961, Pasadena-based consulting and civil engineers Pomeroy & Associates hired J. Wynne Davies, a water and sewage treatment expert (Independent Star-News 1961, p. 19). Davies immediately began work on the Hill Canyon Treatment Plant, which was in urgent need of expansion (Ventura County Star 1961a, p. 2). By 1965, the firm had been renamed Leason Pomeroy Associates and had offices in Orange County and in Sacramento (Los Angeles Times 1988, p. 79; Sacramento Bee 2022, p. B8).

A partial list of the water and sewer management facilities in California designed by Pomeroy & Associates includes:

- Designed system to cut stormwater entry into sewer system, City of Santa Cruz (1954) (Santa Cruz Sentinel 1954a, p 1)
- Designed separate sewer and water supply systems, City of Santa Cruz (1954) (Santa Cruz Sentinel 1954b, p. 1).
- Portions of City of Los Angeles' sewer system, City of Los Angeles (1955) (Los Angeles Times 1955, p. 4)
- Casitas Dam, Ventura River Municipal Water District, Ventura County (1956) (Ventura County Star 1956, p. 1).
- Ojai City sewage disposal system, City of Ojai (1958) (Ventura County Star 1958, p. 1).
- Upper Ventura River Valley and Ojai Valley Sewer System, Ventura County (1961) (Ventura County Star 1959, p. 5)
- Simi Valley Sewer System, Simi Valley (1961) (Ventura County Star 1961b, p. 14)
- Arroyo Conejo Sewer Trunk Line, Thousand Oaks (1963) (Ventura County Star 1963, p. 36)

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4 Results of Identification and Evaluation Efforts

One multi-component historic era facility is located in the Built Environment Study Area: the Hill Canyon Treatment Plant. The original portions of the plant were constructed in 1961 and it has been expanded several times over the course of its history. The Hill Canyon Treatment Plant property is located at 9600 San Rosa Road in the City of Thousand Oaks (APNs 552-0-130-015, 520-0-300-115, and 667-0-120-170) and contains eleven buildings and nineteen structures (refer to Figure 2, Built Environment Study Area). A complete California DPR 523 form recording Hill Canyon Treatment Plant may be found in Appendix B of this report. Table 5 below provides a summary of survey observations, descriptions, including a photograph of each building and/or structure, the year built (if known), a general physical description of the building/structure, and any alterations identified. Circa dates for construction of buildings and structures were chosen by selecting the median year between two aerials photographs dates, whenever aerial photographs were used to estimate the construction.

4.1 Property Description: Hill Canyon Treatment Plant (1961)

Table 5. Hill Canyon Treatment Plant Buildings and Structures

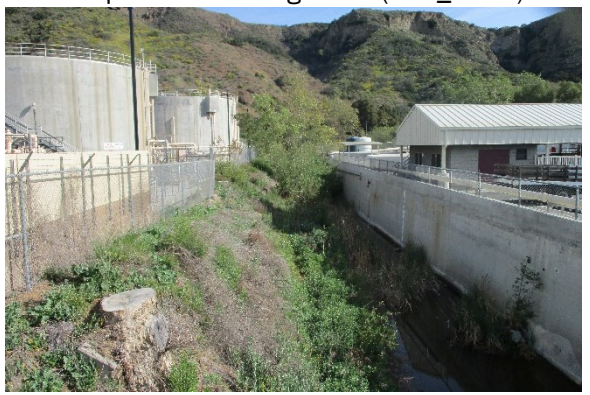
Map ID No.	Resource Name	Resource Description	Photograph
n/a	Hill Canyon Treatment Plant Overview	The Hill Canyon Treatment Plant was first developed in 1961 but expanded continuously throughout the late twentieth and early twenty-first centuries. The complex was originally developed with extant components Map ID No. 4: Digestor No. 1, Map ID No. 6: Clarifiers 1, 2, and 4, Map ID No. 9: Aeration Station 1. Map ID No. 4: Digestor No. 1 is located directly east side of the North Fork of Arroyo Conejo while the other original components are clustered west of the river. Bridges that span the river to connect the complex have been moved, altered, and demolished over time.	 Overview of the Hill Canyon Treatment Plant facility taken from the northwest corner of the complex. View facing south (IMG_7468).  Basin of the North Fork of Arroyo Conejo that bisects the Hill Canyon Treatment Plant facility. View facing north (IMG_7439).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
1	Operations Building (c. 1998)	Map ID No. 1: Operations Building, constructed between 1994 and 2002, is a two-story, rectangular building, oriented southeast to northwest, and features a gable roof. A rectangular projection extends from the roof's ridgeline that is equipped with mechanical and ventilation features. The roof is clad in corrugated metal while the gable wall features smooth stucco cladding. The building's south (main) and north (rear) elevations feature a gabled extension with opaque, horizontal, glass window accents that area supported by two columns comprised of rough concrete masonry blocks. The gable roof on the south (main) elevation shelters features rows of rectangular windows. At the west end of the windows there is a glass door in a steel frame, topped by a transom lite. A metal man-door is located at the west end of the elevation.	 Main (south) elevation of Map ID No. 1: Operations Building. View looking north (IMG_7414).
2	Thickening Building (1983)	Map ID No. 2: Thickening Building, constructed as part of the 1987 plant expansion, is a two-story, rectangular building, oriented southeast to northwest, has a flat roof equipped with mechanical and ventilation equipment, and is banked into a moderate slope . Fenestration on the building includes windows comprised of opaque glass block, arranged horizontally. On the rear elevation of the building, an open, oversized entrance access mechanical components while a metal man-door affixed with a glass window, access the interior of the building. Affixed to the west side of Map ID No. 2: Thickening Building is Map ID No. 3: Biogas Tanks.	 North and east elevations of Map ID No. 2: Thickening Building. View looking south (IMG_7420).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
3	Biogas Tanks (2005)	Map ID No. 3: Biogas Tanks are located directly west of Map ID No. 2: Thickening Building. The tanks are located on an approximately seven-foot-tall concrete foundation. Four tall, metal tanks fed by pipes are located directly north of a corrugated metal shipping container that supports pipes and mechanical equipment.	 Map ID No. 3: Biogas Tanks, behind pumps; view looking south (IMG_7420).
4	Digester No.1 (1970) Digestor No. 2 (1961) Digestor No. 3 (c. 1998)	The Hill Canyon Treatment Plant is equipped with Map ID No. 4, which includes Digestors No. 1 (1961), 2 (1970), and 3 (constructed between 1994 and 2002). The three digesters, all approximately 65 feet in diameter, are arranged north to south in the northeast corner of the complex. These standalone digestors are large, concrete circular tanks are approximately three-stories tall. A metal staircase, guarded by a metal rail, climbs the south elevation of the digestors to access the structure's roof, which is also bordered by a metal rail. Metal pipes and mechanical equipment are located at the rear (north) of the structures.	 Map ID No. 4: Digestors No. 1, 2 and 3 (left to right), view facing northeast (IMG_7444).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			 Map ID No. 4: Digestor No. 1, view facing south (IMG_7423).
5	North Headworks (1961)	Map ID No. 5: North Headworks, constructed in 1961, is located in the northwest corner of the facility, directly north of Map ID No. 6: Primary Clarifier No. 3. Map ID No. 5: North Headworks is comprised of mechanical and electrical components including pipes, pumps, and funnels. The east portion of headworks is comprised of electrical equipment and is sheltered by a rectangular shelter supported by metal posts. This section is below ground level and accessed by concrete steps, located to the west of the equipment, and guarded by a metal rail. The center and western half of Map ID No. 5: North Headworks includes a large funnel positioned above ground level that is accessed by a metal ladder and balcony as well as pipes, electrical equipment boxes, and mechanical components. An identical second shelter is located at the far end (west) of Map ID No. 5 and shelters electrical equipment.	 Map ID No. 5: North Headworks, view facing east (IMG_7461).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
6	Primary Clarifier No. 1, and 4 (1961), Primary Clarifier No. 2 (c. 1966) , and Primary Clarifier No. 3 (1970)	Map ID No. 6: Primary Clarifier No. 1, and 4 were constructed in 1961 while Map ID No. 6: Primary Clarifier No. 2 was added between 1965 and 1967 and Map ID No. 6: Primary Clarifier No. 3 was added to the facility in 1970. Map ID No. 6: Primary Clarifiers No. 2, 3, and 4 are approximately 70 feet in diameter while. Map ID No. 6: Primary Clarifier No. 1 is approximately 50 feet in diameter. The four tanks extend approximately 2 feet above ground level and extend below the surface. The interior of the tanks, boarded by the top of the concrete tank and a metal rail, includes a large metal arm that stirs the contents of the primary clarifiers. Located at the edge of each tank is a metal shelter, supported by posts, which protects electrical components. The components are below ground level, bordered by a low concrete lip and metal security rail, and are accessed via a metal staircase.	 Map ID No. 6: Primary Clarifier No. 2, No. 4 in background view facing southwest (IMG_7468).  Interior of Map ID No. 6: Primary Clarifier No. 4, view facing east(IMG_7479).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
7	Maintenance Storage Building (2003)	Map ID No. 7: Maintenance Storage Building is a prefabricated metal building, constructed in 2003 by VP Metal Building Construction. The rectangular plan building-oriented north to south, has a front-gabled roof, and is clad in corrugated metal. The building's south (main) elevation is accessed via an oversized metal roll-up garage door and a metal, man-sized door. Ventilation systems are positioned on the roof's ridgeline.	 South (main) elevation of Map ID No. 7: Maintenance Storage Building, view looking northwest (IMG_7447).
8	Cart Garage and Shop Building (1961)	Map ID No. 8: Cart Garage and Shop Building, constructed in 1961 and added on to in 1979. It features a rectangular, raised-seam, front-gable, metal roof supported by eight rectangular metal poles. Underneath the east end of the shelter is the "shop," a building constructed from concrete masonry blocks, accessed via a double metal door located on the south (main) elevation directly east of a single, rectangular glass window. The western one-third of the roof shelters an open space bordered by a metal fence with double retractable gates located on the fence's south face.	 South (main) elevation of Map ID No. 8: Cart Garage and Shop Building. View facing north (IMG_7449).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
9	Aeration System No. 1 (1961) Aeration System No. 2 (1970)	Map ID No. 9: Aeration System No. 1 was constructed in 1961 with a second, identical aeration bed (Map ID No. 9: Aeration System No. 2) was constructed in 1970. In 2003, Map ID 10: Blower Building No. 1 was constructed between the two aeration systems. Map ID No. 9 is comprised of two beds, divided into four pools apiece by concrete bulkheads, and guarded by a low concrete lip and metal rail.	 Map ID No. 9: Aeration System No. 1, view looking northwest (IMG_7488).  Map ID No. 9: Aeration System No. 2, view looking southwest (IMG_7488).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
10	Blower Building No. 1 (2003)	Map ID No. 10: Blower Building No. 1 was constructed in the 2003 plant expansion, is two stories in height, has a front-gable roof, and features a second-story overhang that shelters the building's entrances located on the first story. The first story of the building, constructed of concrete masonry blocks, has four, louvered vents on the building's south elevation and two entrances on the building's west (main) elevation. One entrance is a metal roll-up garage door is located directly west of the building's second entrance, and a metal man-door with a tall transom light. Three addition, identical man-doors are located on the building's north elevation. The second story is clad in raised-seam metal and has a louvered vent in the gable wall.	 North and west elevation of Map ID No. 10: Blower Building No. 1, view looking southwest (IMG_7442).
11	Primary Effluent Splitter Box (2003)	Map ID No. 11: Primary Effluent Splitter Box was constructed in the 2003 plant expansion, and is comprised of a toll concrete foundation, pipes, electrical components located on the side of the structure, and a tall storage tank labeled "GLYCERIN." The platform is accessed on the north side via a metal staircase. The entire structure is bordered by a metal rail.	 Map ID No. 11: Primary Effluent Splitter Box (IMG_7491).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
12	Secondary Clarifier No. 1 (1970) Secondary Clarifier No. 2 (1987) Secondary Clarifier No. 3 (c. 1998)	Map ID No. 12: Secondary Clarifier No. 1 was constructed in the 1970 expansion project, Map ID No. 12: Secondary Clarifier No. 2 was constructed in the 1987 expansion project, and Secondary Clarifier No. 3 was constructed in c. 1998 as the Hill Canyon Treatment Plant continued to expand south. The three secondary clarifiers, all approximately 130 feet in diameter, extend slightly above ground level and extend below the surface. The interior of the tanks, boarded by the top of the concrete tank and a metal rail, includes a large metal arm that stirs the contents of the primary clarifiers.	 Map ID No. 12: Secondary Clarifier No. 2, view facing west (IMG_7511)  Interior of Map ID No. 12: Secondary Clarifier No. 1, view facing north (IMG_7501)

Table 5. Hill Canyon Treatment Plant Buildings and Structures

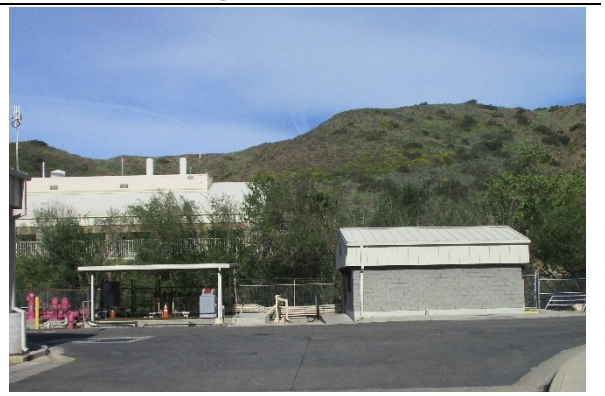
Map ID No.	Resource Name	Resource Description	Photograph
13	Vehicle Fueling Station (2003)	The two-story Map ID No. 13: Vehicle Fueling Station is comprised of a front-gable raised-seam metal roof supported by eight square posts sunk into circular concrete piers. It was constructed as part of the plants 2003 expansion. Two rectangular vents are located on the structure's roofline. The roof shelters a large fuel tank, and a one-story square rectangular building with a flat roof.	 Map ID No. 13: Vehicle Fueling Station, view looking north (IMG_7507)
14	Wastewater Pump Station: North building (2003) South structure (c. 2007)	Map ID No. 14: Wastewater Pump Station is comprised of one building (north) and one structure (south), both of which are constructed on a raised concrete foundation. The building, constructed in 2003, is made of concrete masonry blocks and is topped by a raised-seam metal roof. The building is accessed via a metal man-door on the building's south (main elevation). Two louvered vents are located on the south (main) elevation, with one located in the gable wall. The southern structure is a flat metal roof supported by two square posts on two cement bases, sheltering the pump system. This shelter was added between 2005 and 2009.	 One building (north) and one pump with a shelter structure (south) comprise Map ID No. 14: Wastewater Pump Station, view facing east (IMG_7510).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
15	Blower Building No. 2 (2003)	Map ID No. 15: Blower Building No. 2, constructed as part of the plant's 2003 expansion, appears identical to Map ID No. 10: Blower Building No. 1. The two-story building has a front-gable roof, an overhanging second story, is constructed of concrete masonry blocks, with metal paneling in the upper story, and features louvered vents, multiple man-doors, and one roll-up metal garage door.	 Map ID No. 15: Blower Building No. 2's east (main) and south elevation, view facing northwest (IMG_7525).
16	Chlorine Contact Channel (1970)	Map ID No. 16: Chlorine Contact Channel was constructed in the 1970 expansion project. The channel is L-shaped and is approximately 1,230 feet long and bordered by a low concrete wall and topped by a flat concrete roof. The channel was enclosed in multiple phases between 2002 and 2006. The Chlorine Contact Channel is bisected by Map ID No. 17: Filter Backwash Pump Station.	 The long arm of Map ID No. 16: Chlorine Contact Channel, view facing northeast (IMG_7574).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
17	Filter Backwash Pump Station (1987)	Map ID No. 17: Filter Backwash Pump Station bisects Map ID No. 16: Chlorine Contact Channel.	 Map ID No. 17: Filter Backwash Pump Station, view facing north (IMG_7526)
18	Bio-Reactor Basins No. 3, 4, 5, and 6 (2003)	Map ID No. 18: Bio-Reactor Basins No. 3, 4, 5, and 6 were constructed during the 2003 plant expansion project and are comprised of eight rows of pools located on a raised, concrete platform approximately 2 feet tall. The pools are separated by concrete bulkheads and guarded by a metal rail. The platform is accessed via a set of metal stairs on the structure's west side.	 Bio-Reactor Basins No. 3, 4, 5, and 6 west (main) and south's elevation. View looking northwest (IMG_7532).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
19	South Headworks (1987)	Map ID No. 19: South Headworks were constructed in during the 1987 expansion project and is comprised of twelve pools arranged in a three-by-four pattern located on a tall raised, concrete platform. A rectangular, raised-seam metal structure projects from the south works west elevation.	 Map ID No. 19: South building, view facing northeast (IMG_7569).
20	Filter Influent Pump Station no. 1 (2005) Filter Influent Pup Station No. 2 (c. 1998)	Map ID No. 20: Filter Influent Pump Station No. 1 was constructed in 2005 and Filter Influent Pup Station No. 2 was constructed in between 1994 and 2002, directly north of Map ID No. 25: Flow Equalization Basin No. 1 and 2. Each pump station is equipped with two pumps sheltered by a corrugated metal roof supported by rectangular posts. Map ID No. 20: Filter Influent Pump Stations No's 1 and 2 are located on the north edge of Map ID No. 25: Flow Equalization Basin No. 1 and 2.	 Map ID No. 20: Filter Influent Pump Station No. 1, view facing west (IMG_7634).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
21	Tertiary Filters and Filter Expansions (c. 1979)	Map ID No. 21: Tertiary Filters and Filter Expansions building was part of the 1977 expansion project but was actually constructed between 1978 and 1980 and is comprised a concrete platform on which 10 pools arranged in a two-by-five pattern located on a tall raised. The building as expanded in 1987 and 2003. Three garage bays, with rollup metal garage doors, project from the building's northeast corner. Map ID No. 22: Chemical Building and Map ID No. 23: Maintenance Building No. 1, constructed at the same time as Map ID No. 21: Tertiary Filters and Filter Expansions, are affixed to the structure's west elevation.	 Map ID No. No. 21:Tertiary Filters and Filter Expansions. View facing northeast (IMG_7560).
22	Chemical Building (c. 1979)	Map ID No. 22: Chemical Building was part of the 1977 expansion project but was actually constructed in between 1978 and 1980 and is affixed to the northern section of Map ID No. 23: Maintenance Building. Map ID No. 22: Chemical Building is a one-story concrete building with a flat roof supported by two large concrete posts that shelter an open courtyard. The building has darkened, black tinted windows arranged in a row in the second story, with curved corners for a modernist approach.	 Map ID No. 22: Chemical Building (right) and Map ID No. 23: Maintenance Building No. 1 (left), view looking northeast (IMG_7555).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
23	Maintenance Building No. 1 (c. 1979)	Map ID No. 23: Maintenance Building No. 1 was part of the 1977 expansion project but was actually constructed in between 1978 and 1980 and connected to the east side of Map ID No. 21: Tertiary Filters and Filter Expansions and attached south side of Map ID No. 22: Chemical Building. Map ID No. 23: Maintenance Building No. 1 is a two-story concrete building with a flat roof and exterior stairwell to access the building's upper story from the exterior. The building has black tinted windows arranged in a row in the second story, with curved corners for a modernist approach. The building is accessed via two sets of double metal doors located on the south (main) and west elevations.	 Map ID No. 23: Maintenance Building No. 1 and view looking north (IMG_7421)
24	Maintenance Building No. 2 (c. 1998)	Map ID No. 24: Maintenance Building No. 2 was constructed in between 1994 and 2002 replacing and earlier Maintenance Building constructed in circa 1979. Maintenance Building No. 2 is a two-story, rectangular building constructed of concrete, with a flat roof. The building lacks fenestration. The building's east (main) elevation features two oversized doorways with rollup metal garage doors and two metal man-doors with fixed transom lights. Entrances on the building's south elevation also includes two metal rollup garage doors.	 West (main) and south elevations of Map ID No. 24: Maintenance Building No. 2, view looking north (IMG_7556).

