



SAN FRANCISCO PLANNING DEPARTMENT

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Preliminary Mitigated Negative Declaration Sunol Long Term Improvements Project Planning Department Case No. 2012.0054E

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February 18, 2015–March 20, 2015



SAN FRANCISCO PLANNING DEPARTMENT

Preliminary Mitigated Negative Declaration

Date: February 18, 2015
Case No.: **2012.0054E**
Project Title: **505 Paloma Road, Sunol, CA**
Sunol Long Term Improvements Project
Parcel Nos.: 96-375-12-2; 96-375-14
Project Site Size: Approximately 44 acres including access and staging areas
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PROJECT DESCRIPTION:

The San Francisco Public Utilities Commission (SFPUC) proposes to implement the Sunol Long Term Improvements (SLTI) Project (the “project”), which is comprised of two main elements: improvements to the existing Sunol Corporation Yard (Sunol Yard) and development of a new interpretive center, to be named “the Alameda Creek Watershed Center” (Watershed Center), in the vicinity of the Sunol Water Temple.

The proposed project site is located in a primarily rural setting, south of the Town of Sunol and west of the State Route 84/Interstate 680 junction, in Alameda County, California. Adjoining the project site are gravel quarry operations, the Sunol Water Temple and Agricultural Park, Alameda Creek, Arroyo de la Laguna, SFPUC water supply facilities, and the Town of Sunol.

The project would be implemented at two areas within the SFPUC property located 505 Paloma Road, in Sunol, CA. Upgrades to the approximately 8-acre Sunol Yard would occur in the northern portion of the project site, while construction of the proposed Watershed Center would occur in an approximately 8-acre area located in the southern portion of the site, in the vicinity of the Sunol Water Temple.

The project seeks to: (1) improve the existing Sunol Yard by replacing outdated and no longer serviceable facilities with new structures in an updated facility layout in order to efficiently provide operations and maintenance support to SFPUC operations in the East Bay area; and (2) enhance the use and educational value of the Sunol Water Temple site through the establishment of an interpretive facility to provide information and activities that allow visitors to learn about and further appreciate the Alameda Creek Watershed, including its natural resources, history, and role in the SFPUC water system.

Construction activities at the Sunol Yard are proposed to begin in October 2015 and estimated to take approximately 18 months to complete. Construction activities for the Watershed Center are proposed to begin in March 2016 and also estimated to take approximately 18 months to complete. Project construction activities would include site preparation, earthwork, demolition of select buildings at the Sunol Yard, construction of new facilities, road work, and landscaping. To ensure public and traffic safety during construction, access to the existing agricultural park for tours and events will require advance coordination with the SFPUC and will involve periodic interruptions in access, and no public access will be provided to the Sunol Water Temple while project construction activities are ongoing at the Sunol Yard or the Watershed Center.

FINDING:

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached.

Mitigation measures are included in this project to avoid potentially significant effects. See Initial Study Section E, Evaluation of Environmental Effects.

In the independent judgment of the Planning Department, there is no substantial evidence that the project could have a significant effect on the environment.

Sunol Long Term Improvements Project

Mitigated Negative Declaration
Planning Department Case No. 2012.0054E

February 18, 2015

City and County of San Francisco
San Francisco Planning Department

INITIAL STUDY

Sunol Long Term Improvements Project

Case No. 2012.0054E

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Acronyms and Abbreviations

AADT	annual average daily traffic
AB	(California) Assembly Bill
ACDD	Alameda Creek Diversion Dam
ACFD	Alameda County Fire Department
ACM	asbestos-containing materials
ACTC	Alameda County Transportation Commission
ACWCSD	Alameda Creek Water Conveyance System District
ACWD	Alameda County Water District
ADRR	Archaeological Data Recovery Report
ADA	Americans with Disabilities Act
ADRP	Archaeological Data Recovery Plan
ADT	average daily traffic
AEER	Archaeological Evaluation and Effects Report
AEP	Archaeological Evaluation Plan
AMP	Archaeological Monitoring Program
ARDTP	Archaeological Research Design and Treatment Plan
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
bgs	below ground surface
BMP	best management practice
C-APE	CEQA-Area of Potential Effects
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCSF	City and County of San Francisco
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH ₄	Methane
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
dB	Decibel
dBA	A-weighted decibels

DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
EBRPD	East Bay Regional Park District
EIR	Environmental Impact Report
EMFAC	Emission Factors Model
EP	Environmental Planning division of the San Francisco Planning Department
ERO	Environmental Review Officer
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	flood insurance rate map
FTA	Federal Transit Administration
GHG	greenhouse gas
HCASR	Historic Context and Archaeological Survey Report
I-	Interstate
IS	Initial Study
ISCST3	Air Dispersion Model
in/sec	inch per second
JRP	JRP Historical Consulting, LLC
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent continuous noise level
LOS	level of service
LUST	leaking underground storage tank
$\mu\text{g}/\text{m}^3$	microgram per cubic meter
MLD	Most Likely Descendant
MMTCO _{2e}	million gross metric tons of carbon dioxide equivalents
MND	Mitigated Negative Declaration
MRP	Municipal Regional Stormwater Permit
NAHC	Native American Heritage Commission
NAVD	North American Vertical Datum
NHPA	National Historic Preservation Act
NIT	New Irvington Tunnel
N ₂ O	nitrous oxide
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
NWIC	Northwest Information Center
OFFROAD	In-Use Off-Road Diesel Vehicle Regulation
OPR	Governor's Office of Planning and Research

PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM ₁₀	particulate matter less than or equal to 10 microns in diameter
PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
PPV	peak particle velocity
PRC	California Public Resources Code
Qhc	stream channel deposits
Qht	stream terrace deposits
ROG	reactive organic gases
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SB	(California) Senate Bill
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SLTI	Sunol Long Term Improvements
SR	State Route
<i>Standards</i>	<i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
<i>Standards for Rehabilitation</i>	<i>Secretary of the Interior's Standards for Rehabilitation</i>
SVP	Society of Vertebrate Paleontology
SVWTP	Sunol Valley Water Treatment Plant
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TPH-d	total petroleum hydrocarbons as diesel
TSS	total suspended solids
URS	URS Corporation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VP	View Point location
WMP	Watershed Management Plan
WSIP	Water System Improvement Program
YmB	Yolo loam
Yo	Yolo loam over gravel

INITIAL STUDY

Sunol Long Term Improvements Project

Case No. 2012.0054E

A. PROJECT DESCRIPTION

A.1 Project Overview

The San Francisco Public Utilities Commission (SFPUC) proposes to implement the Sunol Long Term Improvements (SLTI) Project (the “project”), which comprises two main elements: improvements to the existing Sunol Corporation Yard (Sunol Yard); and development of a new interpretive center, the Alameda Creek Watershed Center (Watershed Center), in the vicinity of the Sunol Water Temple.

The project site is in a rural setting, south of the Town of Sunol and west of the State Route (SR) 84/Interstate (I-) 680 junction, in Alameda County, California (**Figure 1**). Adjoining the project site are the Sunol Water Temple Agricultural Park, a quarry operation, Alameda Creek, and Arroyo de la Laguna.

A.2 Project Background

The goals and concepts behind this project were initially developed and presented in the SFPUC Alameda Watershed Management Plan (WMP),¹ and its associated programmatic Final Environmental Impact Report (EIR).² As now detailed, the proposed project would be implemented at two site areas connected by Temple Road. Upgrades to the approximately 8-acre Sunol Yard would occur in the northern portion of the project site; construction of the proposed Watershed Center would occur in an approximately 8-acre area in the southern portion of the site, in the vicinity of the Sunol Water Temple (**Figure 2**).

¹ SFPUC, 2001. *Alameda Watershed Management Plan*. April.

² CCSF, 2000. *Alameda Watershed Management Plan Final Environmental Impact Report*. August.