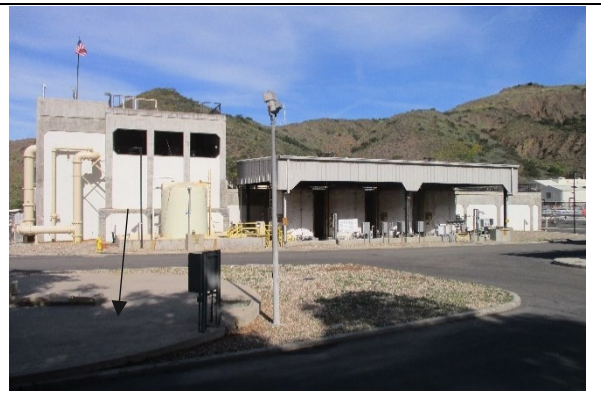
Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
25	Flow Equalization Basin No. 1 and 2 (c. 1998)	Map ID No. 25: Flow Equalization Basin No. 1 and 2 were constructed between 1994 and 2002, and feature two concrete-lined basins protected me a metal rail. Concrete bulkheads divide the two basins. Map ID No. 20: Filter Influent Pump Station No. 1 is located at the northern edge of the basin.	 Map ID No. 25: Flow Equalization Basin No. 2, view facing northeast (IMG_7582).
26	Michael Lamber Drying Beds (1977)	Map ID No. 26: Michael Lamber Drying Beds were constructed in 1977 as part of the 1977 expansion project and originally had fifteen rectangular individual drying beds separated by a paved road. In 2019, the north half of the drying beds were paved and redesignated as a parking lot.	 Map ID No. 26: Michael Lamber Drying Beds (south); parking lot (north), view facing southwest (IMG_7585)

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
27	Dewatering/Generator Building (c. 1998)	Map ID No. 27: Dewatering/Generator Building was constructed in between 1994 and 2002. The two-story concrete building has a rectangular footprint, flat roof, and a vehicle port and scales on its west elevation for loading and unloading. The building lacks fenestration. Louvered vents are located on the building's north elevation. Rollup garage doors are located on the building's south (rear) elevation first and second stories. Two, metal man doors are also located on both stories on the building's south side. A metal balcony and staircase, which are protected by a metal railing, access the second-story entrance.	 Map ID No. No. 27: Dewatering/Generator Building rear (south) and east elevation, view looking northeast (IMG_7598)
28	Sodium Bisuphite Storage Structure (2003)	Map ID No. 28: Sodium Bisuphite Storage Building was constructed during the 2003 plant expansion and features a rectangular footprint, flat-roofed metal shelter over two large Sodium Bisuphite storage tanks.	 Map ID No. 28: Sodium Bisuphite Storage Structure north elevation, view looking southeast (IMG_7544).

Table 5. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
29	Mixed Liquor Channel (c. 1992)	Map ID No. 29: Mixed Liquor Channel was constructed between 1989 and 1994 and is comprised of a single pipe approximately 180 feet long. The pipe is protected by a low concrete curb and metal safety cage.	 Exhibit 37 – North end of Map ID No. 29: Dewatering/Generator Building, view looking south (IMG_7523)
30	Wastewater Reclamation System (c. 1979)	Map ID No. 30: Wastewater Reclamation System was part of the 1977 expansion project but was actually constructed between 1978 and 1980 and consists of one in-ground, subterranean tank, topped by concrete and protected by a concrete curb. Because the structure was underground, it was not visible during survey.	 Map ID No. 30: Wastewater Reclamation System, South Headworks in background; view looking north (IMG_7565).

Identified Alterations

Dudek staff received inspection reports, permits, City resolutions, and condition reports from the City of Thousand Oaks on May 10, 2022, pertaining to Hill Canyon Treatment Plant, 9600 Santa Rosa Road (APNs 552-0-130-015, 520-0-300-115, and 667-0-120-170). Observed alterations are also included in this section, and dates stated if known:

- 1959. Original Construction begins
- 1961. Original Construction finishes, completed features include:
  - Map ID No. 4: Digestor No. 1,
  - Map ID No. 5: North Headworks,
  - Map ID No. 6: Primary Clarifiers 1 and 4,
  - Map ID No. 8: Cart Garage and Shop Building
  - Map ID No. 9: Aeration Station 1,
  - Two large settling ponds
  - Administrative/Operations Building (now demolished)
- 1966. Annexation to the City of Thousand Oaks (City of Thousand Oaks 1966)
  - Observed: Map ID No. 6: Primary Clarifier No. 2 constructed
- 1968. Sludge Lagoons Construction (City of Thousand Oaks 1968)
- 1970. Phase I expansion (City of Thousand Oaks. 1970), added features include:
  - Map ID No. 4: Digester No. 3,
  - Map ID No. 6: Primary Clarifier No. 3,
  - Map ID No. 9: Aeration System No. 2,
  - Map ID No. 12: Secondary Clarifier No. 1
- 1977. Phase IB expansion (City of Thousand Oaks 1977; James M. Montgomery Consulting Engineers Inc. 1977), added features include:
  - Map ID No. 26. Michael Lambert Drying Beds
  - two new sludge drying beds (now a solar field),
  - Map ID No. 21: Tertiary Filters Building (actually constructed circa 1979)
  - Map ID No. 22: Chemical Building, (actually constructed circa 1979)
  - Map ID No. 23: Maintenance Building No. 1, (actually constructed circa 1979)
  - Map ID No. 30: Wastewater Reclamation System
- 1983. Phase IB expansion (James M. Montgomery Consulting Engineers Inc. 1983), added features include:
  - Map ID No. 2: Thickening Building,
- 1986. Hill Canyon Wastewater Treatment Plant Equalization Basin Lining Project (James M. Montgomery Consulting Engineers Inc. 1986), added features include:
  - Map ID No. 25: Equalization Basin split drying bed into 2 equalization Basins
- 1987. Phase IB expansion (James M. Montgomery Consulting Engineers Inc. 1987), added features include:
  - Map ID No. 19: South Headworks,
  - Map ID No. 12: Secondary Clarifiers No. 2, and
  - Map ID No. 17: Filter Backwash Pump Station

- Observed. Circa 1989-1994. Map ID No. 29: Mixed Liquor Channel constructed
- Observed. Circa 1994-2002. Another expansion Project, no record on file with City (NETR 2022; UCSB 2022)
  - Map ID No. 1: Operations Building,
  - Map ID No. 4: Digestor No. 3,
  - Map ID No. 12: Secondary Clarifiers No. 3,
  - Map ID No. 20: Filter Influent Pump Station No. 2,
  - Map ID No. 24: Maintenance Building No. 2,
  - Map ID No. 27: Dewatering/Generator Building, and
- 2003. Hill Canyon Wastewater Treatment Plant Expansion/Upgrade – Phase II (CH2M Hill 2003), added features include:
  - Map ID No. 7: Maintenance Storage Building,
  - Map ID No. 10: Blower Building No. 1,
  - Map ID No. 11: Primary Effluent Splitter Box,
  - Map ID No. 13: Vehicle Fueling Station,
  - Map ID No. 14: Wastewater Pump Station,
  - Map ID No. 15: Blower Building No. 2,
  - Map ID No. 18: Bio Reactor Basin No. 3, 4, 5, and 6,
  - Map ID No. 28: Sodium Bisuphite Storage Building 1, and
- 2005. Hill Canyon Wastewater Treatment Plant Expansion and Upgrade – Phase III (CH2M Hill 2005), added features include:
  - Map ID No. 3: Biogas Tanks and
  - Map ID No. 20: Filter Influent Pump Station No. 1

4.2 National Register of Historic Places/California Register of Historic Resources Statement of Significance

The Hill Canyon Treatment Plant does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, as demonstrated below.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

Archival research on the Hill Canyon Treatment Plant property indicated that the plant is best understood as part of the broad pattern of wastewater infrastructure development in response to urban and suburban growth in Ventura County in the late twentieth and early twenty-first century. As Thousand Oaks was a relatively young community established in 1965, the Hill Canyon Treatment Plant's construction in 1961 occurs relatively late compared to other Southern California cities, which tended to create sewerage and treatment facilities in the 1910s-1930s. Thousand Oaks, once a rural agricultural town, is now a computer and advanced technology hub. The transition began

in the 1950s when the Janss family invested in Conejo Valley real estate and developed planned "total communities" that grew rapidly in the post-war and mid-century years in California.

In 1961, the Hill Canyon Treatment Plant was established by Conejo Valley Sanitary Company, a subsidiary of the Janss Corporation, to serve the rising need for public sanitation and wastewater management. The City of Thousand Oaks purchased Hill Canyon Treatment Plant in 1961, and in 1966 brought all water and sewer services under city control. Over the course of its history, the Hill Canyon Treatment Plant treated wastewater for approximately 90% of the City of Thousand Oaks, which has more than 127,000 residents. Wastewater facilities like the Hill Canyon Treatment Plant are developed like other municipal utilities to support growing and expanding communities. Although wastewater facilities represent necessary community sustaining infrastructure, they only exist to support an existing community and are merely associated with growth which is not considered a significant historic event and does not rise to the level of consideration of associative historical significance with events that have contributed to board patterns of history. In consideration of these factors, the Hill Canyon Treatment Plant is not eligible under NRHP Criterion A or CRHR Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under NRHP Criterion B or CRHR Criterion 2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. An example of such a property that could be found significant under these Criteria is a famous artist's studio where they conducted the work for which they are known or the headquarters building associated with a famous industrialist. The Hill Canyon Treatment Plant is a regional wastewater system that represents the collective efforts of many people who worked at the facility and it is not known to be a place where any historically significant person or group of people conducted or produce work for which they are known. Due to a lack of identified significant associations with important persons in history, the subject property is recommended ineligible under NRHP Criterion B or CRHR Criterion 2. Due to a lack of identified significant associations with important persons in history, Prothero Water Filtration Plant does not appear eligible under NRHP Criterion B or CRHR Criterion 2.

Criterion C/3: 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.

The Hill Canyon Treatment Plant was designed by Pomeroy & Associates and constructed in 1961 for the Conejo Valley Sanitary Company. Archival research indicates that Pomeroy & Associates primarily designed wastewater treatment plants and sewer systems, but appear to have filled a regional niche where other companies were not operating, rather than having any innovative designs or engineering solutions. Pomeroy & Associates do not appear to be a significant firm in the context of wastewater treatment plants and sewer systems at either the national, state, or local level. Additional research did not uncover a significant body of work or craftsmanship by this firm that would elevate the firm to the level of "master" architect or engineer. As a wastewater facility, it is comprised of utilitarian buildings and infrastructure commonly found in various jurisdictions throughout the state and nationwide. In consideration of the multiple phases of expansion to support to growing community, the facility lacks a cohesive, identifiable architectural style. The design is devoid of any defining architectural or engineering features and multiple expansions from the 1970s to the 2000s altered the site's original design and demolished many original components. Further, the Hill Canyon Treatment Plant cannot be considered a representative work of the firm since many of the original buildings and structures have been demolished, expanded, or altered in subsequent plant expansions. Finally, Hill Canyon Treatment Plant does not possess high artistic value, and should not be considered

"representative of a significant and distinguishable entity whose components may lack individual distinction" as the complex is comprised of ubiquitous and utilitarian structures and prefabricated industrial buildings. Consequently, the subject property is recommended not eligible under NRHP Criterion C or CRHR Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history.

This report was limited to historical resources that are part of the built environment. NRHP Criterion D and CRHR Criterion 4 generally applies to archaeological resources but may apply to a built environment resource in instances where a resource may contain valuable information about such topics as construction techniques or human activity. Therefore, the built environment components of the subject property are recommended not eligible under NRHP Criterion D and CRHR Criterion 4.

4.3 City of Thousand Oaks Significance Evaluation

The Hill Canyon Treatment Plant does not meet any of the criteria for listing in As a City of Thousand Oaks Landmark or Point of Historical Interest. Though the property does contain buildings and structures constructed over 45 years ago, the property, as a whole does not

(1) exemplify or reflects special elements of the City's social, aesthetic, engineering, architectural or natural history, as the property was originally constructed as part of the Conejo Valley Sanitation Company holdings and predates the City's founding, as demonstrated above in NRHP/CRHR Criteria A/1 and C/3;

(2) Is not associated with events that have made a significant contribution to the broad patterns of the City's cultural heritage, and plays a mundane and ubiquitous role in the development of the city and greater urban community after its founding, as demonstrated above in NRHP/CRHR Criteria A/1;

(3) Was not found to be associated with the lives of people important to the history of the City, as demonstrated above in NRHP/CRHR Criteria 2/B;

(4) Does not have the potential to yield information important to the prehistory or history of the City, as demonstrated above in NRHP/CRHR Criteria 4/D; and

(5) Lacks a distinctive, identifiable building typology or architectural style, readily identifiable to the period of construction, region, nor does it demonstrate a unique method of construction, exemplify the work of a master or possess high artistic value.

For all of these reasons Hill Canyon Treatment Plant is not eligible as a local City of Thousand Oaks landmark.

The City of Thousand Oaks criteria for Points of Historical Interest are predicated on the idea that (1) a property is no longer extant; (2) a property has been highly altered such that it cannot convey original workmanship or materials; or (3) is the site of a historical event with no distinguishing visual landmarks or characteristics. The Hill Canyon Treatment does not qualify as a local City of Thousand Oaks point of historical interest either.

4.4 Integrity Discussion

National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation states that the integrity of a property is based upon the historical significance and character-defining features of that property, and that "only after significance is fully established can you proceed to the issue of integrity" (NPS 1995, p. 45). As the Hill Canyon

Treatment Plant property does not meet any of the required significance Criteria a discussion of integrity is inconsequential and is not required.

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5 Summary of Findings and Management Recommendations

5.1 Summary of Findings

Dudek recorded and evaluated the Hill Canyon Treatment Plant property located within the Built Environment Study Area and recommends that the subject property does not meet any eligibility requirement under national, state, or local designation criteria. Therefore, the property is not considered a historical resource under CEQA. There are no built environment properties considered CEQA historical resources located within the Built Environment Study Area. As such the finding for the Project under CEQA is **No Impact.**

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SOURCE: Near Map 2020; Ventura County 2021

DUDEK

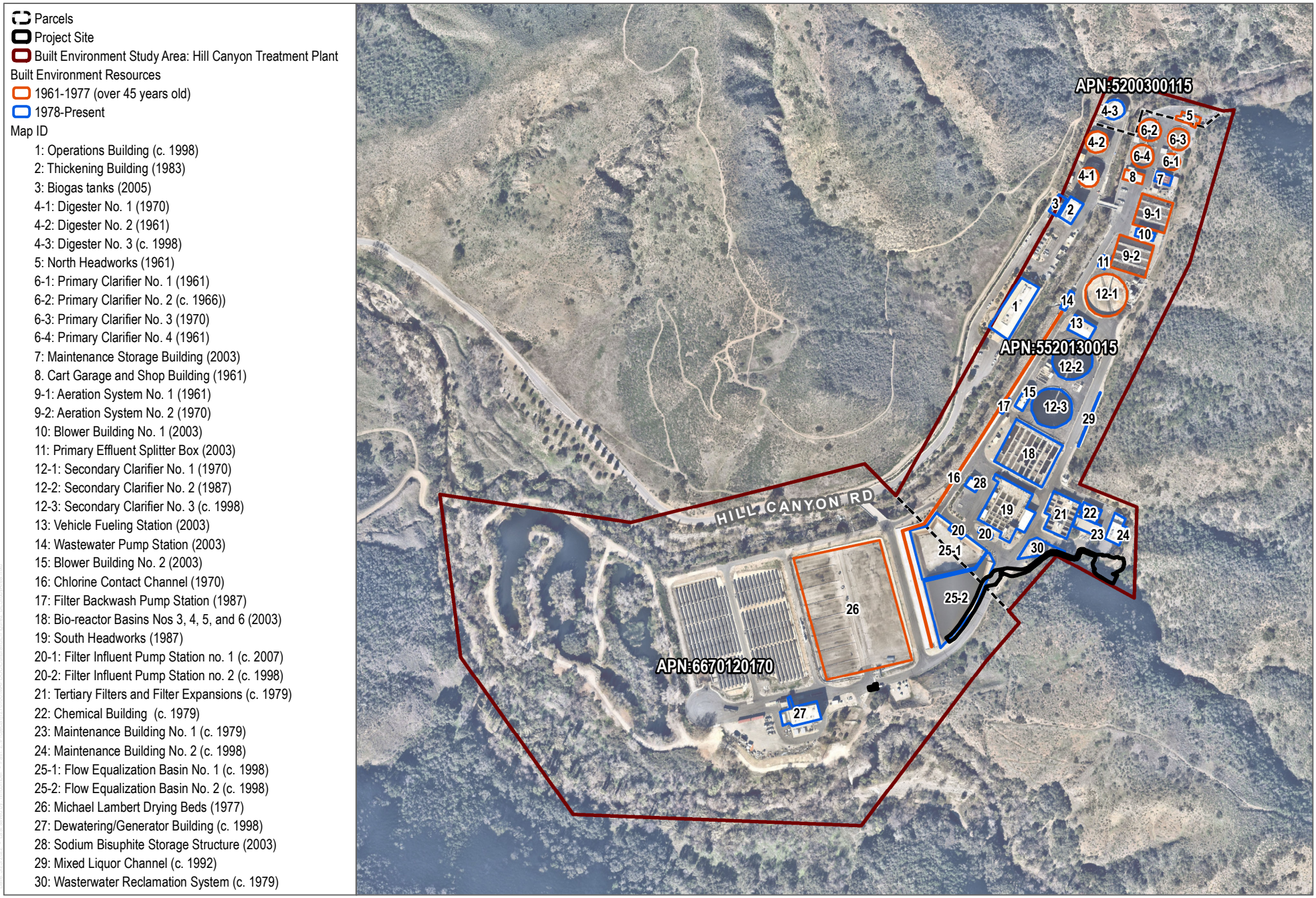
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FIGURE 1

Project Location

Hill Canyon Treatment Plant Stormwater Diversion Project, Built Environment Inventory and Evaluation Report

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SOURCE: Near Map 2020; Ventura County 2021

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FIGURE 2

Built Environment Study Area

Hill Canyon Treatment Plant Stormwater Diversion Project, Built Environment Inventory and Evaluation Report

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Appendix A
Preparer's Qualifications

Kate Kaiser, MSHP

ARCHITECTURAL HISTORIAN

Kate Kaiser (*KAYT KY-zer; she/her*) is an architectural historian with 10 years' experience as a cultural resource manager in California, Nevada, Oregon, Washington, and Hawai'i. Ms. Kaiser meets the Secretary of the Interior's Professional Qualification Standards for both architectural history and archaeology. Ms. Kaiser specializes in California Environmental Quality Act (CEQA) compliance, National Historic Preservation Act (NHPA) Section 106 and Section 110 compliance, Historic Resource Evaluation Reports (HRER), historical resource inventories (HRI), environmental impact report (EIR) chapters, Historic American Building Survey (HABS) level documentation, archival research, adverse effects or impacts analysis, cultural landscapes, and geographic information systems (GIS).



Education

University of Oregon
MS, Historic Preservation, 2017

Boston University
BA, Archaeology, 2009

Professional Affiliations

Wrightwood Historical Society – Board Member

Association for Preservation Technology – Southwest

California Preservation Foundation

Society for California Archaeology

National Trust for Historic Preservation

Recent Dudek Project Experience

Historic Structures/Site Report for Confidential Project, Confidential Client, Santa Barbara, California. Dudek was retained by a private construction company to prepare a Historic Structures/Site Report (HSSR) for a Mid-Century Modern military property built in the 1950s located in Santa Barbara, California. Dudek conducted archival research and an intensive-level survey of the property for historic built environment resources. As part of this study, Dudek prepared a Phase 1 HSSR for the property that included a historic context statement and significance evaluation and a Phase 2 HSSR that provided a detailed impacts analysis and Secretary of the Interior's standards conformance review. Ms. Kaiser served as architectural historian and coauthor of the report as well as contributing analysis of CHRIS records search results, reviewing permits, archival research, historical context development, developing building descriptions, and drafting outreach letters to interested parties. (2019–2021)

On Call Historic Built Environment Services California Department of Water Resources, Various Locations, California. Dudek was retained by the California Department of Water Resources to prepare a historic context statement for historic-aged infrastructure related to the State Water Project and Built Environment Inventory and Evaluation Reports for various State Water Project maintenance projects. Over the course of this multiyear project, Dudek is providing technical assistance in creating individual and statewide historical context statements and significance evaluations for State-owned water infrastructure. Ms. Kaiser also provides technical expertise and peer review for historical built environment reports authored by subconsultants. As architectural historian, Ms. Kaiser has coauthored HRERs and findings of effects for the following structures (2020–Present):

- Oroville Dam and spillway (2022)
- Cedar Springs Dam and spillway (2022)
- South Bay Aqueduct (2021)

- Patterson Dam and reservoir (2021)
- Clifton Court Forebay (2021)
- segments of the California Aqueduct (2020-2021)
- San Luis Field Division Operations and Maintenance Center (2021, 2022)
- Gianelli Pumping-Generating Plant (2022)
- Dos Amigos Pumping Plant (2021, 2022)
- Coalinga Operations and Maintenance Subcenter (2021)
- B.F. Sisk Dam/San Luis Reservoir Historic District (2021, 2022).

On-Call Services, Los Angeles County Department of Public Works, Various Locations, California. Dudek was retained by the Los Angeles County Department of Public Works to prepare a historic built environment inventory, evaluation technical reports, and finding of effect statements for historic-aged infrastructure operated by the Department of Public Works as part of larger CEQA compliance efforts. Acting as architectural historian, Ms. Kaiser has coauthored HRERs and findings of effects for the following projects: Santa Anita Debris Dam Seismic Strengthening Project, Colima Road Improvement Project, and Mulholland Highway at Mile Marker 3.22. For all projects, Ms. Kaiser authored the built environment inventory and evaluation technical reports and conducted survey, outreach to interested parties, archival research, historic context development, and other tasks. (2021–Present)

Built Environment Inventory and Evaluation Report for El Toro Water District Water Filtration Plant Project, El Toro Water District, Orange County, California. Dudek was retained by El Toro Water District to prepare an inventory and evaluation report for the Prothero Water Filtration Plant, located in the City of Mission Viejo. The project proposed to demolish the existing 1963-1972 buildings and structures and construct new facilities at the property. Preparation of the report involved survey, archival research, historic context development, and a historical significance evaluation. Dudek recommended that Prothero Water Filtration Plant was ineligible for listing as a historical resource and evaluated potential adverse effects to surrounding properties. (2022)

As-Needed Environmental Compliance Services, Los Angeles Department of Water and Power, California. Dudek provides on-call environmental services to the Los Angeles Department of Water and Power (LADWP). As part of this contract, Dudek has prepared CEQA-Plus documentation (CEQA and Section 106 of the NHPA) for a range of infrastructure projects, including groundwater treatment facilities, power plants, electrical transmission and distribution facilities, reservoirs, pipelines, roadways, and other related infrastructure. When LADWP project funding sources include the California State Water Resources Control Board's Drinking Water State Revolving Fund, applications for funding must include proof of CEQA compliance and of compliance with federal requirements through CEQA-Plus. Preparation of each CEQA-Plus report involves extensive archival research; historic context development; building descriptions; historical significance evaluations under all applicable NRHP, CRHR, and Los Angeles Historic-Cultural Monuments designation criteria; and DPR forms for each property/resource. Some of Dudek's recent task orders that required Cultural Resources Technical Reports include the following.

- Textile Distributing Station 16 Expansion Project, LADWP, California. (2022)
- Western District Yards Rehabilitation Project, LADWP, California. (2019)
- City Trunkline South Project, LADWP, California. (2019)
- Valley Generating Station Project, LADWP, California. (2019)
- De Soto Tanks Project, LADWP, California. (2019)
- Tujunga Spreading Grounds Enhancement Project, LADWP, California. (2018)

- West Los Angeles District Yard Project, LADWP, California. (2017)

Historical Resources Technical Reports for the Municipal Waterways Maintenance Project CEQA Compliance and U.S. Army Corps of Engineers Permitting, City of San Diego Transportation and Stormwater Departments, California. Dudek developed the Municipal Waterways Maintenance Plan in close coordination with the City of San Diego Transportation and Stormwater Departments and prepared a program EIR for the city's ongoing stormwater facility maintenance program. The Municipal Waterways Maintenance Plan details the planned maintenance activities, specific facility maintenance locations, and site-specific facility maintenance plans or technical summaries for stormwater conveyance channels, ditches, structures, and basins throughout eight watersheds within the City's municipal boundaries. As part of this project, Ms. Kaiser prepared the Historical Resources Technical Report for:

- Alvarado Canyon Creek – Mission Gorge (Facility No. 4-07-011; Mission Gorge 4) Channel Maintenance Project (2020)
- Chollas Creek, National 1 and 2 (Facility No. 5-04-004 and 005) Channel Maintenance Project (2021), and
- Green Valley Creek, Pomerado 2 (Facility No. 1-04-003) Channel Maintenance Project (2022).

Historical Resources Technical Reports for the Irvine Ranch Water District Fleming Zone 8 Reservoir and Pump Station Improvements Project, Irvine Ranch Water District, Unincorporated Orange County, California. Dudek was retained by the Irvine Ranch Water District to prepare a Historical Resources Technical Report for the proposed Fleming Zone 8 Reservoir and Pump Station Improvements Project in the Santiago Canyon area of unincorporated Orange County. The project proposed to demolish the current reservoir, pump station, and associated buildings and construct a new reservoir, pump station, storage building, and associated pipelines and utilities. Ms. Kaiser provided pedestrian survey, background research, technical expertise, and report review. (2021)

Historic Context Statement for Reservoirs, City of San Diego Public Utilities Department, California. Dudek was retained by the City of San Diego Public Utilities Department to complete a survey and historic context statement for the City's surface water storage system, including 10 dam complexes and the Dulzura Conduit. Ms. Kaiser served as architectural historian, author of the historic context statement, and coauthor of individual historic resource reports for the 10 reservoir complexes that contribute to a historic district. Dudek also prepared detailed impact assessments for proposed modification to dams, as required by the California Division of Safety of Dams. The project involved evaluation of 10 dam complexes and conduit for historical significance in consideration of NRHP, CRHR, and City designation criteria and integrity requirements, and required extensive archival research and pedestrian survey. (2020)

Olympic Well Field Restoration and Arcadia Water Treatment Plant Expansion Project, City of Santa Monica Public Works Department, California. Dudek was retained by the City of Santa Monica Public Works Department, Water Resources Division, to complete a historical resource technical report for the Olympic Wellfield Restoration and Arcadia Water Treatment Plant Expansion Project. Ms. Kaiser served as architectural historian and author of the historical resource technical report and EIR chapter. Preparation of the report involved site recordation, extensive archival research, historic context development, building and structure development descriptions for 25 buildings and structures at the Arcadia Water Treatment Plant and a well along Olympic Boulevard, historical significance evaluations, and DPR forms for each building and structure of the project. The project proposed to demolish several underutilized buildings and structures as part of an overarching, multicomponent project to add new wells to the Olympic Well Field, construct a new 16-inch pipeline connecting the Olympic Well Field to a new Olympic Advanced Water Treatment Facility, and expand the Arcadia water Treatment Plant to handle additional flows. (2019–2020)

Erin Jones, MA

ARCHITECTURAL HISTORIAN



Erin Jones (*AIR-in JO-nes; she/her*) is a highly committed, well-qualified cultural resource manager with experience co-authoring National Historic Landmark nominations, authoring historic context statements, California Department of Parks and Recreation (DPR) 523 forms, and architectural building descriptions. Ms. Jones has demonstrated experience with the National Historic Preservation Act (NHPA), the National Environmental Policy Acy (NEPA), the California Environmental Quality Act (CEQA), Section 106, Historic Resource Evaluation Reports (HRER), Historical Resource Inventories (HRI), Environmental Impact Report (EIR) chapters, Historic American Building Survey (HABS) level documentation, reconnaissance and intensive level surveys, archival research, cultural landscapes, and geographic information systems (GIS). Ms. Jones meets the Secretary of the Interior's Professional Qualification Standards for architectural history.

Education

California State University, Sacramento
Master of Arts Public History with Honors, Spring 2021

University of Oregon
Bachelor of Arts History, Fall 2017

Relevant Project Experience

Master Plan, California State University, Monterey Bay, Seaside, California. Dudek was retained by California State University (CSU), Monterey Bay, to complete a built environment inventory and evaluation report in support of the Master Plan EIR. This study involved archival research, survey, recordation, and evaluation of 11 campus buildings more than 45 years old that are proposed for demolition/substantial alteration as part of the proposed "Near-Term Projects" in the Master Plan. Ms. Jones provided assistance conducting background research and drafting historic context statements for this project. (2021- present)

Historical Resources Inventory and Evaluation Report for the 1535-1575 Industrial Avenue Warehouse Project, San Jose, California. Ms. Jones worked as an architectural historian and author of the Historical Resources Inventory and Evaluation Report for the 1535-1575 Industrial Avenue Warehouse Project which proposes to demolish the existing buildings on the Project site and construct a single-story 71,550 square-foot concrete tilt-up building with a loading dock and adjacent parking lot. Ms. Jones role in the project includes the review of the California Historical Resources Information Systems (CHRIS) records search; conducting a pedestrian survey of the Project area; building development and archival research; authoring the historic context statement; evaluation of property for the NRHP, CRHR, California Historical Landmark, and local eligibility criteria and integrity requirements; an assessment of impacts to historical resources in compliance with CEQA Guidelines and the City of San José's Historic Preservation Ordinance. (2021)

1400 Thompson Avenue Project, Santa Cruz County, California. Served as the architectural historian and co-author of the Historic Resources Evaluation Report for the 1400 Thompson Avenue Project. The project proposed to demolish the existing buildings and subdivide the site into four new parcels that will be sold and developed individually. Dudek was retained by a private homeowner to complete the report in support of the proposed project. Ms. Jones's role in the preparation of the study included extensive archival research; authoring the historic context; evaluation of property for the NRHP, CRHR, California Historical Landmark, and local eligibility

criteria and integrity requirements; an assessment of impacts to historical resources in compliance with CEQA; and the preparation of the accompanying DPR forms. (2021)

Phase I Historic Resources Technical Report, Building 7045, Devereux Gymnasium, West Campus, University of California, Santa Barbara. Ms. Jones acted as an architectural historian and co-author of the Cultural Resources Inventory and Evaluation Report for the Phase I Historic Resources Technical Report (report), Building 7045, Devereux Gymnasium on the West Campus of University of California, Santa Barbara. Dudek was retained by the University of California, Santa Barbara (UCSB) to complete the report funded by federal funds from the National Endowment for the Humanities (NEH), making it subject to federal review under Section 106 of the National Historic Preservation Act of 1966 (16U.S.C. 470f), the regulations found at 36 CFR Part 800, and pursuant to the National Programmatic Agreement among the National Endowment for the Arts, National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation Regarding Implementing Section 106 of the National Historic Preservation Act for National Endowment for the Arts Grants (Section 106). The Project is also subject to review under CEQA and Public Resources Code (PRC) Sections 5024 and 5024.5 for state-owned resources. The purpose of this HRTR is to determine if the Project has the potential to affect historic properties pursuant to Section 106 or would impact any historical resources pursuant to CEQA (hereafter referred to as historic properties). Ms. Jones's role in the project included conducting archival and building development research for Building 7045, Devereux Gymnasium; co-authoring of the historic context covering the development of the Devereux School and UCSB campus; writing building descriptions; evaluating the building for the NRHP, CRHR, California Historical Landmark (CHL), and Santa Barbara County local eligibility criteria and integrity requirements; and the preparation of the accompanying DPR forms. (2021)

Built Environment Inventory and Evaluation for the Northgate Town Square Project, San Rafael, California. Ms. Jones served as an architectural historian and co-author of the Built Environment Inventory and Evaluation for the Northgate Town Square Project. Dudek was retained by Merlone Geier Management, LLC to prepare a Built Environment Inventory and Evaluation Report for the proposed Northgate Town Square Project (Project). As currently planned, the proposed Project consists of the phased redevelopment of the existing 44.76-acre Northgate Mall complex and stand-alone buildings (Project site). This report was prepared in conformance with California Environmental Quality Act (CEQA) Guidelines Section 15064.5 for historical resources, and all applicable local guidelines and regulations to assess potential Project-related impacts to built environment resources under CEQA. Ms. Jones's role in the preparation report included biographical research for the architects that contributed to the building of Northgate Town Square and the preparation of a DPR 523 for the Northgate complex and a continuation DPR523 form for an adjacent neighborhood. (2021).

650 North King Road, Santa Clara County, California. Served as the architectural historian and author of the Standalone DPR 523 form for the 650 North King Road Project. Ms. Jones conducted archival, map, aerial, property, and building development, research; conducted an evaluation of property for the NRHP, CRHR, California Historical Landmark, and local eligibility criteria and integrity requirements; an assessment of impacts to historical resources in compliance with CEQA; and prepared the DPR 523 form (2021)

Publications

Jones, Erin T. 2021. "Sutter County Century Farmers." Graduate Practicum. June 2021.

Awards

The George Bramson Award for Historic Preservation. 2021. Awarded for original work documenting Sutter County's Historic Vernacular Landscape.

Kathryn Haley, MA

HISTORIC BUILT ENVIRONMENT LEAD

Kathryn Haley (*KATH-rin HAY-lee; she/her*) is a historic built environment resource specialist/architectural historian with 19 years' professional experience in historic/cultural resource management. Ms. Haley has worked on a wide variety of projects involving historic research, field inventory, and site assessment conducted for compliance with Section 106 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA). Ms. Haley specializes in the California Register of Historical Resources (CRHR); the National Register of Historic Places (NRHP); and evaluations of built environment resources, including water management structures (levees, canals, dams, sewers plants and maintenance centers, and ditches), and linear resources (railroad alignments, roads, and bridges). She has prepared numerous Historic Resources Evaluation Reports (HRERs) and Historic Property Survey Reports (HPSRs) for the California Department of Transportation (Caltrans). She meets the Secretary of the Interior's Professional Qualification Standards for historian and architectural historian. Moreover, Ms. Haley has served as project manager, coordinator, quality assurance/quality control (QA/QC), historian, and researcher for a wide variety of projects. She is also experienced in the preparation of Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) documents, as well as the preparation for National Register nominations.