Figure 1
Project Vicinity

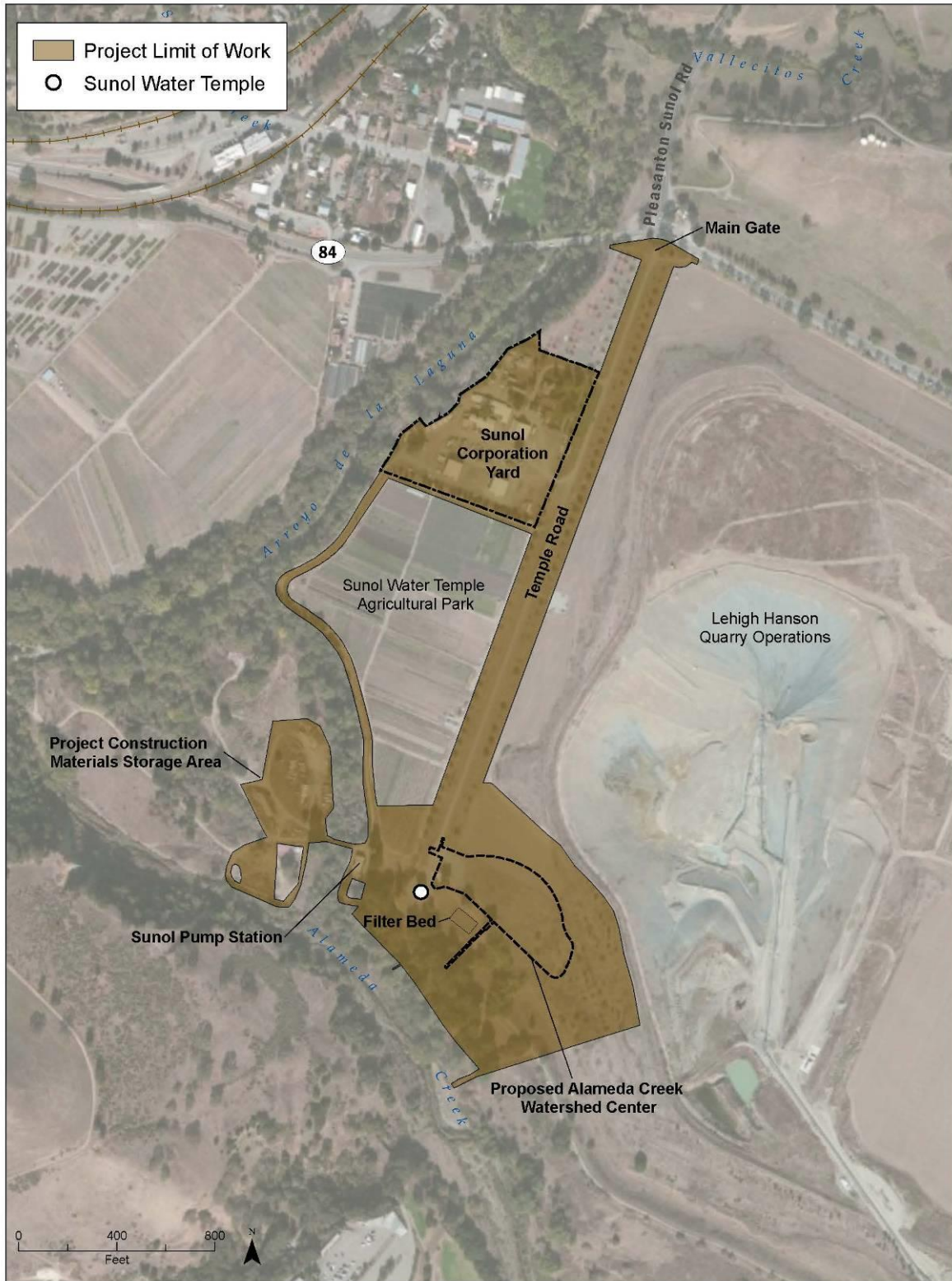


Figure 2
Project Site Layout

The Sunol Yard provides a central location for the SFPUC's maintenance and support operations in the East Bay Area. Yard facilities include an administration building, offices, storage sheds, several service and repair shops, covered and open-air storage areas, a potable water pump station, a vehicle fueling island and fuel storage tanks, a staff residence, and miscellaneous supporting structures. Because many of the existing facilities in the Sunol Yard are outdated and have been determined by the SFPUC to be no longer serviceable, the project proposes the upgrading or replacement of certain structures and facilities, along with a revised facilities layout to improve efficiency in operations.

A second element of the project proposes the construction of a Watershed Center that would house informational displays on the San Francisco water system, the history of the Sunol Valley, and the ecological features of the Alameda Creek watershed. Access to the Watershed Center would be offered to the general public and educational institutions. As part of the facility, the project would create approximately 2 acres of native vegetation surrounding the Watershed Center building. The area of native vegetation would include a "Watershed Discovery Trail" — a meandering walk through a landscape reflecting the middle and upper reaches of the Alameda Creek Watershed. Other parts of the project involve reopening a public picnic area, providing pedestrian access to Alameda Creek, and performing landscape improvements around the Sunol Water Temple.

A.3 Project Purpose

The project has two elements, and the purpose of each element is as follows: 1) to improve the existing Sunol Yard by replacing outdated and no longer serviceable facilities with new structures in an updated facility layout, to efficiently provide operations and maintenance support to SFPUC operations in the East Bay area; and 2) to enhance the use and educational value of the Sunol Water Temple site through the establishment of an interpretive facility, which will provide information and activities that allow visitors to learn about and further appreciate the Alameda Creek Watershed, including its natural resources, history, and role in the SFPUC water system.

The Sunol Yard element of the project has the following objectives:

- Improve workplace efficiency, safety, and security by replacing outdated facilities that no longer meet SFPUC operational requirements with modern maintenance shops and buildings that satisfy current building codes, including the California Building Standards

Code (2013), SFPUC seismic reliability standards,³ and the requirements of the Occupational Safety and Health Administration and the Americans with Disabilities Act (ADA).

- Reduce environmental effects and enhance energy efficiency by designing and constructing buildings that conform to California Title 24 energy usage standards, and secure Leadership in Energy and Environmental Design (LEED) Gold certification for a replacement administration building, consistent with San Francisco green building requirements for municipal construction projects.
- Revise the layout of the Sunol Corporation Yard to be more useable and efficient.
- Repair the historic main gate, replace existing signage, and install shoulders along and repave Temple Road.

The Watershed Center element of the project has the following objectives:

- Develop indoor facilities and surrounding native vegetation communities that communicate information regarding the natural resources of the Alameda Creek Watershed and the role of the watershed in the SFPUC water system, as well as providing water-wise and water-inspired learning opportunities.
- Coordinate the interpretive center and new landscape elements with the historic Sunol Water Temple, and provide information on the history of the watershed, Sunol Valley, and SFPUC operations.
- Integrate the interpretive facility with the educational activities of the existing Sunol Water Temple Agricultural Park.
- Provide public use opportunities at the new interpretive center, along with additional recreational opportunities at a restored picnic area, including limited pedestrian access to Alameda Creek.
- Secure LEED Gold certification for the Watershed Center, in accordance with San Francisco green building requirements for municipal construction projects, and ensure that project design and construction is consistent with the California Building Standards Code (2013), SFPUC seismic reliability standards, and ADA requirements.

³ SFPUC, 2014. *General Seismic Requirements for Design of New Facilities and Upgrade of Existing Facilities*. Revision 3, DOC No. WSIP/CSP-001-R2R3. June.

A.4 Project Components

The following subsections describe the proposed project elements. Construction of project elements is subject to completion of environmental review, project approval, and acquisition of permits, as well as the availability of final funding.

A.4.1 Sunol Corporation Yard Improvements

Due to loss of functionality and poor quality of construction, the buildings in the Sunol Yard would be demolished and replaced by new structures, with the exception of three existing pre-fabricated maintenance shops, the communications tower, and the Town of Sunol Pump Building (depicted on **Figure 3** and indicated in **Table 1**, below).