Education

California State University, Sacramento MA, Public History, 2004

California State University, Sacramento BA, History, 2001

Professional Affiliations

California Council for the Promotion of History (former Treasurer)

California Preservation Foundation

Recent Dudek Project Experience

On-Call Services for Department of Water Resources, Operations and Maintenance Division, State of California. Dudek was retained by the State of California's Department of Water Resources (DWR), Operations and Maintenance Division (O&M), to assist in a wide range of on-going environmental compliance efforts. Under this on-call contract, Ms. Haley serves as project manager for a task order focused on assisting DWR in efforts to streamline cultural resources environmental documentation for O&M projects. Dudek is also preparing several built environment technical reports for several projects under this contract. She provided senior-level guidance throughout each task order and QA/QC on a standardized historic context statement for State Water Project (SWP), as well as Historical Resources Technical Reports for various SWP maintenance projects. Technical reports have been prepared for O&M projects at the following structures (2020–Present):

- Oroville Dam and spillway (2022)
- Cedar Springs Dam and spillway (2022)
- South Bay Aqueduct (2021)
- Patterson Dam and reservoir (2021)
- Clifton Court Forebay (2021)
- segments of the California Aqueduct (2020-2021)

- San Luis Field Division Operations and Maintenance Center (2021, 2022)
- Gianelli Pumping-Generating Plant (2022)
- Dos Amigos Pumping Plant (2021, 2022)
- Coalinga Operations and Maintenance Subcenter (2021)
- B.F. Sisk Dam/San Luis Reservoir Historic District (2021, 2022).

Laguna Creek Diversion Retrofit Project, CEQA Compliance and U.S. Army Corps of Engineers permitting, City of Santa Cruz, Bonny Doon, California. As lead architectural historian, Haley co-authored the Cultural Resources Inventory, Evaluation and Finding of Effect Report for the Laguna Creek Diversion Retrofit Project. The purpose of the project is to retrofit the existing 1890 Laguna Creek Diversion Facility in Bonny Doon, California with a new intake and sediment control system. The significance evaluation determined that the Laguna Creek Dam appears individually eligible as a historic resource/property under NRHP/CRHR Criterion A/1, and Santa Cruz County Criterion 2 as a well-preserved masonry water management structure dating to 1890. It is a physical example of pioneering water management infrastructure in California and is significant for its association with early advances in water management in California, specifically through creation of the City of Santa Cruz's first municipal water distribution system. All other associated facility buildings and structures were found not eligible under all NRHP, CRHR, and local designation criteria, and the project effects assessment recommends that the project would have a less than significant impact on historical resources (CEQA)/no adverse effect on historic properties (NHPA). (2020–2021)

Historic Resources Compliance Report for the Crowther Sewer Pipeline Project, City of Placentia, Orange County, California. 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. All cultural resources work was conducted according to Caltrans guidelines for compliance with CEQA. Provided QA/QC for the Historic Resources Compliance Report. (2020–Ongoing)

Santa Cruz Wharf Maintenance Project CEQA Compliance and U.S. Army Corps of Engineers permitting, City of Santa Cruz, California. The Dudek built environment team conducted fieldwork and co-authored the Evaluation and Finding of Effect Report for the Santa Cruz Wharf Maintenance Project. The report was prepared in compliance with Section 106 and in support of the permitting process with the U.S. Army Corps of Engineers (ACOE). Haley co-authored all documentation related to the Wharf, including the significance evaluation that recommended the Wharf as eligible under NRHP Criterion A for its continued associations with the industrial development, transportation, commerce, and recreation development of Santa Cruz and under Criterion C as a distinctive engineering structure known to be the longest wooden pier structure located along the United States west coast. Additionally, a detailed effects assessment determined that the proposed Wharf Maintenance project would have a less than significant impact on historical resources (CEQA)/no adverse effect on historic properties (Section 106). Provided senior-level guidance throughout the project and QA/QC on the technical report. (2020)

Municipal Waterways Maintenance Project CEQA Compliance and ACOE permitting, City of San Diego, California. Dudek developed the Municipal Waterways Maintenance Plan (MWMP) in close coordination with the City of San Diego and prepared a program EIR for the City's on-going stormwater facility maintenance program. The MWMP details the planned maintenance activities, specific facility maintenance locations, biological compensatory mitigation sites, agency permitting procedures, and includes site-specific facility maintenance plans and/or technical summaries for stormwater conveyance channels, ditches, structures, and basins throughout eight watersheds within the City's municipal boundaries. Dudek prepared a program EIR for the maintenance program, including cultural resources as one of the associated technical studies. Provided senior-level guidance on built environment resources for the project and QA/QC on the technical documentation. (2019–Ongoing.)

Appendix B

DPR Form: Hill Canyon Water Treatment Plant

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** 28 ***Resource Name or #:** (Assigned by recorder) Hill Canyon Treatment Plant
P1. Other Identifier: Hill Canyon Wastewater Treatment Plant

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
- ***a. County** Ventura **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
- ***b. USGS 7.5' Quad** Newbury Park, Calif. **Date** 2015 **T** 02N ; **R** 19W, 20W **of Sec** 36, 36 ; San Bernadino **B.M.**
- c. Address 9600 Santa Rosa Road City Camarillo Zip 93012
- d. UTM: Zone 11S, 323120.85 mE/ 3787636.08 mN (northeast corner);
  Zone 11S, 323024.32 mE/ 3787657.32 mN (northwest corner);
  Zone 11S, 323037.56 mE/ 3787220.09 mN (southeast corner);
  Zone 11S, 322636.74 mE/ 3787094.13 mN (southwest corner)
- e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

Parcel Numbers: 552-0-130-015, 520-0-300-115, and 667-0-120-170
Elevation: 278 to 301 feet amsl
Decimal Degrees (centroid): 34.210883°, -118.923410°

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Hill Canyon Treatment Plant was first developed in 1961 but expanded continuously throughout the late twentieth and early twenty-first centuries. *(See Continuation Sheet)

P3b. Resource Attributes: (List attributes and codes) HP9. Public utility building; HP11. Engineering structure

***P4. Resources Present:** ☒Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Overview of the Hill Canyon Treatment Plant facility. View facing south (IMG_7468).

***P6. Date Constructed/Age and Source:**
☒ Historic ☐ Prehistoric ☐ Both
1961 (Bidwell 1989, p. 49; Ventura County Star-Free Press 1961, p. 2

***P7. Owner and Address:**
City Of Thousand Oaks
2100 Thousand Oaks Boulevard
Thousand Oaks, California 91362

***P8. Recorded by:** (Name, affiliation, and address) Kate Kaiser MSHP
Dudek
38 N. Marengo, Pasadena, CA 91101

***P9. Date Recorded:** 3/23/2022

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, Kate, Erin Jones, and Katie Haley. 2022. Built Environment Inventory and Evaluation Report for Hill Canyon Treatment Plant Stormwater Diversion Project. Prepared May 2022 for City of Thousand Oaks.

***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): _____

State of California - The Resources Agency Primary # _____
DEPARTMENT OF PARKS AND RECREATION HRI# _____

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Hill Canyon Treatment Plant ***NRHP Status Code** 6Z
Page 2 **of** 28

B1. Historic Name: Hill Canyon Wastewater Treatment Plant
B2. Common Name: Hill Canyon Treatment Plant
B3. Original Use: Wastewater treatment B4. Present Use: Wastewater treatment
***B5. Architectural Style:** No Specific style noted
***B6. Construction History:** (Construction date, alterations, and date of alterations)
*(See Continuation Sheet)

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:**

None noted

B9a. Engineer: Pomeroy & Associates 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.)

The Hill Canyon Treatment Plant does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, nor does it meet local criteria to be considered as a City of Thousand Oaks Landmark or Point of Historical Interest, as demonstrated in the continuation sheets below.

*(See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes) _____

***B12. References:**

*(See Continuation Sheet)

B13. Remarks:

***B14. Evaluator:** Kate G. Kaiser, MSHP
***Date of Evaluation:** 5/20/2022

(Sketch Map with north arrow required.)

* (See Continuation Sheet)

(This space reserved for official comments.)

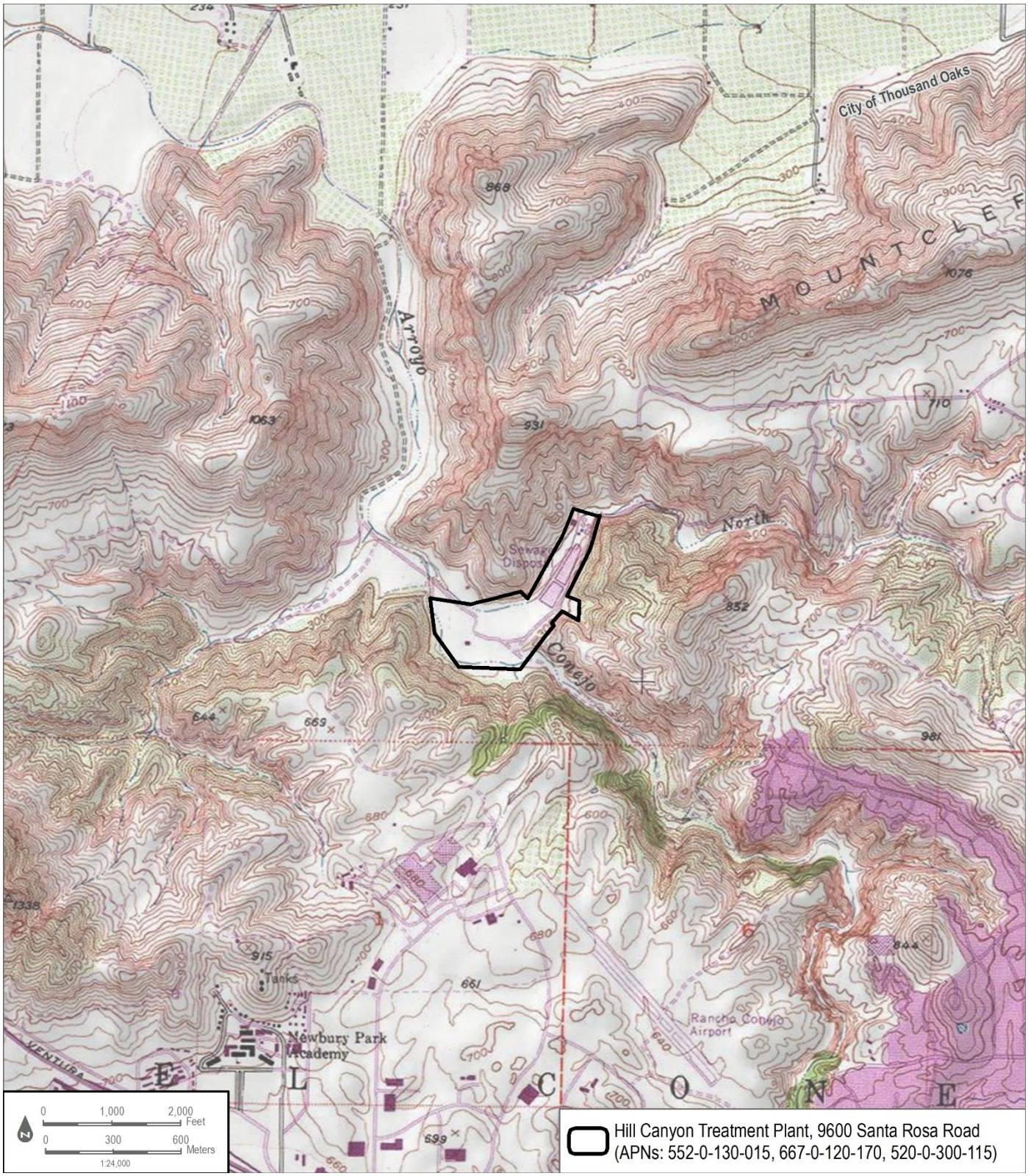
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 3 **of** 28
***Map Name:** Newbury Park, Calif.

***Resource Name or #** (Assigned by recorder) Hill Canyon Treatment Plant
***Scale:** 1:24,000 ***Date of map:** 2022



P3a. Description (Continued): The original portions of the plant were constructed in 1961 and it has been expanded several times over the course of its history. The Hill Canyon Treatment Plant property is located at 9600 San Rosa Road in the City of Thousand Oaks (APNs 552-0-130-015, 520-0-300-115, and 667-0-120-170) and contains eleven buildings and nineteen structures. Circa dates for construction of buildings and structures were chosen by selecting the median year between two aerials photographs dates, whenever aerial photographs were used to estimate the construction. The Table below provides a summary of survey observations, descriptions, including a photograph of each building and/or structure, the year built (if known), a general physical description of the building/structure, and any alterations identified.

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
1	Operations Building (c. 1998)	Map ID No. 1: Operations Building, constructed between 1994 and 2002, is a two-story, rectangular building, oriented southeast to northwest, and features a gable roof. A rectangular projection extends from the roof's ridgeline that is equipped with mechanical and ventilation features. The roof is clad in corrugated metal while the gable wall features smooth stucco cladding. The building's south (main) and north (rear) elevations feature a gabled extension with opaque, horizontal, glass window accents that area supported by two columns comprised of rough concrete masonry blocks. The gable roof on the south (main) elevation shelters features rows of rectangular windows. At the west end of the windows there is a glass door in a steel frame, topped by a transom lite. A metal man-door is located at the west end of the elevation.	 Main (south) elevation of Map ID No. 1: Operations Building. View looking north (IMG_7414).
2	Thickening Building (1983)	Map ID No. 2: Thickening Building, constructed as part of the 1987 plant expansion, is a two-story, rectangular building, oriented southeast to northwest, has a flat roof equipped with mechanical and ventilation equipment, and is banked into a moderate slope . Fenestration on the building includes windows comprised of opaque glass block, arranged horizontally. On the rear elevation of the building, an open, oversized	

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
		entrance access mechanical components while a metal man-door affixed with a glass window, access the interior of the building. Affixed to the west side of Map ID No. 2: Thickening Building is Map ID No. 3: Biogas Tanks.	North and east elevations of Map ID No. 2: Thickening Building. View looking south (IMG_7420).
3	Biogas Tanks (2005)	Map ID No. 3: Biogas Tanks are located directly west of Map ID No. 2: Thickening Building. The tanks are located on an approximately seven-foot-tall concrete foundation. Four tall, metal tanks fed by pipes are located directly north of a corrugated metal shipping container that supports pipes and mechanical equipment.	 Map ID No. 3: Biogas Tanks, behind pumps; view looking south (IMG_7420).
4	Digester No.1 (1970) Digestor No. 2 (1961) Digestor No. 3 (c. 1998)	The Hill Canyon Treatment Plant is equipped with Map ID No. 4, which includes Digestors No. 1 (1961), 2 (1970), and 3 (constructed between 1994 and 2002). The three digesters, all approximately 65 feet in diameter, are arranged north to south in the northeast corner of the complex. These standalone digestors are large, concrete circular tanks are approximately three-stories tall. A metal staircase, guarded by a metal rail, climbs the south elevation of the digestors to access the structure's roof, which is also bordered by a metal rail. Metal pipes and mechanical equipment are located at the rear (north) of the structures.	 Map ID No. 4: Digestors No. 1, 2 and 3 (left to right), view facing northeast (IMG_7444).

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			 Map ID No. 4: Digestor No. 1, view facing south (IMG_7423).
5	North Headworks (1961)	Map ID No. 5: North Headworks, constructed in 1961, is located in the northwest corner of the facility, directly north of Map ID No. 6: Primary Clarifier No. 3. Map ID No. 5: North Headworks is comprised of mechanical and electrical components including pipes, pumps, and funnels. The east portion of headworks is comprised of electrical equipment and is sheltered by a rectangular shelter supported by metal posts. This section is below ground level and accessed by concrete steps, located to the west of the equipment, and guarded by a metal rail. The center and western half of Map ID No. 5: North Headworks includes a large funnel positioned above ground level that is accessed by a metal ladder and balcony as well as pipes, electrical equipment boxes, and mechanical components. An identical second shelter is located at the far end (west) of Map ID No. 5 and shelters electrical equipment.	 Map ID No. 5: North Headworks, view facing east (IMG_7461).

Table 1. Hill Canyon Treatment Plant Buildings and Structures

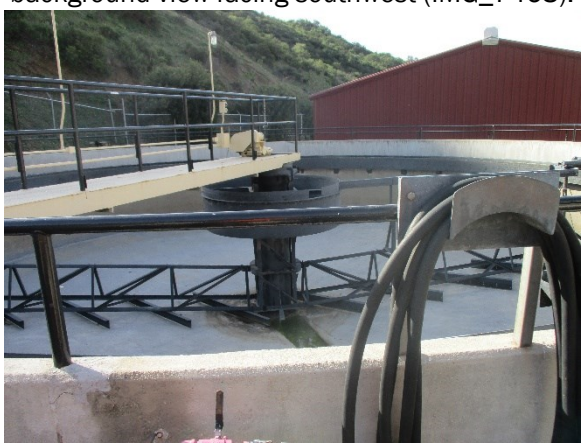
Map ID No.	Resource Name	Resource Description	Photograph
6	Primary Clarifier No. 1, and 4 (1961), Primary Clarifier No. 2 (c. 1966) , and Primary Clarifier No. 3 (1970)	Map ID No. 6: Primary Clarifier No. 1, and 4 were constructed in 1961 while Map ID No. 6: Primary Clarifier No. 2 was added between 1965 and 1967 and Map ID No. 6: Primary Clarifier No. 3 was added to the facility in 1970. Map ID No. 6: Primary Clarifiers No. 2, 3, and 4 are approximately 70 feet in diameter while. Map ID No. 6: Primary Clarifier No. 1 is approximately 50 feet in diameter. The four tanks extend approximately 2 feet above ground level and extend below the surface. The interior of the tanks, boarded by the top of the concrete tank and a metal rail, includes a large metal arm that stirs the contents of the primary clarifiers. Located at the edge of each tank is a metal shelter, supported by posts, which protects electrical components. The components are below ground level, bordered by a low concrete lip and metal security rail, and are accessed via a metal staircase.	 Map ID No. 6: Primary Clarifier No. 2, No. 4 in background view facing southwest (IMG_7468).  Interior of Map ID No. 6: Primary Clarifier No. 4, view facing east(IMG_7479).
7	Maintenance Storage Building (2003)	Map ID No. 7: Maintenance Storage Building is a prefabricated metal building, constructed in 2003 by VP Metal Building Construction. The rectangular plan building-oriented north to south, has a front-gabled roof, and is clad in corrugated metal. The building's south (main) elevation is accessed via an oversized metal roll-up garage door and a metal, man-sized door. Ventilation systems are positioned on the roof's ridgeline.	

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			South (main) elevation of Map ID No. 7: Maintenance Storage Building, view looking northwest (IMG_7447).
8	Cart Garage and Shop Building (1961)	Map ID No. 8: Cart Garage and Shop Building, constructed in 1961 and added on to in 1979. It features a rectangular, raised-seam, front-gable, metal roof supported by eight rectangular metal poles. Underneath the east end of the shelter is the "shop," a building constructed from concrete masonry blocks, accessed via a double metal door located on the south (main) elevation directly east of a single, rectangular glass window. The western one-third of the roof shelters an open space bordered by a metal fence with double retractable gates located on the fence's south face.	 South (main) elevation of Map ID No. 8: Cart Garage and Shop Building. View facing north (IMG_7449).
9	Aeration System No. 1 (1961) Aeration System No. 2 (1970)	Map ID No. 9: Aeration System No. 1 was constructed in 1961 with a second, identical aeration bed (Map ID No. 9: Aeration System No. 2) was constructed in 1970. In 2003, Map ID 10: Blower Building No. 1 was constructed between the two aeration systems. Map ID No. 9 is comprised of two beds, divided into four pools apiece by concrete bulkheads, and guarded by a low concrete lip and metal rail.	 Map ID No. 9: Aeration System No. 1, view looking northwest (IMG_7488).

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			 Map ID No. 9: Aeration System No. 2, view looking southwest (IMG_7488).
10	Blower Building No. 1 (2003)	Map ID No. 10: Blower Building No. 1 was constructed in the 2003 plant expansion, is two stories in height, has a front-gable roof, and features a second-story overhang that shelters the building's entrances located on the first story. The first story of the building, constructed of concrete masonry blocks, has four, louvered vents on the building's south elevation and two entrances on the building's west (main) elevation. One entrance is a metal roll-up garage door is located directly west of the building's second entrance, and a metal man-door with a tall transom light. Three addition, identical man-doors are located on the building's north elevation. The second story is clad in raised-seam metal and has a louvered vent in the gable wall.	 North and west elevation of Map ID No. 10: Blower Building No. 1, view looking southwest (IMG_7442).

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
11	Primary Effluent Splitter Box (2003)	Map ID No. 11: Primary Effluent Splitter Box was constructed in the 2003 plant expansion, and is comprised of a toll concrete foundation, pipes, electrical components located on the side of the structure, and a tall storage tank labeled "GLYCERIN." The platform is accessed on the north side via a metal staircase. The entire structure is bordered by a metal rail.	 Map ID No. 11: Primary Effluent Splitter Box (IMG_7491).
12	Secondary Clarifier No. 1 (1970) Secondary Clarifier No. 2 (1987) Secondary Clarifier No. 3 (c. 1998)	Map ID No. 12: Secondary Clarifier No. 1 was constructed in the 1970 expansion project, Map ID No. 12: Secondary Clarifier No. 2 was constructed in the 1987 expansion project, and Secondary Clarifier No. 3 was constructed in c. 1998 as the Hill Canyon Treatment Plant continued to expand south. The three secondary clarifiers, all approximately 130 feet in diameter, extend slightly above ground level and extend below the surface. The interior of the tanks, boarded by the top of the concrete tank and a metal rail, includes a large metal arm that stirs the contents of the primary clarifiers.	 Map ID No. 12: Secondary Clarifier No. 2, view facing west (IMG_7511)  Interior of Map ID No. 12: Secondary Clarifier No. 1, view facing north (IMG_7501)

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
13	Vehicle Fueling Station (2003)	The two-story Map ID No. 13: Vehicle Fueling Station is comprised of a front-gable raised-seam metal roof supported by eight square posts sunk into circular concrete piers. It was constructed as part of the plants 2003 expansion. Two rectangular vents are located on the structure's roofline. The roof shelters a large fuel tank, and a one-story square rectangular building with a flat roof.	 Map ID No. 13: Vehicle Fueling Station, view looking north (IMG_7507)
14	Wastewater Pump Station: North building (2003) South structure (c. 2007)	Map ID No. 14: Wastewater Pump Station is comprised of one building (north) and one structure (south), both of which are constructed on a raised concrete foundation. The building, constructed in 2003, is made of concrete masonry blocks and is topped by a raised-seam metal roof. The building is accessed via a metal man-door on the building's south (main elevation). Two louvered vents are located on the south (main) elevation, with one located in the gable wall. The southern structure is a flat metal roof supported by two square posts on two cement bases, sheltering the pump system. This shelter was added between 2005 and 2009.	 One building (north) and one pump with a shelter structure (south) comprise Map ID No. 14: Wastewater Pump Station, view facing east (IMG_7510).
15	Blower Building No. 2 (2003)	Map ID No. 15: Blower Building No. 2, constructed as part of the plant's 2003 expansion, appears identical to Map ID No. 10: Blower Building No. 1. The two-story building has a front-gable roof, an overhanging second story, is constructed of concrete masonry blocks, with metal paneling in the upper story, and features louvered vents, multiple man-doors, and one roll-up metal garage door.	

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			Map ID No. 15: Blower Building No. 2's east (main) and south elevation, view facing northwest (IMG_7525).
16	Chlorine Contact Channel (1970)	Map ID No. 16: Chlorine Contact Channel was constructed in the 1970 expansion project. The channel is L-shaped and is approximately 1,230 feet long and bordered by a low concrete wall and topped by a flat concrete roof. The channel was enclosed in multiple phases between 2002 and 2006. The Chlorine Contact Channel is bisected by Map ID No. 17: Filter Backwash Pump Station.	 The long arm of Map ID No. 16: Chlorine Contact Channel, view facing northeast (IMG_7574).
17	Filter Backwash Pump Station (1987)	Map ID No. 17: Filter Backwash Pump Station bisects Map ID No. 16: Chlorine Contact Channel.	 Map ID No. 17: Filter Backwash Pump Station, view facing north (IMG_7526)
18	Bio-Reactor Basins No. 3, 4, 5, and 6 (2003)	Map ID No. 18: Bio-Reactor Basins No. 3, 4, 5, and 6 were constructed during the 2003 plant expansion project and are comprised of eight rows of pools located on a raised, concrete platform approximately 2 feet tall. The pools are separated by concrete bulkheads and guarded by a metal rail. The platform is accessed via a set of metal stairs on the structure's west side.	

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
			Bio-Reactor Basins No. 3, 4, 5, and 6 west (main) and south's elevation. View looking northwest (IMG_7532).
19	South Headworks (1987)	Map ID No. 19: South Headworks were constructed in during the 1987 expansion project and is comprised of twelve pools arranged in a three-by-four pattern located on a tall raised, concrete platform. A rectangular, raised-seam metal structure projects from the south works west elevation.	 Map ID No. 19: South building, view facing northeast (IMG_7569).
20	Filter Influent Pump Station no. 1 (2005) Filter Influent Pup Station No. 2 (c. 1998)	Map ID No. 20: Filter Influent Pump Station No. 1 was constructed in 2005 and Filter Influent Pup Station No. 2 was constructed in between 1994 and 2002, directly north of Map ID No. 25: Flow Equalization Basin No. 1 and 2. Each pump station is equipped with two pumps sheltered by a corrugated metal roof supported by rectangular posts. Map ID No. 20: Filter Influent Pump Stations No's 1 and 2 are located on the north edge of Map ID No. 25: Flow Equalization Basin No. 1 and 2.	 Map ID No. 20: Filter Influent Pump Station No. 1, view facing west (IMG_7634).
21	Tertiary Filters and Filter Expansions (c. 1979)	Map ID No. 21: Tertiary Filters and Filter Expansions building was part of the 1977 expansion project but was actually constructed between 1978 and 1980 and is comprised a concrete platform on which 10 pools arranged in a two-by-five pattern located on a tall raised. The building as expanded in 1987 and 2003. Three garage bays, with rollup metal garage doors, project from the building's northeast corner. Map ID No. 22: Chemical Building and Map ID No. 23: Maintenance Building No. 1, constructed at the same time as	

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
		Map ID No. 21: Tertiary Filters and Filter Expansions, are affixed to the structure's west elevation.	Map ID No. No. 21:Tertiary Filters and Filter Expansions. View facing northeast (IMG_7560).
22	Chemical Building (c. 1979)	Map ID No. 22: Chemical Building was part of the 1977 expansion project but was actually constructed in between 1978 and 1980 and is affixed to the northern section of Map ID No. 23: Maintenance Building. Map ID No. 22: Chemical Building is a one-story concrete building with a flat roof supported by two large concrete posts that shelter an open courtyard. The building has darkened, black tinted windows arranged in a row in the second story, with curved corners for a modernist approach.	 Map ID No. 22: Chemical Building (right) and Map ID No. 23: Maintenance Building No. 1 (left), view looking northeast (IMG_7555).
23	Maintenance Building No. 1 (c. 1979)	Map ID No. 23: Maintenance Building No. 1 was part of the 1977 expansion project but was actually constructed in between 1978 and 1980 and connected to the east side of Map ID No. 21: Tertiary Filters and Filter Expansions and attached south side of Map ID No. 22: Chemical Building. Map ID No. 23: Maintenance Building No. 1 is a two-story concrete building with a flat roof and exterior stairwell to access the building's upper story from the exterior. The building has black tinted windows arranged in a row in the second story, with curved corners for a modernist approach. The building is accessed via two sets of double metal doors located on the south (main) and west elevations.	 Map ID No. 23: Maintenance Building No. 1 and view looking north (IMG_7421)

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
24	Maintenance Building No. 2 (c. 1998)	Map ID No. 24: Maintenance Building No. 2 was constructed in between 1994 and 2002 replacing and earlier Maintenance Building constructed in circa 1979. Maintenance Building No. 2 is a two-story, rectangular building constructed of concrete, with a flat roof. The building lacks fenestration. The building's east (main) elevation features two oversized doorways with rollup metal garage doors and two metal man-doors with fixed transom lights. Entrances on the building's south elevation also includes two metal rollup garage doors.	 West (main) and south elevations of Map ID No. 24: Maintenance Building No. 2, view looking north (IMG_7556).
25	Flow Equalization Basin No. 1 and 2 (c. 1998)	Map ID No. 25: Flow Equalization Basin No. 1 and 2 were constructed between 1994 and 2002, and feature two concrete-lined basins protected me a metal rail. Concrete bulkheads divide the two basins. Map ID No. 20: Filter Influent Pump Station No. 1 is located at the northern edge of the basin.	 Map ID No. 25: Flow Equalization Basin No. 2, view facing northeast (IMG_7582).
26	Michael Lamber Drying Beds (1977)	Map ID No. 26: Michael Lamber Drying Beds were constructed in 1977 as part of the 1977 expansion project and originally had fifteen rectangular individual drying beds separated by a paved road. In 2019, the north half of the drying beds were paved and redesignated as a parking lot.	 Map ID No. 26: Michael Lamber Drying Beds (south); parking lot (north), view facing southwest (IMG_7585)

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
27	Dewatering/Generator Building (c. 1998)	Map ID No. 27: Dewatering/Generator Building was constructed in between 1994 and 2002. The two-story concrete building has a rectangular footprint, flat roof, and a vehicle port and scales on its west elevation for loading and unloading. The building lacks fenestration. Louvered vents are located on the building's north elevation. Rollup garage doors are located on the building's south (rear) elevation first and second stories. Two, metal man doors are also located on both stories on the building's south side. A metal balcony and staircase, which are protected by a metal railing, access the second-story entrance.	 Map ID No. No. 27: Dewatering/Generator Building rear (south) and east elevation, view looking northeast (IMG_7598)
28	Sodium Bisuphite Storage Structure (2003)	Map ID No. 28: Sodium Bisuphite Storage Building was constructed during the 2003 plant expansion and features a rectangular footprint, flat-roofed metal shelter over two large Sodium Bisuphite storage tanks.	 Map ID No. 28: Sodium Bisuphite Storage Structure north elevation, view looking southeast (IMG_7544).

Table 1. Hill Canyon Treatment Plant Buildings and Structures

Map ID No.	Resource Name	Resource Description	Photograph
29	Mixed Liquor Channel (c. 1992)	Map ID No. 29: Mixed Liquor Channel was constructed between 1989 and 1994 and is comprised of a single pipe approximately 180 feet long. The pipe is protected by a low concrete curb and metal safety cage.	 Exhibit 37 – North end of Map ID No. 29: Dewatering/Generator Building, view looking south (IMG_7523)
30	Wastewater Reclamation System (c. 1979)	Map ID No. 30: Wastewater Reclamation System was part of the 1977 expansion project but was actually constructed between 1978 and 1980 and consists of one in-ground, subterranean tank, topped by concrete and protected by a concrete curb. Because the structure was underground, it was not visible during survey.	 Map ID No. 30: Wastewater Reclamation System, South Headworks in background; view looking north (IMG_7565).

B6. Construction History (Continued):

Dudek staff received inspection reports, permits, City resolutions, and condition reports from the City of Thousand Oaks on May 10, 2022, pertaining to Hill Canyon Treatment Plant, 9600 Santa Rosa Road (APNs 552-0-130-015, 520-0-300-115, and 667-0-120-170). Observed alterations are also included in this section, and dates stated if known:

- 1959. Original Construction begins
- 1961. Original Construction finishes, completed features include:
  - Map ID No. 4: Digestor No. 1,
  - Map ID No. 5: North Headworks,

- Map ID No. 6: Primary Clarifiers 1 and 4,
- Map ID No. 8: Cart Garage and Shop Building
- Map ID No. 9: Aeration Station 1,
- Two large settling ponds
- Administrative/Operations Building (now demolished)

- 1966. Annexation to the City of Thousand Oaks (City of Thousand Oaks 1966)
  - Observed: Map ID No. 6: Primary Clarifier No. 2 constructed
- 1968. Sludge Lagoons Construction (City of Thousand Oaks 1968)
- 1970. Phase I expansion (City of Thousand Oaks. 1970), added features include:
  - Map ID No. 4: Digester No. 3,
  - Map ID No. 6: Primary Clarifier No. 3,
  - Map ID No. 9: Aeration System No. 2,
  - Map ID No. 12: Secondary Clarifier No. 1
- 1977. Phase IB expansion (City of Thousand Oaks 1977; James M. Montgomery Consulting Engineers Inc. 1977), added features include:
  - Map ID No. 26. Michael Lambert Drying Beds
  - two new sludge drying beds (now a solar field),
  - Map ID No. 21: Tertiary Filters Building (actually constructed circa 1979)
  - Map ID No. 22: Chemical Building, (actually constructed circa 1979)
  - Map ID No. 23: Maintenance Building No. 1, (actually constructed circa 1979)
  - Map ID No. 30: Wastewater Reclamation System
- 1983. Phase IB expansion (James M. Montgomery Consulting Engineers Inc. 1983), added features include:
  - Map ID No. 2: Thickening Building,
- 1986. Hill Canyon Wastewater Treatment Plant Equalization Basin Lining Project (James M. Montgomery Consulting Engineers Inc. 1986), added features include:
  - Map ID No. 25: Equalization Basin split drying bed into 2 equalization Basins
- 1987. Phase IB expansion (James M. Montgomery Consulting Engineers Inc. 1987), added features include:
  - Map ID No. 19: South Headworks,
  - Map ID No. 12: Secondary Clarifiers No. 2, and
  - Map ID No. 17: Filter Backwash Pump Station
- Observed. Circa 1989-1994. Map ID No. 29: Mixed Liquor Channel constructed
- Observed. Circa 1994-2002. Another expansion Project, no record on file with City (NETR 2022; UCSB 2022)
  - Map ID No. 1: Operations Building,
  - Map ID No. 4: Digestor No. 3,
  - Map ID No. 12: Secondary Clarifiers No. 3,
  - Map ID No. 20: Filter Influent Pump Station No. 2,

- Map ID No. 24: Maintenance Building No. 2,
- Map ID No. 27: Dewatering/Generator Building, and

- 2003. Hill Canyon Wastewater Treatment Plant Expansion/Upgrade – Phase II (CH2M Hill 2003), added features include:
  - Map ID No. 7: Maintenance Storage Building,
  - Map ID No. 10: Blower Building No. 1,
  - Map ID No. 11: Primary Effluent Splitter Box,
  - Map ID No. 13: Vehicle Fueling Station,
  - Map ID No. 14: Wastewater Pump Station,
  - Map ID No. 15: Blower Building No. 2,
  - Map ID No. 18: Bio Reactor Basin No. 3, 4, 5, and 6,
  - Map ID No. 28: Sodium Bisuphite Storage Building 1, and
- 2005. Hill Canyon Wastewater Treatment Plant Expansion and Upgrade – Phase III (CH2M Hill 2005), added features include:
  - Map ID No. 3: Biogas Tanks and
  - Map ID No. 20: Filter Influent Pump Station No. 1

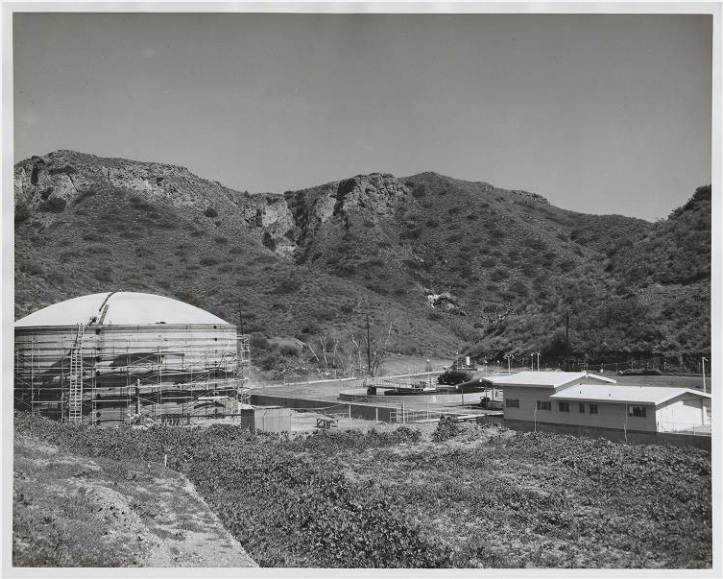
B10. Significance (Continued):

Historical Background for the Hill Canyon Treatment Plant

As the Conejo Valley and Thousand Oaks regions continued to develop in the mid-twentieth century, the need for a centralized wastewater treatment facility was apparent as community growth outpaced the abilities of private septic tanks, the most common method of waste disposal in the region. As a result, a private company called the Conejo Valley Sanitary Company was formed, and permits were acquired to build a wastewater plant and sewer connections for the communities of Newbury Park and Thousand Oaks. Pomeroy & Associates, a Pasadena engineering firm specializing in wastewater design and studies, was retained to design the plan. The facility, which construction began in December 1959, utilizes the canyon's natural topography that allows wastewater to be pulled by gravity through two mainlines into the treatment plant, minimizing the electrical and environmental clean-up costs for Thousand Oaks. Janss Corp. and California Lutheran College donated two million dollars to fund the development of the Hill Canyon Treatment Plant (Los Angeles Times 1962, p. 118; Bidwell 1989, p. 49; Ventura County Star 1961, p. 2).