Proposed facilities at the Sunol Yard include four new shops (electrical and plumbing shop, electronic maintenance technicians and radio shop, natural resources shop, and paint and blast shop, including updated information technology and electrical systems); a replacement administration building; a vehicle wash down area; and several covered storage structures. A replacement backup power generator and diesel fuel storage tank would be installed. A replacement outdoor lunch area for staff would also be provided. Two replacement underground wastewater holding tanks would be installed, and existing underground fuel tanks would be replaced with new aboveground fuel tanks at the relocated fueling station. Improvements would include low-flow technology and fixtures to conserve water. A new natural gas filling and possibly an electric vehicle charging station would be provided.

The Sunol Yard would be reconfigured to improve efficiency of operations, and buildings would be arranged on a new street layout with areas for parking and landscaping. As a replacement for the current open-air storage of maintenance vehicles and equipment, covered parking and storage for SFPUC equipment would be constructed. Visitor parking would be provided on the northern side of the Sunol Yard. Linear landscape corridors are included in the site plan to provide shade and facilitate rainwater infiltration. Additionally, storm drainage collection and treatment features would be installed, consisting of infiltration trenches, catch basins, and swales. Existing security fencing and gates that surround the Sunol Yard will be updated for improved access control and security.



Note: Facility number corresponds with facility number and type listed in **Table 1**.

Figure 3
Sunol Corporation Yard Existing Site Plan

**TABLE 1
SUNOL CORPORATION YARD EXISTING FACILITIES**

No.¹	Name/Type	Estimated Size (Square Feet)	Proposed Action
1	Staff Residence and Garage	1,800	<i>Remove</i>
2	Guest House	400	<i>Remove</i>
3	Office – Landscaping	210	<i>Remove</i>
4	Modular Office Structures	1,500	<i>Remove</i>
5	Former Cottage (Abandoned)	1,697	<i>Remove</i>
6	Storage	105	<i>Remove</i>
7	Electrical Shed	165	<i>Remove</i>
8	Backup Power Generator	NA	<i>Remove</i>
9	Town of Sunol Pump Building	195	<i>Retain</i>
10	Offices – Natural Resources	1,150	<i>Remove</i>
11	Administration Building	2,115	<i>Remove</i>
12	Covered Vehicle Storage	6,200	<i>Remove</i>
13	Uncovered Vehicle Storage Areas	1,400	<i>Remove</i>
14	Vehicle Equipment Maintenance and Repair Shop, Carpenters Shop, and Day Room	2,438 (Shop) 813 (Day Room)	<i>Remove</i>
15	General Storage Shed	240	<i>Remove</i>
16	Purchase Warehouse and Corrosion Control Service Building	2,325 (Warehouse) 1,935 (Service Building)	<i>Remove</i>
17	Modular Building, Office/Day Room	240	<i>Remove</i>
18	Storage and Painters Shop	670	<i>Remove</i>
19	Propane Tank	NA	<i>Remove</i>
20	Fueling Island and Underground Storage Tanks	0	<i>Remove</i>
21	Shop – Welding and Rolling	3,600	<i>Retain</i>
22	Shop – Automotive	3,600	<i>Retain</i>
23	Shop – Building and Grounds and Carpentry	3,600	<i>Retain</i>
24	Communications Tower	0	<i>Retain</i>
25	Backup Power Generator and Diesel Tank	NA	<i>Remove</i>
<p>Note:</p> <p>¹ Facility number corresponds with facility number and location depicted on Figure 3. NA = Not applicable.</p>			

The proposed reconfiguration of the Sunol Yard is depicted on **Figure 4** and outlined in **Table 2**. This project element would also include repair work on the historic main gate and the installation of shoulders composed of resin pavement or like material along Temple Road; the shoulders would also function as a pedestrian walkway. The main gate is composed of columns with semi-circular walls that frame the access to the Sunol Water Temple. Features including the existing concrete pillars would be inspected and repaired consistent with the original design. The existing wrought-iron fence and gate would be cleaned and repainted, or where necessary, components of the fence would be replaced. The existing modern gate opener and hardware would be upgraded to meet current security standards. Temple Road would be repaved as funding allows.

A.4.2 Development of Alameda Creek Watershed Center

The project proposes to construct a Watershed Center (approximately 13,000 square feet) in the vicinity of the Sunol Water Temple (**Figure 5**). A one-story structure would include an interpretive display area, history alcoves, watershed discovery lab, community room, restrooms, entry plaza, reception area, and administrative offices. The proposed Watershed Center site would also include a covered patio and outdoor amphitheater. A new underground wastewater holding tank would be installed near the Watershed Center. Low-flow technology and fixtures would be incorporated into the design to conserve water. Existing fencing would be relocated to the northern edge of the project site; additional low-height perimeter fencing would be installed at the Watershed Center where needed for the safe use of the area by visitors, including for the exclusion of visitors from the lower areas of the filter galleries. As part of the integration of Watershed Center with the educational activities of the existing Sunol Water Temple Agricultural Park, a walking path, including pedestrian safety features such as striping, would link the two locations.

The existing (but not currently in use) picnic area south of the Sunol Water Temple would be improved and re-opened to the public. Improvements would include an ADA-compliant access path and stairs, new picnic tables, and a play structure for children. These facilities would be subject to ongoing monitoring and maintenance. The existing abandoned restroom facilities in the picnic area would be removed, and public restrooms would be available in the Watershed Center. The existing barbed-wire-topped fencing at the picnic area would be replaced with a low-height perimeter fence consistent with recreational uses. The fence would include a gate, providing limited pedestrian access adjacent to Alameda Creek.



Note: Facility number corresponds with facility number and type listed in **Table 2**.

Figure 4
Sunol Corporation Yard Proposed Site Plan

TABLE 2
SUNOL CORPORATION YARD PROPOSED AND RETAINED FACILITIES

No. ¹	Name/Type	Estimated Size ² (Square Feet)
1	Administration Building	11,500
2	Shop – Plumbing and Electrical	3,600
3	Shop – Electronic Maintenance Technicians and Radio	3,600
4	Covered Material Storage	8,000
5	Large Equipment Covered Storage #1	8,000
6	Large Equipment Covered Storage #2	8,000
7 and 8	Covered Storage and Natural Resources Shop	8,000
9	Transformer Pad	NA
10	Aboveground Bio-Diesel and Gasoline Storage Tanks	NA
11	Shade Canopy/Enclosure for Fuel Tanks	NA
12	Backup Power Generator and Aboveground Diesel Storage Tank	NA
13	Fuel Station	NA
14	(Retained) Shop – Welding and Rolling	3,700
15	Shop – Paint and Blast	4,500
16	(Retained) Shop – Automotive	3,700
17	(Retained) Shop – Building and Grounds and Carpentry	4,100
18	(Retained) Town of Sunol Pump Building	200
19	Natural Gas Storage Tank	NA
20	Natural Gas Fueling Appliance	NA
21	Wash Rack Area	NA
22	(Retained) Communications Tower	NA
23	Underground Wastewater Holding Tanks	NA
<p>Notes:</p> <p>¹ Facility number corresponds with facility number and location depicted on Figure 4.</p> <p>² All proposed buildings will be one story.</p> <p>NA = Not applicable.</p>		