The plant was completed in 1961, and originally included nine buildings and structures: Map ID No. 4: Digestor No. 1, Map ID No. 5: North Headworks, Map ID No. 6: Clarifiers 1, 2, and 4, Map ID No. 8: the Cart Garage and Shop Building, and Map ID No. 9: Aeration Station 1 (Exhibit 1) that are still present at the site. Two large settling ponds and several non-extant buildings were also part of this original phase of construction (Exhibit 2). Initially, the Hill Canyon Treatment Plant was designed to serve up to 90,000 people. After its incorporation in 1964, City of Thousand Oaks acquired the Hill Canyon Treatment Plant on July 1, 1966, from the Conejo Valley Sanitary Company. Average daily flow design capacity of the plant started around 4 MGD in the late 1960s. The same year, the City hired firm Pomeroy & Associates to add Sludge Dewatering Facilities to the Hill Canyon Plant, just south of the main activity area. This project was completed by 1968. (Bidwell 1989, p. 49; City of Thousand Oaks 1966; City of Thousand Oaks 2022; Gannett-Fleming 2020, p. 1-1; NETR 2022; Pomeroy & Associates 1966, pp.1-7; Ventura County Star-Free Press 1961, p. 2; UCSB 2022).

Exhibit 1. Hill Canyon Treatment Plant facilities under construction c. 1960.



Source: City of Thousand Oaks Library 2022a.

Exhibit 2. 1967 photograph of the Hill Canyon Treatment Plant taken from the MGM property, view facing south.



Source: City of Thousand Oaks Library 2022b.

Since the initial 1960s construction the City completed three major expansion projects. In 1970, the Phase I Expansion Project for Hill Canyon Treatment plant was approved by the City Council and Mayor. The Phase I construction was developed directly south of the original building complex, included Map ID No. 4: Digester No. 3, Map ID No. 5: North Headworks, Map ID No. 6: Primary Clarifier No. 3, Map ID No. 9: Aeration System No. 2, and Map ID No. 12: Secondary Clarifier No. 1. At the time, domestic, commercial, and industrial customers in the City of Thousand Oaks generated an average of eight million gallons of wastewater per day. The City of Thousand Oaks prepared for continued suburban growth, the approved a treatment plan expansion that accounted for the storage and treatment of fourteen million gallons of wastewater per day (City of Thousand Oaks 1970; Bidwell 1989, p. 47; NETR 2022; UCSB 2022).

In 1977, another expansion project was approved by the City, called Phase 1B. Phase 1B began in 1977 and consisted of multiple projects which extended to 1987. In 1977 the improvements consisted of expanding the property further south and creating two new sludge drying beds (now a solar field), and preparation for Map ID No. 21, Tertiary Filters Building Map ID No. 22. Chemical Building, Map ID No. 23 Maintenance Building No. 1, and Map ID No. 30, the Wastewater Reclamation System (City of Thousand Oaks 1977; James M. Montgomery Consulting Engineers Inc 1977; NETR 2022; UCSB 2022).

Phase 1B Expansion Project continued into the 1980s. In 1983, Map ID No. 2: Thickening Building, then called a "Sludge/Dewatering Building" was constructed. In 1986 and again in 1987, the plant was expanded again to contain and treat over nine million gallons of sewage and wastewater per day and served 29,000 people. Facilities associated with screening, grit removal, two rounds of removing solid waste, nutrient removal, multimedia filtration, disinfection, and dichlorination were developed. The treated water was discharged into Calleguas Creek, which runs north to south and terminates at the Pacific Ocean at Naval Base Fort Mugu. Solids are buried at the Simi Valley landfill (Bidwell 1989, p. 63; City of Thousand Oaks 2022). By 1987, facilities associated with screening, grit removal, two rounds of removing solid waste, nutrient removal, multimedia filtration, disinfection, and de-chlorination were developed. In 1987, Map ID No. 19: South Headworks, Map ID No. 12: Secondary Clarifiers No. 2, and Map ID No. 17: Filter Backwash Pump Station were constructed (James M. Montgomery Consulting Engineers Inc 1983, 1986, 1987; NETR 2022; UCSB 2022).

Between 1989 and 1994 Map ID No. 29: Mixed Liquor Channel was constructed. In between 1994 and 2002 another plant expansion took place and Map ID No. 1: Operations Building, Map ID No. 4: Digestor No. 3, Map ID No. 12: Secondary Clarifiers No. 3, Map ID No. 20: Filter Influent Pump Station No. 2, Map ID No. 24: Maintenance Building No. 2, Map ID No. 27: Dewatering/Generator Building, and Map ID No. 25: Flow Equalization Basin No. 1 and 2 were built (NETR 2022; UCSB 2022).

In 2003, the plant was expanded again, and Map ID No. 7: Maintenance Storage Building, Map ID No. 10: Blower Building No. 1, Map ID No. 11: Primary Effluent Splitter Box, Map ID No. 13: Vehicle Fueling Station, Map ID No. 14: Wastewater Pump Station, Map ID No. 15: Blower Building No. 2, Map ID No. 18: Bio Reactor Basin No. 3, 4, 5, and 6, Map ID No. 28: Sodium Bisuphite Storage Building 1 were developed on the property (CH2M Hill 2003; NETR 2022; UCSB 2022).

In 2005, another expansion and upgrade project for existing facilities took place. Map ID No. 14: Wastewater Pump Station, Map ID No. 3: Biogas Tanks, and Map ID No. 20: Filter Influent Pump Station No. 1 were constructed. In 2019, the north half of the Map ID No. 26 Michael Lambert Drying Beds were paved and reallocated for parking (CH2M Hill 2005; NETR 2022; UCSB 2022). Since its initial construction in 1961, the site has grown in multiple phases of expansion to the 60-acre facility which currently contains some 30 buildings and structures.

Engineering Firm: Pomeroy & Associates (1951–1965)

The Hill Canyon Treatment Plant was designed by engineering firm Pomeroy & Associates in 1961. Doctor Richard D. Pomeroy began his sanitary engineering career at the California Institute of Technology in 1926 and obtained a doctorate in philosophy in 1931 (Bakersfield Californian 1951, p. 20). After graduating, Pomeroy taught as an Associate Professor of Sanitary Engineering at Occidental College and the University of Southern California (Bakersfield Californian 1951, p. 20). In 1932, he obtained a position at the Los Angeles County Sanitation District before engaging in private consulting work. In 1950, Pomeroy founded his chemistry and civil engineering firm, Pomeroy & Associates (Los Angeles Evening Citizen News 1945, p. 4; Bakersfield Californian 1951, p. 20). Pomeroy & Associates predominantly worked on water supply, sanitation, and corrosion projects (Bakersfield Californian 1951, p. 20). In 1961, Pasadena-based consulting and civil engineers Pomeroy & Associates hired J. Wynne Davies, a water and sewage treatment expert (Independent Star-News 1961, p. 19). Davies immediately began work on the Hill Canyon Treatment Plant, which was in urgent need of expansion (Ventura County Star 1961a, p. 2). By 1965, the firm had been renamed Leason Pomeroy Associates and had offices in Orange County and in Sacramento (Los Angeles Times 1988, p. 79; Sacramento Bee 2022, p. B8).

A partial list of the water and sewer management facilities in California designed by Pomeroy & Associates includes:

- Designed system to cut stormwater entry into sewer system, City of Santa Cruz (1954) (Santa Cruz Sentinel 1954a, p 1)
- Designed separate sewer and water supply systems, City of Santa Cruz (1954) (Santa Cruz Sentinel 1954b, p. 1).
- Portions of City of Los Angeles' sewer system, City of Los Angeles (1955) (Los Angeles Times 1955, p. 4)
- Casitas Dam, Ventura River Municipal Water District, Ventura County (1956) (Ventura County Star 1956, p. 1).
- Ojai City sewage disposal system, City of Ojai (1958) (Ventura County Star 1958, p. 1).
- Upper Ventura River Valley and Ojai Valley Sewer System, Ventura County (1961) (Ventura County Star 1959, p. 5)
- Simi Valley Sewer System, Simi Valley (1961) (Ventura County Star 1961b, p. 14)
- Arroyo Conejo Sewer Trunk Line, Thousand Oaks (1963) (Ventura County Star 1963, p. 36)

National Register of Historic Places/California Register of Historic Resources Statement of Significance

The Hill Canyon Treatment Plant does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, as demonstrated below.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

Archival research on the Hill Canyon Treatment Plant property indicated that the plant is best understood as part of the broad pattern of wastewater infrastructure development in response to urban and suburban growth in Ventura County in the late twentieth and early twenty-first century. As Thousand Oaks was a relatively young community established in 1965, the Hill Canyon Treatment Plant's construction in 1961 occurs relatively late compared to other Southern California cities, which tended to create sewerage and treatment facilities in the 1910s-1930s. Thousand Oaks, once a

rural agricultural town, is now a computer and advanced technology hub. The transition began in the 1950s when the Janss family invested in Conejo Valley real estate and developed planned "total communities" that grew rapidly in the post-war and mid-century years in California.

In 1961, the Hill Canyon Treatment Plant was established by Conejo Valley Sanitary Company, a subsidiary of the Janss Corporation, to serve the rising need for public sanitation and wastewater management. The City of Thousand Oaks purchased Hill Canyon Treatment Plant in 1961, and in 1966 brought all water and sewer services under city control. Over the course of its history, the Hill Canyon Treatment Plant treated wastewater for approximately 90% of the City of Thousand Oaks, which has more than 127,000 residents. Wastewater facilities like the Hill Canyon Treatment Plant are developed like other municipal utilities to support growing and expanding communities. Although wastewater facilities represent necessary community sustaining infrastructure, they only exist to support an existing community and are merely associated with growth which is not considered a significant historic event and does not rise to the level of consideration of associative historical significance with events that have contributed to board patterns of history. In consideration of these factors, the Hill Canyon Treatment Plant is not eligible under NRHP Criterion A or CRHR Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under NRHP Criterion B or CRHR Criterion2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. An example of such a property that could be found significant under these Criteria is a famous artists studio where they conducted the work for which they are known or the headquarters building associated with a famous industrialist. The Hill Canyon Treatment Plant is a regional wastewater system that represents the collective efforts of many people who worked at the facility and it is not known to be a place where any historically significant person or group of people conducted or produce work for which they are known. Due to a lack of identified significant associations with important persons in history, the subject property is recommended ineligible under NRHP Criterion B or CRHR Criterion 2. Due to a lack of identified significant associations with important persons in history, Prothero Water Filtration Plant does not appear eligible under NRHP Criterion B or CRHR Criterion 2.

Criterion C/3: 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.

The Hill Canyon Treatment Plant was designed by Pomeroy & Associates and constructed in 1961 for the Conejo Valley Sanitary Company. Archival research indicates that Pomeroy & Associates primarily designed wastewater treatment plants and sewer systems, but appear to have filled a regional niche where other companies were not operating, rather than having any innovative designs or engineering solutions. Pomeroy & Associates do not appear to be a significant firm in the context wastewater treatment plants and sewer systems at either the national, state, or local level. Additional research did not uncover a significant body of work or craftsmanship by this firm that would elevate the firm to the level of "master" architect or engineer. As a wastewater facility, it is comprised of utilitarian buildings and infrastructure commonly found in various jurisdictions throughout the state and nationwide. In consideration of the multiple phases of expansion to support to growing community, the facility lacks a cohesive, identifiable architectural style. The design is devoid of any defining architectural or engineering features and multiple expansions from the 1970s to the 2000s altered the site's original design and demolished many original components. Further, the Hill Canyon Treatment Plant cannot be considered a representative work of the firm since many of the original buildings and structures have been

demolished, expanded, or altered in subsequent plant expansions. Finally, Hill Canyon Treatment Plant does not possess high artistic value, and should not be considered "representative of a significant and distinguishable entity whose components may lack individual distinction" as the complex is comprised of ubiquitous and utilitarian structures and prefabricated industrial buildings. Consequently, the subject property is recommended not eligible under NRHP Criterion C or CRHR Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history.

This report was limited to historical resources that are part of the built environment. NRHP Criterion D and CRHR Criterion 4 generally applies to archaeological resources but may apply to a built environment resource in instances where a resource may contain valuable information about such topics as construction techniques or human activity. Therefore, the built environment components of the subject property are recommended not eligible under NRHP Criterion D and CRHR Criterion 4.

City of Thousand Oaks Significance Evaluation

The Hill Canyon Treatment Plant does not meet any of the criteria for listing in As a City of Thousand Oaks Landmark or Point of Historical Interest. Though the property does contain buildings and structures constructed over 45 years ago, the property, as a whole does not

(1) exemplify or reflects special elements of the City's social, aesthetic, engineering, architectural or natural history, as the property was originally constructed as part of the Conejo Valley Sanitation Company holdings and predates the City's founding, as demonstrated above in NRHP/CRHR Criteria A/1 and C/3;
(2) Is not associated with events that have made a significant contribution to the broad patterns of the City's cultural heritage, and plays a mundane and ubiquitous role in the development of the city and greater urban community after its founding, as demonstrated above in NRHP/CRHR Criteria A/1;
(3) Was not found to be associated with the lives of people important to the history of the City, as demonstrated above in NRHP/CRHR Criteria 2/B;
(4) Does not have the potential to yield information important to the prehistory or history of the City, as demonstrated above in NRHP/CRHR Criteria 4/D; and
(5) Lacks a distinctive, identifiable building typology or architectural style, readily identifiable to the period of construction, region, nor does it demonstrate a unique method of construction, exemplify the work of a master or possess high artistic value.

For all of these reasons Hill Canyon Treatment Plant is not eligible as a local City of Thousand Oaks landmark.

The City of Thousand Oaks criteria for Points of Historical Interest are predicated on the idea that (1) a property is no longer extant; (2) a property has been highly altered such that it cannot convey original workmanship or materials; or (3) is the site of a historical event with no distinguishing visual landmarks or characteristics. The Hill Canyon Treatment does not qualify as a local City of Thousand Oaks point of historical interest either.

Integrity Discussion

National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation states that the integrity of a property is based upon the historical significance and character-defining features of that property, and that "only after significance is fully established can you proceed to the issue of integrity" (NPS 1995, p. 45). As the Hill Canyon

Treatment Plant property does not meet any of the required significance Criteria a discussion of integrity is inconsequential and is not required.

B12. References (Continued):

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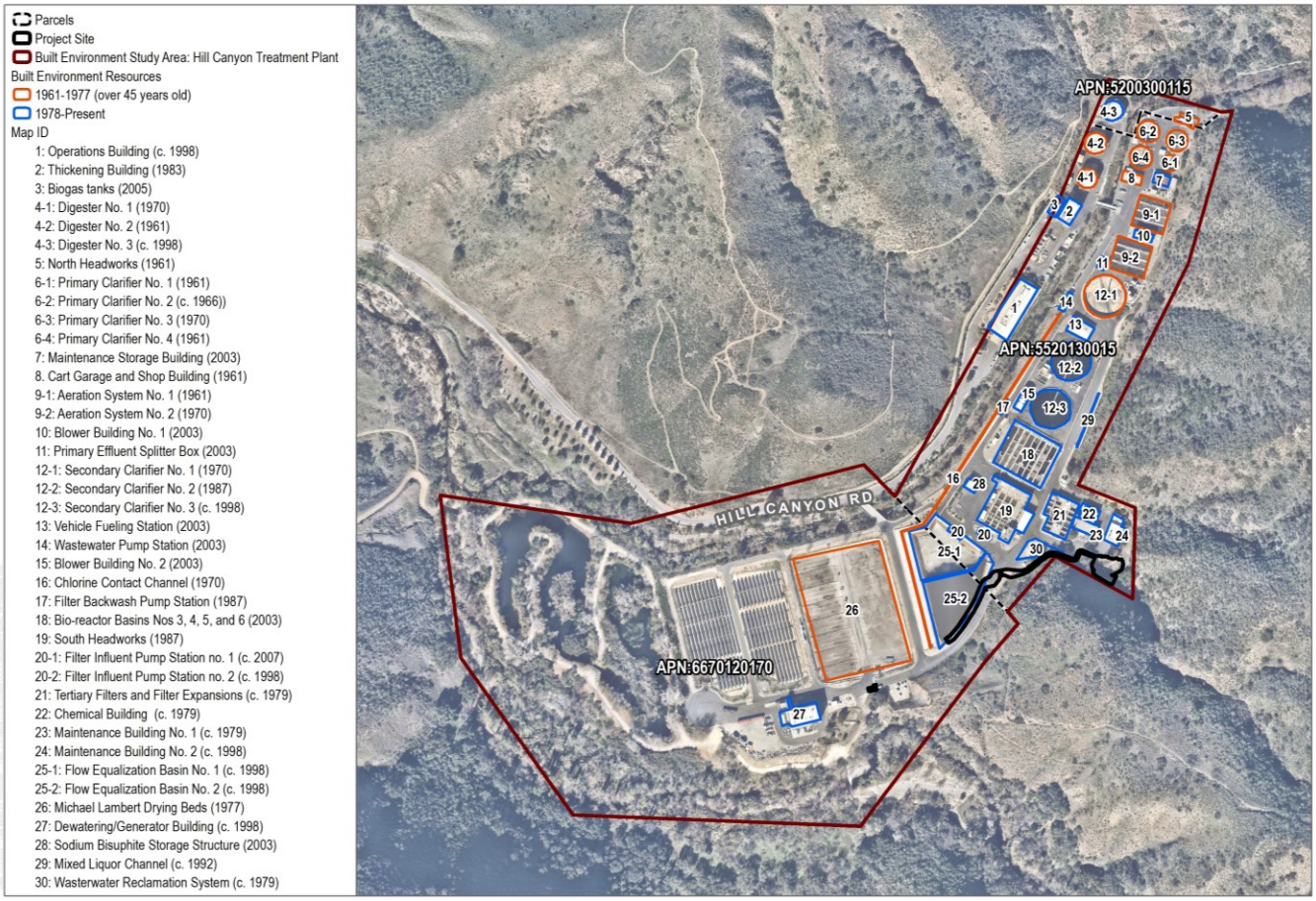
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Sketch Map (Continued):