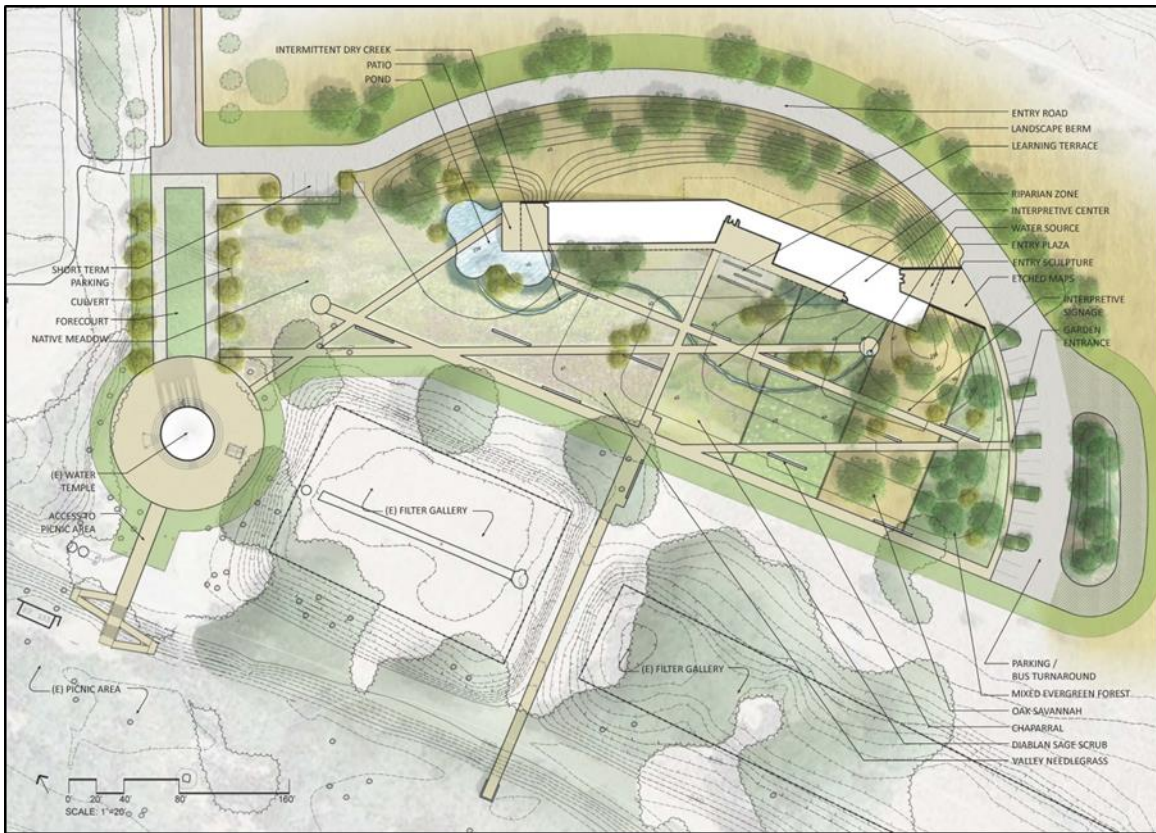


Figure 5
Alameda Creek Watershed Center Proposed Site Plan

To enhance the viewshed at the Sunol Water Temple and along Temple Road, the paved area directly in front of the temple would be replaced with a landscaped forecourt that includes a visitor drop-off area, and an inoperable wheelchair lift on the temple would be removed and replaced with a functioning, ADA-compliant wheelchair lift on the south side of the temple. An existing dirt parking area (approximately 15 parking spaces) and an abandoned concrete pad would also be removed from the foreground to the Temple; a replacement parking area would be located south of the Watershed Center (approximately 30 parking spaces and three bus spaces), along with a small short term parking area along the Watershed Center access road (approximately 5 parking spaces) and bicycle racks. Also, the existing pavement immediately around the temple would be replaced and would match the circular shape of the temple.

As part of project planning activities, several locations in Sunol Valley were considered as candidate sites for the proposed Watershed Center.⁴ The location at the Sunol Water Temple was determined by the SFPUC to be the only site capable of feasibly achieving all project objectives (see **Section A.3, Project Purpose**) and presented the least potential for project impacts as compared to other potential areas onsite. The proposed location was identified as having a reduced flood risk and would allow compliance with the requirements of the San Francisco Floodplain Management Ordinance (see **Section E.15, Hydrology and Water Quality**, and **Figure 15, FEMA Flood Hazard Area Map**); would minimize the need for imported fill (see **Section E.15, Hydrology and Water Quality**); would minimize impacts to agricultural lands (see **Section E.18, Agriculture and Forest Recourses**); would allow for a design that avoids impacts to a viewshed in an eligible historic district (see **Section E.4, Cultural and Paleontological Resources**); and would provide a safe traffic and pedestrian environment for users of the Watershed Center, including children (see **Section E.5, Transportation and Circulation**).

A.4.3 Lighting

Lighting systems and controls would be designed to meet the State of California Title 24 Energy Efficiency requirements, and illumination levels would be consistent with recommendations of the Illumination Engineering Society Lighting Handbook. Lighting for outdoor facilities would be designed to minimize glare and light pollution in adjacent areas and would include building- and pole-mounted cutoff luminaires. Outdoor lighting in landscaped areas and areas visible to the public would be coordinated with the project's architects. Selection of lighting fixtures would occur during final design. Emergency illumination and egress lighting would be provided in all appropriate spaces, as required by the California Building Standards Code.

A.4.4 Ancillary Components

Additional components include extension of utilities such as water, natural gas, and communications from the Sunol Yard to the new Watershed Center. The conduits would be buried in shallow trenches at depths of no more than 6 feet below ground surface (bgs) along the eastern side of Temple Road. An electrical transmission line would be extended underground from the existing power pole adjacent to the Sunol Pump Station to the Watershed Center. As

⁴ SFPUC, 2015. *Site Screening Analysis Memorandum*. January

discussed above, replacement fencing and/or extensions to existing fencing surrounding the new facilities are also proposed at project locations, as necessary.

A.5 Construction Activities and Schedule

Estimated construction activities for the Sunol Yard and the Watershed Center are outlined in **Tables 3 and 4**. The estimated schedules include a period of overlap where construction would occur at both sites concurrently.

Construction activities at the Sunol Yard are estimated to take approximately 18 months to complete.

**TABLE 3
ESTIMATED SUNOL CORPORATION YARD CONSTRUCTION SCHEDULE**

Activity	Task(s)	Duration
Mobilization	Equipment mobilization	October – November 2015
Site Preparation	Tree removal/Clearing/Set-up of staging areas	November – December 2015
Grading/Earthwork	Excavation	December 2015
Construction of Administration Building	Grading/Excavation/Laying of foundation/Construction	December 2015 – November 2016
Construction of Shops	Grading/Excavation/Laying of foundation/Construction	February 2016 – November 2016
Primary Demolition Activities	Removal of selected existing facilities	November 2016 – March 2017
Construction of Fueling Area	Grading/Laying of foundation/Construction	December 2016 – February 2017
Installation of Generator and Transformer	Grading/Laying of foundation/Construction	February 2017 – April 2017
Construction of Large Storage Areas	Grading/Laying of foundation/Construction	December 2016 – February 2017
Construction of Covered Material Storage	Grading/Laying of foundation/Construction	January 2017 – February 2017
Road Work	Grading/Paving	March 2017
Landscaping, Repair of Main Gate	Planting, Repair	March – April 2017
<p>Note: This is an approximated schedule outline that is subject to completion of environmental review, project approval, and detailed design, as well as advertisement, receipt of bids, and award. Changes in the proposed schedule are possible.</p>		

Construction activities for the Watershed Center are estimated to take approximately 18 months to complete.

TABLE 4
ESTIMATED ALAMEDA CREEK WATERSHED CENTER CONSTRUCTION SCHEDULE

Activity	Task(s)	Duration
Mobilization	Construction equipment mobilization	March – April 2016
Site Preparation	Clearing/Set-up of staging areas	April – May 2016
Grading/Earthwork	Excavation	May – June 2016
Construction of Watershed Center Structure	Grading/Excavation/Laying of foundation/Construction	June 2016 – June 2017
Interpretive Display Installation	Installation of exhibits	June – September 2017
Updating Picnic Area	Grading/Installation of ramp and equipment	June – July 2017
Road Work	Grading/Paving	June 2017
Landscaping	Planting	June – September 2017
<p>Note: This is an approximated schedule outline that is subject to completion of environmental review, project approval, and detailed design, as well as advertisement, receipt of bids, and award. Changes in the proposed schedule are possible.</p>		

A.5.1 Facilities

Facilities construction would generally involve three types of construction activities: site preparation, excavation, and building construction.

Site Preparation

Site preparation would involve demolition and removal of existing structures, tree removal, clearing, minor leveling, and grading where necessary. Removal of existing structures at the Sunol Yard would produce an estimated 2,000 cubic yards of demolished building materials. Materials would be disposed of or recycled, consistent with applicable regulations, at appropriate facilities accessed via I-680. Any hazardous materials, including asbestos, encountered during demolition would be contained, transported, and disposed of in accordance with applicable laws and regulations.

Excavation

Excavation of the building foundations would be accomplished by backhoe or excavator. The depth of the excavations would vary depending on facility height and site conditions, but would generally not exceed 5 feet below the current ground surface, except at the locations of the existing underground fuel storage tanks and existing and proposed wastewater holding tanks, where excavation work may range to 15 feet below grade. Estimated cut and fill quantities for the Sunol Yard and the Watershed Center are provided in **Tables 5 and 6**, respectively. Shallow trenches necessary for utility conduits would be excavated by backhoe or trencher.

**TABLE 5
SUNOL CORPORATION YARD ESTIMATED CUT AND FILL QUANTITIES**

Item	Volume (cubic yards)
Imported material	7,000
Excavated material	20,000
Excavated material to be reused at Sunol Yard	6,000
Surplus excavated materials	14,000
Portion for offsite disposal	4,000
Excavated material to be reused at Watershed Center	10,000

**TABLE 6
ALAMEDA CREEK WATERSHED CENTER ESTIMATED CUT AND FILL QUANTITIES**

Item	Volume (cubic yards)
Excavated material (reused onsite)	500
Imported material (i.e., reused) from Sunol Yard	10,000

Building Construction

Generally, buildings would use steel structural framing atop reinforced concrete foundations. All buildings would be designed in accordance with the California Building Standards Code (2013) and the SFPUC seismic reliability standards.⁵ The proposed Administration Building at the Sunol

⁵ SFPUC, 2014. *General Seismic Requirements for Design of New Facilities and Upgrade of Existing Facilities*. Revision 3, DOC No. WSIP/CSP 001 R2R3. June.

Yard and the Watershed Center would be designed to achieve LEED Gold Certification addressing sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Therefore, the stormwater systems for both the Sunol Yard Administration Building and the Watershed Center would be designed to achieve the LEED SS6.2 credit. The SFPUC also intends to construct all proposed buildings at the Sunol Yard outside of the Federal Emergency Management Agency (FEMA)-estimated floodway associated with inundation caused by the 1-Percent Annual Chance Flood (also referred to as the 100-year flood event) and above the floodplain associated with the 1-Percent Annual Chance Flood. The Watershed Center is proposed to be located outside of the FEMA-estimated floodway and above the floodplain subject to inundation by the 1-Percent Annual Chance Flood.

A.5.2 Fencing

Replacement, maintenance, and installation of fencing will be completed at the Sunol Yard, the Watershed Center and associated picnic area, filter galleries, and Temple Road, in addition to the relocation of an existing fence to the edge of the proposed Watershed Center site.

A.5.3 Landscaping

Landscaping would be an essential component of this project. Landscaping proposed for the Sunol Yard would include mostly native and/or climate-appropriate planting materials with massing of deciduous trees to create shade cover and reduce heat island effect. At the Watershed Center, a forecourt of drought tolerant lawn or landscaping would serve as a formal point of arrival as well as a recreational space. As with the Sunol Yard, drought-resistant native plantings and shade areas are planned for the Watershed Center. As discussed above, a Watershed Discovery Trail is proposed as part of the Watershed Center. Energy and water conservation practices would be incorporated into landscape design.

A.5.4 Construction Staging Areas

Staging would occur at each project site, with a supplementary staging area in the southwestern quadrant of the project location, in an area that is currently used as a materials storage area. Staging areas would be used by contractors for storage of construction-related equipment and materials, such as construction trailers and vehicles, materials, and small quantities of fuels and lubricants. The construction staging areas, which may require minor leveling, could also be used for the stockpiling of excavated soil for reuse. Once a staging area is no longer needed, it would be restored to its previous condition.

A.5.5 Construction Equipment

Project construction would include grading, excavations, and erection of building structures within the project limit of work area (see **Figure 2**). Construction equipment would include standard dump trucks, flatbed trucks, watering trucks, concrete mixers, bulldozers, backhoes, excavators, front-end loaders, compactor/rollers, sawcutting machines, forklifts, cranes, a Baker-type water storage tank and dewatering systems, and other equipment as needed. Most types of equipment would only be needed for certain phases of the construction activities. A temporary 150-kilowatt generator would be used for intermittent peak demands during construction. If needed, portable lighting would be used; lights would be pointed down at the construction site (away from nearby properties).

A.5.6 Construction and Public Access

Public roadways or unpaved service roads on SFPUC land would provide the primary access routes to the project sites. Project construction workers would park in a number of permanent and temporary onsite parking areas at the project site, or in construction staging areas. There would be no worker parking along public ROWs. The Sunol Yard would remain in operation during construction.

To ensure public and traffic safety during construction, access to the existing agricultural park for tours and events would require advance coordination with the SFPUC, and would involve periodic interruptions in access; no public access would be provided to the Sunol Water Temple while project construction activities are ongoing at the Sunol Yard or the Watershed Center.

A.5.7 Construction Workforce and Construction Hours

The number of construction workers on site would vary based on construction activity. **Tables 7 and 8** estimate the number of construction workers by activity at the Sunol Yard and the Watershed Center, respectively.

TABLE 7
SUNOL CORPORATION YARD ESTIMATED NUMBER OF CONSTRUCTION WORKERS

Construction Activity	Average per Day	Maximum
Administration building	12	18
Shops	10	15
Demolition of existing facilities	8	14
Construction of fuel tank site	5	8
Installation of generator and transformer	5	8
Storage areas	7	10
Landscaping/Paving	5	8

TABLE 8
ALAMEDA CREEK WATERSHED CENTER ESTIMATED NUMBER OF CONSTRUCTION WORKERS

Construction Activity	Average per Day	Maximum
Building	10	14
Landscaping/Paving/Displays	10	14

Because construction would overlap at the Sunol Yard and Watershed Center, it is likely that construction crews would be working at the sites simultaneously. Construction activities are expected to occur Monday through Friday, from 7:00 a.m. to 7:00 p.m.; and on weekends from 8:00 a.m. to 5:00 p.m. Portable temporary lighting may be used during the course of construction and would be directed downward to minimize light trespass to adjacent areas.

A.5.8 Standard Construction Measures

The SFPUC has established Standard Construction Measures to be included in all construction contracts.⁶ The main objective of these measures is to avoid and reduce impacts on existing resources to the extent feasible. A goal of the proposed project is to integrate best management practices (BMPs) throughout project development, to provide source control and water quality

⁶ SFPUC, 2007. *Standard Measures to be Included in Construction Contracts and Project Implementation*. February 7.

treatment of runoff from paved and other developed areas prior to discharge into the swales and infiltration trenches that percolate flows to groundwater and discharge into Alameda Creek and Arroyo de la Laguna. Among other measures, the SFPUC would require that the contractor provide notification at least 14 days in advance to businesses, property owners, facility managers, and residents of adjacent areas potentially affected by project construction, regarding the nature, extent, and duration of construction activities. The measures also call for the contractor to implement avoidance measures where necessary to protect special status biological resources, if present. In addition, the contractor would prepare a Traffic Control Plan to minimize traffic impacts on streets affected by construction of the project.

The Standard Construction Measures stipulate that all construction contractors must implement construction stormwater BMPs. At a minimum, construction contractors would be required to undertake the following measures, as applicable, to minimize adverse effects of construction activities on water quality: erosion and sedimentation controls tailored to the site and project; preservation of existing vegetation; installation of silt fences, use of wind erosion control (e.g., geotextile or plastic covers on stockpiled soil); and stabilization of site ingress/egress locations to minimize erosion. Furthermore, if groundwater is encountered during any excavation activities, the contractor shall ensure that water is discharged in compliance with all applicable standards and requirements.