SOURCE: Near Map 2020; Ventura County 2021

DUDEK 0 200 400 Feet

FIGURE 2
Built Environment Study Area
Hill Canyon Treatment Plant Stormwater Diversion Project, Built Environment Inventory and Evaluation Report

Appendix D
Noise Modeling Results

Field Noise Measurement Data

FORMS FIELD DATA REPORT

Field Noise Measurement Data

Record: 1565	
Project Name	*Hill Canyon*
Project #	*12767*
Observer(s)	
Date	*2023-01-20*

Meteorological Conditions	
Temp (F)	*63*
Humidity % (R.H.)	*28.9*
Wind	*Light*
Wind Speed (MPH)	*2*
Wind Direction	*North East*
Sky	*Clear*

Instrument and Calibrator Information	
Instrument Name List	*Piccolo #1897*
Instrument Name	*Piccolo #1897*
Instrument Name Lookup Key	*Piccolo #1897*
Manufacturer	*Soft dB inc.*
Model	*Piccolo*
Serial Number	*P0222050202*
Calibration Date	*5/2/2022*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name Lookup Key	*(SB) LD CAL200*
Calibrator Manufacturer	*Larson Davis*
Calibrator Model	*LD CAL200*
Calibrator Serial #	*19952*
GPS Assistance Used	*No*
Pre-Test (dBA SPL)	*93.4*
Post-Test (dBA SPL)	*94*
Windscreen	*Yes*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*
ANSI?	*Yes*

Monitoring	
Record #	*1*
Site ID	*ST2*
Site Location Lat/Long	*34.211345, -118.924397*
Begin (Time)	*10:44:00*
End (Time)	*11:59:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Creek water running*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Conversations / Yelling, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Metal gate opening and closing, 10:56 conversation*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

FORMS FIELD DATA REPORT

Source Info and Traffic Counts	
Number of Lanes	1
Lane Width (feet)	15
Roadway Width (feet)	15
Roadway Width (m)	4.6
Distance to Roadway (feet)	3
Distance to Roadway (m)	0.9
Distance Measured to Centerline or Edge of Pavement?	Edge of Pavement
Roadway Type	Road
Estimated Vehicle Speed (MPH)	20
Speeds Estimated by:	Driving the Pace
Posted Speed Limit Sign (MPH)	20

Traffic Counts	
Vehicle Count Summary	A 2, MT 0, HT 0, B 0, MC 0
Select Method for Recording Count Duration	Enter Manually
Counting Both Directions?	Yes
Count Duration (minutes)	15
Vehicle Count Tally	
Select Method for Vehicle Counts	Use Counter (+/-)
Number of Vehicles - Autos	2
Number of Vehicles - Medium Trucks	0
Number of Vehicles - Heavy Trucks	0
Number of Vehicles - Buses	0
Number of Vehicles - Motorcyles	0

Description / Photos	
Terrain	Mixed

Site Photos	
Photo	
Comments / Description	ST2 South

Site Photos

Photo	
Comments / Description	*ST2 East*

Site Photos

Photo	
Comments / Description	*ST2 West*

Site Photos

Photo	
Comments / Description	*ST2 North*

Monitoring

Record #	*2*
Site ID	*ST1*
Site Location Lat/Long	*34.204109, -118.925468*
Begin (Time)	*11:36:00*
End (Time)	*11:51:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Footsteps*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Source Info and Traffic Counts

Number of Lanes	*4*
Lane Width (feet)	*10*
Roadway Width (feet)	*60*
Roadway Width (m)	*18.3*
Distance to Roadway (feet)	*3*
Distance to Roadway (m)	*0.9*
Distance Measured to Centerline or Edge of Pavement?	*Edge of Pavement*
Roadway Type	*Boulevard*
Estimated Vehicle Speed (MPH)	*50*
Speeds Estimated by:	*Driving the Pace*
Posted Speed Limit Sign (MPH)	*45*

Traffic Counts

Vehicle Count Summary	*A 58, MT 2, HT 1, B 1, MC 0*
Select Method for Recording Count Duration	*Enter Manually*
Counting Both Directions?	*Yes*
Count Duration (minutes)	*15*
Vehicle Count Tally	
Select Method for Vehicle Counts	*Enter Manually*
Number of Vehicles - Autos	*58*
Number of Vehicles - Medium Trucks	*2*
Number of Vehicles - Heavy Trucks	*1*
Number of Vehicles - Buses	*1*
Number of Vehicles - Motorcyles	*0*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo	
Comments / Description	*ST1 Southwest*

Site Photos

Photo	
Comments / Description	*ST1 Southeast*

Site Photos

Photo	
Comments / Description	*ST1 Northwest*

Site Photos

Photo	
	
Comments / Description	*ST1 Northeast*

ST1

Number	Start Date	Start Time	End Time	Duration	LAeq	LASmax	LASmin	LAE	LApk	LAS1%	LAS10%	LAS50%	LAS90%
421	1/20/2023	11:35:50 AM	11:36:00 AM	0:00:10	47.3	49.7	44.9	57.3	66.4	49.6	49.2	47	45.2
422	1/20/2023	11:36:00 AM	11:36:10 AM	0:00:10	45.7	50.5	43.8	55.7	68.1	50.4	49	45.1	44
423	1/20/2023	11:36:10 AM	11:36:20 AM	0:00:10	51	54.1	44.6	61	71.2	54.1	52	49.5	47.9
424	1/20/2023	11:36:20 AM	11:36:30 AM	0:00:10	69.8	73.2	53.9	79.8	86.6	73.2	72.5	68.8	55.8
425	1/20/2023	11:36:30 AM	11:36:40 AM	0:00:10	62.3	71.8	54.3	72.3	88.7	71.8	70	62.4	55.2
426	1/20/2023	11:36:40 AM	11:36:50 AM	0:00:10	56.3	63.2	48.1	66.3	79	62.8	58.2	50.3	48.5
427	1/20/2023	11:36:50 AM	11:37:00 AM	0:00:10	65.4	71.6	48.1	75.4	90.4	71.6	70.6	62.1	51.4
428	1/20/2023	11:37:00 AM	11:37:10 AM	0:00:10	44.6	49.2	42.8	54.6	66.4	49.1	47.7	44.1	43
429	1/20/2023	11:37:10 AM	11:37:20 AM	0:00:10	46.5	48.3	44.3	56.5	67.2	48.2	47.5	46	44.5
430	1/20/2023	11:37:20 AM	11:37:30 AM	0:00:10	53.4	58.9	46.9	63.4	74.9	58.8	56.2	48.7	47.3
431	1/20/2023	11:37:30 AM	11:37:40 AM	0:00:10	59.6	63.9	52.6	69.6	80.5	63.8	63.5	58.9	54.6
432	1/20/2023	11:37:40 AM	11:37:50 AM	0:00:10	60.9	68.3	50.9	70.9	83.1	68	61.4	53.2	51.4
433	1/20/2023	11:37:50 AM	11:38:00 AM	0:00:10	63.2	70.6	55.3	73.2	84	70.6	69.7	58.4	56.1
434	1/20/2023	11:38:00 AM	11:38:10 AM	0:00:10	58.7	61.8	55.4	68.7	75.1	61.8	61.3	58.1	55.8
435	1/20/2023	11:38:10 AM	11:38:20 AM	0:00:10	54.8	56.6	53	64.8	74.5	56.5	56.3	54.8	53.5
436	1/20/2023	11:38:20 AM	11:38:30 AM	0:00:10	63.7	67.7	55.2	73.7	85.2	67.6	67.2	61.7	56.6
437	1/20/2023	11:38:30 AM	11:38:40 AM	0:00:10	51.4	60	46.8	61.4	67.9	59.8	57.8	50	47
438	1/20/2023	11:38:40 AM	11:38:50 AM	0:00:10	60.5	63.3	50.3	70.5	82.5	63.3	62.9	59.8	52.7
439	1/20/2023	11:38:50 AM	11:39:00 AM	0:00:10	53.3	58.1	46.8	63.3	73	58.1	57.7	51.7	47.3
440	1/20/2023	11:39:00 AM	11:39:10 AM	0:00:10	48.8	50.3	47.7	58.8	77.1	50.3	49.7	48.7	47.9
441	1/20/2023	11:39:10 AM	11:39:20 AM	0:00:10	47.8	50.1	45.8	57.8	70.6	50	49	47.9	47.1
442	1/20/2023	11:39:20 AM	11:39:30 AM	0:00:10	57.8	64	45.2	67.8	77.4	63.8	60.7	50	45.6
443	1/20/2023	11:39:30 AM	11:39:40 AM	0:00:10	60.3	65.6	49.9	70.3	82.4	65.6	65.3	57.6	51
444	1/20/2023	11:39:40 AM	11:39:50 AM	0:00:10	45.5	50.4	43.1	55.5	65.3	50.3	48.6	46.2	43.5
445	1/20/2023	11:39:50 AM	11:40:00 AM	0:00:10	44	46	42.9	54	65.2	45.9	44.7	43.8	43.3
446	1/20/2023	11:40:00 AM	11:40:10 AM	0:00:10	44.5	48.7	41.4	54.5	76	48.7	47.2	42.1	41.6
447	1/20/2023	11:40:10 AM	11:40:20 AM	0:00:10	44.8	46.6	43.1	54.8	72.9	46.5	45.9	44.6	43.4
448	1/20/2023	11:40:20 AM	11:40:30 AM	0:00:10	63.9	69.7	46.4	73.9	82.2	69.6	68	56.4	48.7
449	1/20/2023	11:40:30 AM	11:40:40 AM	0:00:10	73.3	79.3	62.5	83.3	93.6	79.2	76.4	68.4	63.1
450	1/20/2023	11:40:40 AM	11:40:50 AM	0:00:10	70.5	79.5	55.2	80.5	94.2	79.5	78.9	66	57.9
451	1/20/2023	11:40:50 AM	11:41:00 AM	0:00:10	48.1	55.1	44.7	58.1	72.2	54.9	53.5	47.1	44.9
452	1/20/2023	11:41:00 AM	11:41:10 AM	0:00:10	56	62.4	45.6	66	76.2	62.1	57.8	49.8	46.6
453	1/20/2023	11:41:10 AM	11:41:20 AM	0:00:10	69	73.8	62.5	79	88.1	73.8	72.6	67.5	64.9
454	1/20/2023	11:41:20 AM	11:41:30 AM	0:00:10	66.9	72.3	58.1	76.9	86.1	72.3	71.5	64.3	59.4

455	1/20/2023	11:41:30 AM	11:41:40 AM	0:00:10	49	58.1	47.7	59	72.4	57.8	55.1	49.1	48
456	1/20/2023	11:41:40 AM	11:41:50 AM	0:00:10	58.8	62.4	49.1	68.8	79.7	62.4	62.2	56.5	51.6
457	1/20/2023	11:41:50 AM	11:42:00 AM	0:00:10	47.9	57	45.2	57.9	71.5	56.7	53.7	48.4	45.5
458	1/20/2023	11:42:00 AM	11:42:10 AM	0:00:10	56	58.9	50.2	66	75.3	58.9	58.5	55.5	51
459	1/20/2023	11:42:10 AM	11:42:20 AM	0:00:10	47.5	51.2	46.3	57.5	66.3	51.1	49.8	47.2	46.5
460	1/20/2023	11:42:20 AM	11:42:30 AM	0:00:10	64.8	72.1	48.9	74.8	86.5	72.1	66	50.8	49.3
461	1/20/2023	11:42:30 AM	11:42:40 AM	0:00:10	59	72.1	45	69	83.9	72	69.5	57.1	46.3
462	1/20/2023	11:42:40 AM	11:42:50 AM	0:00:10	46.3	49.2	42.1	56.3	73.7	49.1	48.3	44.7	42.3
463	1/20/2023	11:42:50 AM	11:43:00 AM	0:00:10	59	62.3	49.2	69	76	62.3	62.1	58	49.4
464	1/20/2023	11:43:00 AM	11:43:10 AM	0:00:10	59.9	62.7	55.2	69.9	77.8	62.7	62.6	59.1	55.5
465	1/20/2023	11:43:10 AM	11:43:20 AM	0:00:10	51.9	58.1	48.6	61.9	69.6	58	56.3	51	49.2
466	1/20/2023	11:43:20 AM	11:43:30 AM	0:00:10	66.8	72.6	50.3	76.8	86.7	72.5	71.8	57	50.7
467	1/20/2023	11:43:30 AM	11:43:40 AM	0:00:10	67.9	73.9	56.2	77.9	89	73.8	73.1	62.1	57
468	1/20/2023	11:43:40 AM	11:43:50 AM	0:00:10	71.5	76.5	65.9	81.5	89.6	76.5	76.1	69.9	66.4
469	1/20/2023	11:43:50 AM	11:44:00 AM	0:00:10	69.4	73.5	65.4	79.4	87.6	73.5	72.3	68.6	66
470	1/20/2023	11:44:00 AM	11:44:10 AM	0:00:10	65.6	69.4	58.7	75.6	83	69.4	68.4	65.8	61.4
471	1/20/2023	11:44:10 AM	11:44:20 AM	0:00:10	52	58.6	49.3	62	68.6	58.4	56.6	51.5	49.8
472	1/20/2023	11:44:20 AM	11:44:30 AM	0:00:10	67.2	71.6	53.9	77.2	87.5	71.6	70.8	66.3	56.1
473	1/20/2023	11:44:30 AM	11:44:40 AM	0:00:10	73.7	76.9	62.6	83.7	91.1	76.8	76.6	72.8	63.1
474	1/20/2023	11:44:40 AM	11:44:50 AM	0:00:10	63.5	75.8	60.9	73.5	83.4	75.6	72.6	62.8	61.6
475	1/20/2023	11:44:50 AM	11:45:00 AM	0:00:10	65.3	70.7	57.5	75.3	86.9	70.6	69.9	62.4	58.8
476	1/20/2023	11:45:00 AM	11:45:10 AM	0:00:10	65.1	72.5	49.8	75.1	86	72.4	66.4	54.2	50.2
477	1/20/2023	11:45:10 AM	11:45:20 AM	0:00:10	70.5	76.5	60.8	80.5	89.6	76.4	73.9	66.2	61.1
478	1/20/2023	11:45:20 AM	11:45:30 AM	0:00:10	62.9	76.1	55.8	72.9	82.7	75.9	73.1	62.4	56.1
479	1/20/2023	11:45:30 AM	11:45:40 AM	0:00:10	60.6	64.7	55.5	70.6	79.9	64.5	61.5	59.7	55.9
480	1/20/2023	11:45:40 AM	11:45:50 AM	0:00:10	57.5	65.1	48.9	67.5	76.9	65.1	64.4	55	49.5
481	1/20/2023	11:45:50 AM	11:46:00 AM	0:00:10	43.2	48.9	41.6	53.2	73.7	48.8	47.3	42.9	41.9
482	1/20/2023	11:46:00 AM	11:46:10 AM	0:00:10	44	46.2	41.8	54	68.6	46.1	45.9	42.9	42.2
483	1/20/2023	11:46:10 AM	11:46:20 AM	0:00:10	54.7	59.4	44.7	64.7	75.9	59.3	57.8	49.3	44.9
484	1/20/2023	11:46:20 AM	11:46:30 AM	0:00:10	59.3	63.8	51.6	69.3	77.1	63.7	63.4	57.4	52.3
485	1/20/2023	11:46:30 AM	11:46:40 AM	0:00:10	48	52.2	43.8	58	65.7	52.2	51.3	46.6	43.8
486	1/20/2023	11:46:40 AM	11:46:50 AM	0:00:10	63.1	67.7	51.6	73.1	84.9	67.6	67.2	60.8	53.9
487	1/20/2023	11:46:50 AM	11:47:00 AM	0:00:10	64.4	67.4	55.9	74.4	86.4	67.4	67.1	64.2	56.5
488	1/20/2023	11:47:00 AM	11:47:10 AM	0:00:10	64.7	66.4	61.8	74.7	84.7	66.3	66	64.7	63
489	1/20/2023	11:47:10 AM	11:47:20 AM	0:00:10	62.5	66.8	57.6	72.5	80.6	66.7	66.2	62.3	58.2
490	1/20/2023	11:47:20 AM	11:47:30 AM	0:00:10	59.1	64.1	54.5	69.1	78.4	63.8	59.8	56.9	54.9
491	1/20/2023	11:47:30 AM	11:47:40 AM	0:00:10	61.4	67.3	49.9	71.4	83.8	67.3	66.8	57.7	50.5
492	1/20/2023	11:47:40 AM	11:47:50 AM	0:00:10	63.1	68.3	49.7	73.1	83.9	68.2	66.6	57.5	49.9

493	1/20/2023	11:47:50 AM	11:48:00 AM	0:00:10	63.8	68.9	53.7	73.8	82.8	68.8	68.6	63	55.9
494	1/20/2023	11:48:00 AM	11:48:10 AM	0:00:10	55.1	59.8	50.7	65.1	74.4	59.5	56.8	53.1	51.1
495	1/20/2023	11:48:10 AM	11:48:20 AM	0:00:10	69.3	73.9	59.8	79.3	88.8	73.9	73.3	67.5	62.1
496	1/20/2023	11:48:20 AM	11:48:30 AM	0:00:10	66	69	62.3	76	84.6	69	68.3	65.6	62.6
497	1/20/2023	11:48:30 AM	11:48:40 AM	0:00:10	69.6	74.9	62.1	79.6	87.5	74.9	74	67.6	62.6
498	1/20/2023	11:48:40 AM	11:48:50 AM	0:00:10	61.8	67.1	54.6	71.8	79.5	66.9	66	62.1	57
499	1/20/2023	11:48:50 AM	11:49:00 AM	0:00:10	61	64.9	53.1	71	78.6	64.9	64.7	59.2	53.8
500	1/20/2023	11:49:00 AM	11:49:10 AM	0:00:10	65.3	70.2	55.8	75.3	86.8	70.2	69.4	62.1	56.3
501	1/20/2023	11:49:10 AM	11:49:20 AM	0:00:10	65.7	68.4	61.8	75.7	81.3	68.4	68	65.2	63.6
502	1/20/2023	11:49:20 AM	11:49:30 AM	0:00:10	52.8	61.8	47.2	62.8	73.9	61.6	59.4	51.4	47.4
503	1/20/2023	11:49:30 AM	11:49:40 AM	0:00:10	58.8	62.3	49.7	68.8	80.6	62.2	62.1	57.3	51.2
504	1/20/2023	11:49:40 AM	11:49:50 AM	0:00:10	69.3	76.4	52.9	79.3	91.7	76.4	73.6	54.8	53.1
505	1/20/2023	11:49:50 AM	11:50:00 AM	0:00:10	66.4	75.5	57.1	76.4	86.4	75.3	71.9	64.7	57.7
506	1/20/2023	11:50:00 AM	11:50:10 AM	0:00:10	59.3	71.6	43.5	69.3	80.7	71.5	68.9	57.5	45.7
507	1/20/2023	11:50:10 AM	11:50:20 AM	0:00:10	40.5	43.5	39.8	50.5	54.4	43.4	42.1	40.8	39.9
508	1/20/2023	11:50:20 AM	11:50:30 AM	0:00:10	45.3	49.3	39.8	55.3	63.8	49.3	48.2	42.2	40

Leq	64.3
Lmax	79.5
Lmin	39.8

ST2

Number	Start Date	Start Time	End Time	Duration	LAeq	LASmax	LASmin	LAE	LApk	LAS10%	LAS50%	LAS90%
325	1/20/2023	10:43:40 AM	10:43:50 AM	0:00:10	54.1	54.5	53.4	64.1	73.5	54.4	54.3	53.6
326	1/20/2023	10:43:50 AM	10:44:00 AM	0:00:10	53.5	53.8	53.1	63.5	67	53.7	53.4	53.2
327	1/20/2023	10:44:00 AM	10:44:10 AM	0:00:10	53.7	53.9	53.5	63.7	67.7	53.8	53.7	53.6
328	1/20/2023	10:44:10 AM	10:44:20 AM	0:00:10	53.8	53.8	53.6	63.8	68.6	53.8	53.7	53.7
329	1/20/2023	10:44:20 AM	10:44:30 AM	0:00:10	53.7	54	53.4	63.7	67.6	53.8	53.7	53.5
330	1/20/2023	10:44:30 AM	10:44:40 AM	0:00:10	53.7	54	53.5	63.7	67.2	53.9	53.7	53.6
331	1/20/2023	10:44:40 AM	10:44:50 AM	0:00:10	53.9	54.2	53.6	63.9	67.6	54	53.9	53.8
332	1/20/2023	10:44:50 AM	10:45:00 AM	0:00:10	53.6	54.1	53.3	63.6	67.1	53.9	53.7	53.5
333	1/20/2023	10:45:00 AM	10:45:10 AM	0:00:10	53.9	54	53.3	63.9	67.7	53.9	53.8	53.5
334	1/20/2023	10:45:10 AM	10:45:20 AM	0:00:10	53.6	54	53.2	63.6	69	53.9	53.6	53.3
335	1/20/2023	10:45:20 AM	10:45:30 AM	0:00:10	53.2	53.7	52.6	63.2	72.3	53.5	53.2	52.8
336	1/20/2023	10:45:30 AM	10:45:40 AM	0:00:10	53.4	54	53.2	63.4	69.7	53.5	53.4	53.2
337	1/20/2023	10:45:40 AM	10:45:50 AM	0:00:10	53.8	54	53.4	63.8	68	54	53.8	53.5
338	1/20/2023	10:45:50 AM	10:46:00 AM	0:00:10	53.6	53.9	53.2	63.6	67.6	53.8	53.6	53.3
339	1/20/2023	10:46:00 AM	10:46:10 AM	0:00:10	53.6	54.1	53	63.6	67.5	54	53.5	53
340	1/20/2023	10:46:10 AM	10:46:20 AM	0:00:10	53.1	53.8	52.6	63.1	68.1	53.7	53.3	52.7
341	1/20/2023	10:46:20 AM	10:46:30 AM	0:00:10	53.5	54.1	53	63.5	73.4	53.9	53.6	53.1
342	1/20/2023	10:46:30 AM	10:46:40 AM	0:00:10	53.6	53.9	53.1	63.6	70.7	53.8	53.6	53.3
343	1/20/2023	10:46:40 AM	10:46:50 AM	0:00:10	53.1	53.5	52.8	63.1	68	53.4	53.1	52.8
344	1/20/2023	10:46:50 AM	10:47:00 AM	0:00:10	54.5	55.5	53.2	64.5	70.3	55.1	54.4	53.4
345	1/20/2023	10:47:00 AM	10:47:10 AM	0:00:10	53.2	54.9	52.8	63.2	67.8	54.3	53.1	52.9
346	1/20/2023	10:47:10 AM	10:47:20 AM	0:00:10	54	55.2	53.1	64	71.3	54.9	53.7	53.2
347	1/20/2023	10:47:20 AM	10:47:30 AM	0:00:10	54	54.8	53.5	64	68.4	54.3	53.9	53.6
348	1/20/2023	10:47:30 AM	10:47:40 AM	0:00:10	54.4	56.3	53.7	64.4	72	55.5	54	53.8
349	1/20/2023	10:47:40 AM	10:47:50 AM	0:00:10	53.5	54.8	52.9	63.5	74.9	54.4	53.3	53.1
350	1/20/2023	10:47:50 AM	10:48:00 AM	0:00:10	53.6	54.1	53.3	63.6	72.2	53.8	53.5	53.4
351	1/20/2023	10:48:00 AM	10:48:10 AM	0:00:10	53.6	53.8	53.4	63.6	67.9	53.7	53.6	53.5
352	1/20/2023	10:48:10 AM	10:48:20 AM	0:00:10	53.6	53.8	53.4	63.6	67	53.7	53.6	53.5
353	1/20/2023	10:48:20 AM	10:48:30 AM	0:00:10	54	55	53.3	64	69.6	54.7	53.6	53.3
354	1/20/2023	10:48:30 AM	10:48:40 AM	0:00:10	53.2	54.6	52.4	63.2	67	54.1	53.3	52.5
355	1/20/2023	10:48:40 AM	10:48:50 AM	0:00:10	53.4	53.7	53.3	63.4	66.4	53.6	53.4	53.3
356	1/20/2023	10:48:50 AM	10:49:00 AM	0:00:10	53.6	54.5	53	63.6	67.3	54.2	53.5	53.1

357	1/20/2023	10:49:00 AM	10:49:10 AM	0:00:10	53.6	54.1	53	63.6	68.6	53.9	53.5	53.1
358	1/20/2023	10:49:10 AM	10:49:20 AM	0:00:10	55	58	53.5	65	77.5	57.4	53.9	53.6
359	1/20/2023	10:49:20 AM	10:49:30 AM	0:00:10	52.9	54.2	52.2	62.9	67.7	53.5	52.9	52.4
360	1/20/2023	10:49:30 AM	10:49:40 AM	0:00:10	53.1	53.5	52.6	63.1	72.7	53.4	53	52.7
361	1/20/2023	10:49:40 AM	10:49:50 AM	0:00:10	54.4	56.2	53.2	64.4	76.2	56	53.5	53.3
362	1/20/2023	10:49:50 AM	10:50:00 AM	0:00:10	64.4	69.9	54.8	74.4	84.4	68.5	56	55
363	1/20/2023	10:50:00 AM	10:50:10 AM	0:00:10	57.3	67.4	55	67.3	73.8	65.1	57.3	55.3
364	1/20/2023	10:50:10 AM	10:50:20 AM	0:00:10	55.7	57.1	55.2	65.7	69.8	56.6	55.6	55.4
365	1/20/2023	10:50:20 AM	10:50:30 AM	0:00:10	55.5	55.8	55.1	65.5	70	55.7	55.5	55.2
366	1/20/2023	10:50:30 AM	10:50:40 AM	0:00:10	56	57.3	54.7	66	70.1	57.1	55.7	55.3
367	1/20/2023	10:50:40 AM	10:50:50 AM	0:00:10	54.3	56.4	53.2	64.3	72.7	55.9	54	53.3
368	1/20/2023	10:50:50 AM	10:51:00 AM	0:00:10	55.4	57.8	53.2	65.4	71.6	56.9	55	53.3
369	1/20/2023	10:51:00 AM	10:51:10 AM	0:00:10	56.4	59.1	54.5	66.4	78.8	57.7	55.7	54.6
370	1/20/2023	10:51:10 AM	10:51:20 AM	0:00:10	55.5	59.6	53.7	65.5	82.7	58.7	55.4	53.8
371	1/20/2023	10:51:20 AM	10:51:30 AM	0:00:10	55.6	57.7	54	65.6	72.1	56.9	55	54.1
372	1/20/2023	10:51:30 AM	10:51:40 AM	0:00:10	55.6	60.4	53	65.6	74.8	59.5	53.8	53.1
373	1/20/2023	10:51:40 AM	10:51:50 AM	0:00:10	53.4	53.8	53	63.4	66.4	53.7	53.4	53.1
374	1/20/2023	10:51:50 AM	10:52:00 AM	0:00:10	53.7	53.9	53.5	63.7	71	53.8	53.7	53.6
375	1/20/2023	10:52:00 AM	10:52:10 AM	0:00:10	53.8	54.6	53.2	63.8	70	54.2	53.7	53.4
376	1/20/2023	10:52:10 AM	10:52:20 AM	0:00:10	55.6	61.1	53	65.6	82.4	58.6	54.1	53.4
377	1/20/2023	10:52:20 AM	10:52:30 AM	0:00:10	53.8	54.1	53	63.8	77.9	54.1	53.8	53
378	1/20/2023	10:52:30 AM	10:52:40 AM	0:00:10	54.6	57.9	53.7	64.6	92.3	56.1	54	53.8
379	1/20/2023	10:52:40 AM	10:52:50 AM	0:00:10	53.7	54.2	53.2	63.7	69.9	54.2	53.7	53.4
380	1/20/2023	10:52:50 AM	10:53:00 AM	0:00:10	54	54.4	53.2	64	68.2	54.3	54	53.4
381	1/20/2023	10:53:00 AM	10:53:10 AM	0:00:10	56.2	57.9	54.3	66.2	70.4	57.5	55.8	55
382	1/20/2023	10:53:10 AM	10:53:20 AM	0:00:10	54.3	55	53.8	64.3	68	54.8	54.3	53.9
383	1/20/2023	10:53:20 AM	10:53:30 AM	0:00:10	56.3	57.2	54.7	66.3	69.8	57	56.2	54.8
384	1/20/2023	10:53:30 AM	10:53:40 AM	0:00:10	56.8	58.4	55.8	66.8	71.9	57.6	56.5	56
385	1/20/2023	10:53:40 AM	10:53:50 AM	0:00:10	55.7	58	54.5	65.7	71.7	57.3	55.7	54.6
386	1/20/2023	10:53:50 AM	10:54:00 AM	0:00:10	54.1	55	53.4	64.1	67.9	54.7	54.2	53.7
387	1/20/2023	10:54:00 AM	10:54:10 AM	0:00:10	53.9	54.4	53.4	63.9	77.2	54.1	53.9	53.6
388	1/20/2023	10:54:10 AM	10:54:20 AM	0:00:10	54.5	57.9	53.6	64.5	78	56	53.9	53.7
389	1/20/2023	10:54:20 AM	10:54:30 AM	0:00:10	54.1	54.9	53.6	64.1	68.6	54.5	54	53.7
390	1/20/2023	10:54:30 AM	10:54:40 AM	0:00:10	54.5	55.8	53.7	64.5	78.7	55	54.4	53.9
391	1/20/2023	10:54:40 AM	10:54:50 AM	0:00:10	54.2	55.1	53.6	64.2	70.8	54.8	54.1	53.7

392	1/20/2023	10:54:50 AM	10:55:00 AM	0:00:10	55.7	57.8	54.1	65.7	76.2	57.1	55	54.5
393	1/20/2023	10:55:00 AM	10:55:10 AM	0:00:10	56.2	59.1	54.1	66.2	79	57.6	56.2	54.7
394	1/20/2023	10:55:10 AM	10:55:20 AM	0:00:10	54	55.9	53.6	64	71.7	55.3	54	53.6
395	1/20/2023	10:55:20 AM	10:55:30 AM	0:00:10	53.5	54	53	63.5	67.3	53.8	53.4	53.1
396	1/20/2023	10:55:30 AM	10:55:40 AM	0:00:10	53.4	54.1	53.1	63.4	66.8	54	53.4	53.2
397	1/20/2023	10:55:40 AM	10:55:50 AM	0:00:10	53.5	53.8	53.1	63.5	67.8	53.7	53.4	53.2
398	1/20/2023	10:55:50 AM	10:56:00 AM	0:00:10	53.4	53.7	53.1	63.4	66.8	53.7	53.5	53.1
399	1/20/2023	10:56:00 AM	10:56:10 AM	0:00:10	53.1	53.5	52.7	63.1	67.2	53.3	53.1	53
400	1/20/2023	10:56:10 AM	10:56:20 AM	0:00:10	53.1	54.1	52.1	63.1	66.5	54	52.6	52.3
401	1/20/2023	10:56:20 AM	10:56:30 AM	0:00:10	53.5	53.9	53.3	63.5	67.1	53.7	53.6	53.4
402	1/20/2023	10:56:30 AM	10:56:40 AM	0:00:10	53.1	53.7	52.5	63.1	78.4	53.6	53.3	52.9
403	1/20/2023	10:56:40 AM	10:56:50 AM	0:00:10	53	53.9	51.7	63	67	53.6	52.6	52
404	1/20/2023	10:56:50 AM	10:57:00 AM	0:00:10	53.9	54.3	53.5	63.9	67.9	54.2	53.9	53.6
405	1/20/2023	10:57:00 AM	10:57:10 AM	0:00:10	55	57.7	53.1	65	72.2	56.5	54.4	53.4
406	1/20/2023	10:57:10 AM	10:57:20 AM	0:00:10	53.1	54.2	52.5	63.1	69.5	53.7	53.2	52.6
407	1/20/2023	10:57:20 AM	10:57:30 AM	0:00:10	53	53.3	52.7	63	67.2	53.2	53	52.8
408	1/20/2023	10:57:30 AM	10:57:40 AM	0:00:10	52.9	53.1	52.6	62.9	66.8	53	52.9	52.7
409	1/20/2023	10:57:40 AM	10:57:50 AM	0:00:10	53.4	53.8	52.7	63.4	67.1	53.6	53.3	52.9
410	1/20/2023	10:57:50 AM	10:58:00 AM	0:00:10	54.4	57.7	53.1	64.4	77.4	54.7	53.4	53.2
411	1/20/2023	10:58:00 AM	10:58:10 AM	0:00:10	55.3	59.7	53.1	65.3	75.4	59.3	54	53.1
412	1/20/2023	10:58:10 AM	10:58:20 AM	0:00:10	55.4	59.2	52.9	65.4	75.8	58.6	53.8	53
413	1/20/2023	10:58:20 AM	10:58:30 AM	0:00:10	53.9	55.5	53.2	63.9	69.9	54.7	53.6	53.4
414	1/20/2023	10:58:30 AM	10:58:40 AM	0:00:10	53.8	55.3	53.1	63.8	71.2	54.8	53.6	53.1
415	1/20/2023	10:58:40 AM	10:58:50 AM	0:00:10	53.9	54.1	53.6	63.9	67.4	54	53.8	53.7
416	1/20/2023	10:58:50 AM	10:59:00 AM	0:00:10	53.7	54.1	53.3	63.7	67.7	54	53.8	53.3
417	1/20/2023	10:59:00 AM	10:59:10 AM	0:00:10	54.3	55.8	53.3	64.3	70.3	55.1	54.2	53.5
418	1/20/2023	10:59:10 AM	10:59:20 AM	0:00:10	53.6	54.1	53.4	63.6	68.5	53.9	53.6	53.5

Leq	54.7
Lmax	69.9
Lmin	51.7

Construction Noise Model Input / Output

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = **80**

allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = 8

Construction Activity	Equipment	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.)	*Barrier / Topo Insertion Loss (dB)*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Concrete Saw	1	20	90		1700		59.4	8	480	52
	Excavator	1	40	81		1750		50.1	8	480	46
	Backhoe	1	40	78		1800		46.9	8	480	43
										Total for Demolition Phase:	**53.7**
Site Preparation	Dozer	1	40	82		1700		51.4	8	480	47
	Tractor	1	40	84		1750		53.1	8	480	49
										Total for Site Preparation Phase:	**51.4**
Grading	Excavator	1	40	81		1700		50.4	8	480	46
	Grader	1	40	85		1750		54.1	8	480	50
	Front End Loader	1	40	79		1800		47.9	8	480	44
	Backhoe	1	40	78		1850		46.6	8	480	43
										Total for Grading Phase:	**52.8**
Basin Construction	Excavator	1	40	81		1700		50.4	7	420	46
	Excavator	1	40	81		1750		50.1	8	480	46
	Grader	1	40	85		1800		53.9	8	480	50
	Tractor	1	40	84		1850		52.6	7	420	48
	Front End Loader	1	40	79		1900		47.4	7	420	43
										Total for Basin Construction Phase:	**54.2**
Storm Drain/Outlet Pipe Construction	Excavator	1	40	81		1700		50.4	7	420	46
	Grader	1	40	85		1750		54.1	8	480	50
	Man Lift	1	20	75		1800		43.9	8	480	37
	Front End Loader	1	40	79		1850		47.6	7	420	43
										Total for Storm Drain/Outlet Pipe Construction Phase:	**52.2**
Paving	Paver	1	50	77		1700		46.4	8	480	43
	Roller	1	20	80		1750		49.1	8	480	42
	Front End Loader	1	40	79		1800		47.9	8	480	44
										Total for Paving Phase:	**48.0**