A.6 Operations and Maintenance

The SFPUC is responsible for the storage, quality control, and distribution of the area's drinking water. The water supply system stretches from the Sierra Nevada to the City of San Francisco, and features a complex series of reservoirs, tunnels, pipelines, and treatment systems. The Sunol Valley occurs near the midpoint of this system, which delivers millions of gallons of fresh water to customers in Santa Clara, Alameda, San Francisco, and San Mateo Peninsula communities. The Sunol Valley location is of major importance as the Sunol Yard functions as the operational headquarters for SFPUC East Bay operations.

Sunol Yard activities center on the operations and maintenance of water supply lines. Carpentry, plumbing, welding, painting and electrical work, engineering, and automotive repair are regular activities conducted in yard shop facilities. Sunol Yard also houses various materials and equipment used to maintain the water system in the Sunol region. The majority of Sunol Yard staff work in the field full time. These employees pick up vehicles, equipment, and materials at

the Sunol Yard, and then depart to work off site. Sunol Yard administrative staff is office-based, and manages and supports the overall function of various SFPUC departments based in Sunol.

There would be little change in the operation and maintenance of improved project facilities at the Sunol Yard. No additional staffing would be needed to operate and maintain the proposed facilities, although additional office staff are planned to use Sunol Yard following project completion. Presently, approximately 47 staff use the Sunol Yard, an estimated 31 of whom work full time in the field. Approximately 61 staff are planned to use the yard following completion.

The Watershed Center would be staffed with four employees. The site would be open to the general public Monday through Friday, approximately from 9:00 a.m. to 3:00 p.m., and it is proposed to be open on the weekends and for periodic evening events; however, access to the Watershed Center and associated picnic area would depend on future budget considerations. Access to the Watershed Center would be available for educational uses and special events.

All buildings would require daily and weekly maintenance activities and general upkeep. Landscaping would also need to be maintained.

A.7 Required Actions and Approvals

This Initial Study (IS)/Mitigated Negative Declaration (MND) is intended to provide the environmental analysis necessary for the planning, development, approval, construction, operations, and maintenance of the project. In addition to this IS/MND, the proposed project is likely to require the following state and local agency actions and permits:

- State Water Resources Control Board (SWRCB): National Pollutant Discharge Elimination System (NPDES) Order 2009-0009-DWQ, "General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities" (Construction General Permit).
- Encroachment permit from the California Department of Transportation (Caltrans) (if needed to accommodate repair work on the main gate, which is adjacent to SR 84).
- Compliance with Alameda County Environmental Health Underground Storage Tank Program and Above Ground Storage Tanks protocol for hazardous materials.

To locate the proposed Watershed Center on SFPUC land between the existing quarry and Sunol Water Temple, the SFPUC would also need to modify its existing lease agreement with Mission Valley Rock Company to return to the SFPUC the use of a portion of the lease area that is not

slated for future quarrying. The proposed project would not likely require permits from the U.S. Army Corps of Engineers or the RWQCB under Sections 404 or 401 of the federal Clean Water Act, because the project would not require the placement of material within jurisdictional waters of the United States. Furthermore, no impacts on federally or state-listed species or habitat are anticipated (see **Section E.13, Biological Resources**, below). Therefore, the project is not likely to require take authorization from the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service, or the California Department of Fish and Wildlife (CDFW).

B. PROJECT SETTING

B.1 Regional and Local Setting

The project site is in the Sunol Valley in unincorporated Alameda County, west of I-680 and south of SR 84, on Alameda watershed lands owned by the City and County of San Francisco (CCSF) and managed by the SFPUC. The Alameda watershed is largely undeveloped, and consists primarily of rolling grassland and scattered oak woodlands. Existing SFPUC facilities in the Sunol Valley include water supply storage facilities (Calaveras and San Antonio Reservoirs); numerous transmission facilities (including the Alameda Siphons, Coast Range and Irvington Tunnels, Calaveras Pipeline, San Antonio Pipeline, and San Antonio Pump Station); and water treatment facilities (Sunol Valley Water Treatment Plant [SVWTP], Sunol Valley Chloramination Facility, and a fluoride facility).

B.2 Other Projects in the Vicinity

Past, present, and reasonably foreseeable future projects occurring in the vicinity of proposed project site could result in cumulative impacts in combination with the SLTI project impacts. These projects are as follows:

- Several projects involving the SFPUC (Alameda Creek Recapture Project, Alameda Siphons Seismic Reliability Upgrade, New Irvington Tunnel, SVWTP Expansion and Treated Water Reservoir, San Antonio Pump Station Upgrade, Various Pipeline Inspection Projects, San Antonio Reservoir Hypolimnetic Oxygenation System, Calaveras Dam Replacement, Geary Road Bridge Replacement, San Antonio Backup Pipeline Project, and the Town of Sunol Fire Suppression Project)
- Several roadway and infrastructure improvement projects (SR 84 Safety Project, SR 84 Expressway Widening Project, I-680 High-Occupancy Vehicle Lane, Alameda Creek Bridge Replacement Project, Pacific Gas and Electric Company Gas Pipeline Crossing, Alameda County Fire Department Sunol Project)
- Resource management plans and projects (Stream Management Master Plan Improvements and Rubber Dam No. 1 and Bay Area Rapid Transit Weir Fish Passage Project)
- An active mining operation adjoining the project site (SMP-32 Quarry Operations)

Table 9 in **Section E, Evaluation of Environmental Effects**, describes the potential cumulative projects in the project vicinity. The discussion of potential cumulative impacts is included in the individual environmental issue area subsections in **Section E**.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	<i>Applicable</i>	<i>Not Applicable</i>
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

No variances, special authorizations, or changes to the San Francisco Planning Code or Zoning Map are proposed as part of this project; therefore, these issues are not applicable and are not discussed further.

This section provides a general description of the land use plans and policies, and how they apply to the project; and discusses potential inconsistencies between this project and the applicable plans. Approvals and permits required for project implementation are provided in **Section A.7, Required Actions and Approvals**. The focus of this section is on CCSF land use plans and policies, the SFPUC’s plans and policies, and other regional and local plans that apply to the project. The project site is in Alameda County, on property that is owned and managed by the SFPUC. The SFPUC is an agency of CCSF, and therefore is under the jurisdiction of the City’s charter and plans, where applicable. In addition, the SFPUC has adopted plans specific to the management of the agency’s water resources. The SFPUC is not legally bound by the land use plans and policies of other jurisdictions; however, non-CCSF land use plans are discussed to the extent that they provide general land use planning information for the jurisdiction in which the project is located. This information is also relevant to the evaluation of project impacts with respect to compatibility of a project with certain aspects of local land use plans and policies.

C.1 City and County of San Francisco Plans and Policies

The CCSF land use plans and policies are primarily applicable to projects within the jurisdictional boundaries of the City of San Francisco, although in some cases they may apply to projects outside these boundaries. CCSF has authority (San Francisco Charter, Section 4.112) over the management, use, and control of land it owns outside of the city, subject to the SFPUC’s exclusive charge of the construction, management, use, and control of city water supplies and utilities (San

Francisco Charter, Section 8B.121). Accordingly, CCSF considers its own plans and policies on its extraterritorial lands, as applicable.

California Government Code Section 53090 et seq. provides that the SFPUC receive intergovernmental immunity from the zoning and building laws of other cities and counties. The SFPUC, however, seeks to work cooperatively with local jurisdictions where CCSF-owned facilities are sited outside of San Francisco, to avoid conflicts with local land use plans and building and zoning codes. Also, the SFPUC is required under Government Code Section 65402(b) to inform local governments of its plans to construct projects or acquire or dispose of its extraterritorial property. Local governments have a 40-day review period to determine project consistency with their general plans. Under this requirement, the cities' or counties' determinations of consistency are advisory to the SFPUC, rather than binding.

C.1.1 San Francisco General Plan

The San Francisco General Plan,⁷ as amended, sets forth the comprehensive long-term land use and development policies for San Francisco. One of the basic goals of the San Francisco General Plan is “coordination of the growth and development of the city with the growth and development of adjoining cities and counties and of the San Francisco Bay Region.” The San Francisco General Plan consists of ten issue-oriented plan elements: Air Quality; Arts; Commerce and Industry; Community Facilities; Community Safety; Environmental Protection; Housing; Recreation and Open Space; Transportation; and Urban Design. The elements that may be relevant to the project are briefly described below.

- **Air Quality Element.** This element promotes the goal of clean air planning through objectives and policies aimed at adhering to air quality regulations.
- **Community Safety Element.** This element addresses the potential for geologic, structural, and nonstructural hazards to affect city-owned structures and critical infrastructure. The goal of this element is to protect human life and property from hazards.
- **Environmental Protection Element.** This element addresses the impact of urbanization on the natural environment. The element promotes the protection of plant and animal life and freshwater sources, and speaks to San Francisco's responsibility to provide a

⁷ CCSF, 1988. *San Francisco General Plan*. As amended through 1996.

permanent, clean water supply to meet present and future needs and to maintain an adequate water distribution system.

- **Recreation and Open Space Element.** This element is composed of several sections, each dealing with a certain aspect of the City's recreation and open space system, including the Regional Open Space System, the Citywide Open Space System, the Shoreline, the Neighborhoods, and Downtown.
- **Urban Design Element.** This element promotes the preservation of landmarks and structures with notable historic, architectural, or aesthetic value, and seeks to balance development with its natural environmental and visual features.

The San Francisco General Plan sets forth CCSF's comprehensive long-term land use policy, and as such, is primarily applicable to projects within CCSF's jurisdictional boundaries. The project, which lies outside CCSF boundaries, consists of upgrading the existing Sunol Yard and picnic area, and constructing a new Watershed Center. The project would result in long-term improvement of the reliability of the water and power systems to meet customer needs; therefore, the project would support the health and safety of the communities that are served by the SFPUC utility systems. In addition, the project would adhere to air quality regulations and preserve the integrity of existing historic structures. Therefore, the project would not conflict with the San Francisco General Plan and its goals.

C.1.2 Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the City Planning Code to establish eight priority planning policies to the San Francisco General Plan. The Priority Policies serve as the basis upon which inconsistencies in the San Francisco General Plan are to be resolved. The eight Priority Policies state that:

1. Neighborhood-serving retail uses be preserved and enhanced, and future opportunities for resident employment in and ownership of such businesses be enhanced.
2. Housing and neighborhood character be conserved and protected to preserve the cultural and economic diversity of the neighborhoods.
3. The City's supply of affordable housing be preserved and enhanced.
4. Commuter traffic not impede the Muni transit service or overburden streets or neighborhood parking.

5. Diverse economic base be maintained by protecting industrial and service sectors from displacement by commercial office development, and future opportunities for resident employment and ownership in these sectors be enhanced.
6. The City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.
7. Landmarks and historic buildings be preserved.
8. Parks and open space and their access to sunlight and vistas be protected from development.

Of the eight priority policies, only the sixth, seventh, and eighth (relating to earthquakes, historic buildings, and parks and open space, respectively) would be relevant to the project. The remaining five policies would not be relevant because the project would: 1) be constructed outside of San Francisco; 2) be located away from San Francisco neighborhoods; 3) have no effect on nor create the need for affordable housing; 4) not result in any increase in commuter automobiles; and 5) not result in commercial office development. Priority policy 6 is aimed at helping the City achieve the greatest possible preparation to protect against injury and loss of life in the event of an earthquake. The project would help ensure the reliability of the City's water and power systems in the event of a major earthquake by improving the SFPUC's ability to maintain and repair its water and power system facilities rapidly and reliably, thus protecting water and power availability during emergencies. With respect to priority policy 7, preservation of landmarks and historic buildings, the project would not result in significant effects on landmarks or historic buildings. Project construction activities could cause a substantial adverse change in the significance of the Sunol Water Temple and main gate, an eligible historic resource. This would be a significant impact. However, mitigation has been incorporated to reduce this impact to a less-than-significant level (see **Section E.4, Cultural and Paleontological Resources**). The Watershed Center location was chosen specifically to avoid any impacts to views of the Sunol Water Temple from Temple Road. Neither the single-story Watershed Center nor the Watershed Discovery Trail would result a change in access to sunlight to the surrounding open space areas. Additionally, improvements to the existing picnic area would not result in the addition of any structures or features that would result in a change to access to sunlight or vistas. Therefore, the project would not conflict with the Accountable Planning Initiative.

C.1.3 San Francisco Sustainability Plan

Although the San Francisco Board of Supervisors endorsed the Sustainability Plan for the City of San Francisco⁸ in 1997, the board has not committed CCSF to perform the actions addressed in the plan. The plan serves as a blueprint for sustainability, with many of its individual proposals requiring further development and public comment. The plan's underlying goals are to maintain the physical resources and systems that support life in San Francisco, and to create a social structure that will allow such maintenance. It is divided into 15 topic areas. Ten of these areas address specific environmental issues: air quality; biodiversity; energy; climate change and ozone depletion; food and agriculture; hazardous materials; human health; parks, open spaces, and streetscapes; solid waste; transportation; and water and wastewater. Five of these areas are broader in scope and cover many issues, including the economy and economic development; environmental justice; municipal expenditures; public information and education; and risk management. Under the topic of "water" are goals addressing water reuse, water quality, water supply, groundwater supply, and infrastructure. Each topic area has a set of indicators that is to be used over time to determine whether San Francisco is moving in a direction that supports sustainability for that area.

The Sustainability Plan for the City of San Francisco was developed to address the city's long-term environmental sustainability. The project would not conflict with the goals of the plan, because it would not result in increased water demand or use and would maintain the physical resources and systems that support life in San Francisco. Furthermore, the Administration Building at the Sunol Yard and the Watershed Center would be certified as LEED Gold, which addresses sustainable sites; water efficiency; energy and atmosphere; materials and resources; and indoor environmental quality.

C.1.4 San Francisco Floodplain Management Ordinance

The 2008 San Francisco Floodplain Management Ordinance, approved by San Francisco's mayor and Board of Supervisors as Chapter 2A, Article XX, Sections 2A.280 through 2A.285 of the City's Administrative Code, requires that new or substantially improved buildings in FEMA-identified special flood hazard areas be protected against flood damage, and restricts uses that would increase flood risks. In general, the ordinance requires that the first floor of buildings in flood

⁸ CCSF, 1997. *The Sustainability Plan for the City of San Francisco*. Department of the Environment.

zones be constructed above the floodplain or be flood-proofed, and be consistent with applicable federal and state floodplain management regulations. The ordinance applies to construction on CCSF-owned properties outside the boundaries of San Francisco.⁹

The project does not propose the construction of buildings in the FEMA-identified floodway and all proposed buildings will be above the floodplain subject to inundation by the 1-Percent Annual Chance Flood. Therefore, the project would be consistent with the 2008 San Francisco Floodplain Management Ordinance.

C.2 SFPUC Plans and Policies

C.2.1 SFPUC Strategic Sustainability Plan

The SFPUC's 2011 Strategic Sustainability Plan provides a framework for planning, managing, and evaluating SFPUC-wide performance that takes into account the long-term economic, environmental, and social impacts of the SFPUC's business activities. This plan consists of a "Durable Section," which contains goals, objectives, and performance indicators to implement SFPUC's vision and values. The goals and objectives are then used to drive the "Dynamic Section" of the Sustainability Plan, which contains specific actions, targets, measures, and budgeting. The SFPUC uses this document to evaluate its performance semiannually, to provide an annual score card, and to help the SFPUC measure progress on an annual basis.¹⁰

The proposed project is a facility improvement project that would meet the SFPUC's objective in improving capital facilities.

C.2.2 Water Enterprise Environmental Stewardship Policy

Adopted in June 2006, the Water Enterprise Environmental Stewardship Policy established the long-term management direction for CCSF-owned lands and natural resources affected by operation of the SFPUC regional water system in the Tuolumne River, Alameda Creek, and Peninsula watersheds.¹¹ It also addresses right-of-way (ROW) and properties in urban surroundings under SFPUC management. The Environmental Stewardship Policy is integrated

⁹ CCSF, 2010. *San Francisco Floodplain Management Program Fact Sheet*. CCSF Office of the City Administrator. Revised January 29.

¹⁰ SFPUC, 2011. *Strategic Sustainability Plan*. March.

¹¹ SFPUC, 2006. *SFPUC Final Water Enterprise Environmental Stewardship Policy*. June 27.

into Water Enterprise planning and decision-making processes, and also directly implemented through a number of efforts, including the Alameda WMP.

The project site is in the Alameda Creek watershed, and would be subject to Water Enterprise Environmental Stewardship Policy provisions. The policy includes the following provisions:

- The SFPUC will proactively manage the watersheds under its responsibility in a manner that maintains the integrity of the natural resources, restores habitats for native species, and enhances ecosystem function.
- To the maximum extent practicable, the SFPUC will ensure that all operations of the SFPUC water system (including water diversion, storage, and transport); construction and maintenance of infrastructure; land management policies and practices; purchase and sale of watershed lands; and lease agreements for watershed lands protect and restore native species and the ecosystems that support them.
- The SFPUC will manage ROWs and properties in urban surroundings under its management in a manner that protects and restores habitat value where available and encourages community participation in decisions that significantly interrupt or alter current land use in these parcels.

The project would result in construction of improvements to the existing Sunol Yard and development of the Watershed Center. These activities have the potential to result in impacts to natural resources; however, with implementation of mitigation measures identified in this document, the project would not conflict with the underlying goals of the Water Enterprise Environmental Stewardship Policy, including protection of local watersheds and natural resources.

C.2.3 Alameda Watershed Management Plan

The Alameda Watershed encompasses 36,000 acres of CCSF-owned lands within the much larger hydrologic boundaries of the Alameda Creek watershed, including lands in the drainage areas of San Antonio and Calaveras Reservoirs, as well as lands that drain to Alameda Creek in the Sunol Valley. The SFPUC adopted the Alameda WMP¹² for the Alameda watershed to provide a policy framework for the SFPUC to make decisions about activities that are appropriate on watershed

¹² SFPUC, 2001. *Alameda Watershed Management Plan*. April.

lands. The Alameda WMP provides goals, policies, and management actions that address watershed activities and reflect the unique qualities of the watershed. The Alameda WMP is also intended for use by the SFPUC as watershed management implementation guidelines. As part of implementation of the Alameda WMP, the SFPUC reviews all plans, projects, and activities that occur in the Alameda watershed for conformity with the WMP and for compliance with environmental codes and regulations.

The project site is in an area categorized as a secondary watershed in the Alameda Creek WMP area. The establishment of a Watershed Visitor Education Center is included in the WMP as Action pub4, and conforms with WMP secondary goals of preservation and enhancement of the ecological and cultural resources of the watershed. The project moves forward several activities included in the WMP, including:

- **Action sun10.** Retain the existing Sunol maintenance facility as the base for East Bay operations with specific facilities improvements.
- **Action sun12.** Prepare a conceptual Landscape and Recreation Plan for the restoration and public use of the Sunol Water Temple, its environs, and historic entry.
- **Action sun13.** Restore the historic entry to the Sunol Water Temple along Paloma Way.
- **Action sun14.** Develop a public recreation area around the Sunol Water Temple, including an interpretive center, a picnic area, and events area with small amphitheater.

The project also conforms with many WMP policies that preserve and protect cultural resources and prohibit or restrict new activities and development:

- **Policy CR1.** Preserve where possible historic structures and features, and protect them from deterioration, removal, demolition, vandalism or severe alterations.
- **Policy CR2.** Provide the highest level of priority to the protection and preservation of cultural resources eligible for or listed on the National Register of Historic Places (NRHP) of the California Register of Historical Resources (CRHR).
- **Policy CR5.** Consult or coordinate with appropriate Native American organizations regarding cultural resource preservation and protection, where applicable.
- **Policy WA1.** Prohibit activities that are detrimental to watershed resources. Prohibited activities are as follows:
 - Use of septic systems on SFPUC lands.
- **Policy WA7.** Limit the number of facilities requiring construction of new waste disposal systems on SFPUC lands to those that are essential where possible.

With regard to Policies CR1, CR2, and CR5, the project would preserve and protect the Sunol Water Temple, the main gate, and related features, and would include Native American consultation and coordination. With regard to Policies WA1J and WA7, the project would include replacement of existing wastewater holding tanks at the Sunol Yard and installation of new wastewater holding tanks at the Watershed Center. Because these tanks would be pumped, and wastewater would be transported for treatment at an offsite wastewater treatment plant, no infiltration of wastewater would occur to the groundwater in the area. The project would be consistent with the above-listed WMP Policies. Additionally, the project would be constructed at an existing SFPUC facility that is managed in accordance with the Alameda WMP. The project would be managed in a similar fashion, and would therefore not conflict with the Alameda WMP.

C.2.4 Right-of-Way Integrated Vegetation Management Policy

In February 2007, the SFPUC adopted the Right-of-Way Integrated Vegetation Management Policy¹³ to manage vegetation that poses a threat or hazard to the regional water system's operation, maintenance, and infrastructure throughout the SFPUC water distribution and collection systems. The roots of large woody vegetation (vegetation) can damage transmission pipelines by causing corrosion of the outer casements. Trees and other vegetation directly over or adjacent to pipelines can also make repairs and emergency and annual maintenance difficult, hazardous, and expensive, and can increase concerns for public safety. Fire danger in the SFPUC ROWs is also a concern, because the SFPUC is required to comply with local fire ordinances, which specify that existing vegetation be identified, reduced, and managed to prevent potential disruption to fire protection services. Another objective of this policy is to reduce and eliminate, to the degree practicable, the use of herbicides on vegetation in the ROWs. Specific elements of the Right-of-Way Integrated Vegetation Management Policy address the management and removal of vegetation (including trees), annual grasses, and weeds in the SFPUC ROWs, and the management and removal of vegetation and trees on land leased or permitted by the SFPUC.

The existing Sunol Yard is currently managed in accordance with the policy, as would be the improved Sunol Yard and Watershed Center. Therefore, the project would not conflict with the Right-of-Way Integrated Vegetation Management Policy.

¹³ SFPUC, 2007. *Right-of-Way Integrated Vegetation Management Policy*. February.

C.3 Conservation Plans

The project is not in an area subject to a Conservation Plan. Therefore, there are no Conservation Plans applicable to the project.

C.4 Local General Land Use Plans

The project is in Alameda County. State law (California Government Code Section 53090 et seq.) mutually exempts cities and counties from complying with each other's building and zoning ordinances. The SFPUC, which is part of CCSF, is therefore exempt from complying with the building and zoning ordinances of other cities and counties. This same state law also exempts public utilities and special-purpose local agencies from complying with local building and zoning ordinances when locating or constructing facilities for the production, generation, storage, treatment, or transmission of water. Although the SFPUC is not legally bound to the land use plans and policies of other jurisdictions, non-CCSF land use plans are discussed in this section to the extent that they provide land use planning information for the jurisdictions in which the project is located. In addition, this IS addresses aspects of compatibility with local land use planning if the project would meet any of the following conditions.

- The project would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts or bicycle racks), or would cause a substantial increase in transit demand that cannot be accommodated by existing or proposed transit capacity or alternative travel modes (analyzed in **Section E.5, Transportation and Circulation**).
- The project would expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (analyzed in **Section E.6, Noise**).
- The project is in an area covered by an airport land use plan (or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport), and would expose people residing or working in the project area to excessive noise levels (analyzed in **Section E.6, Noise**).
- The project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (analyzed in **Section E.13, Biological Resources**).

- The project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (analyzed in **Section E.13, Biological Resources**).
- The project would 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 (analyzed in **Section E.17, Mineral and Energy Resources**)
- The project would conflict with existing zoning for agricultural use or a Williamson Act contract (analyzed in **Section E.18, Agricultural and Forest Resources**)

Determinations of project consistency with local general plans would be made by the pertinent land use jurisdictions, following notification by the SFPUC pursuant to state law. The project proposes improvements to the Sunol Yard and development of the Watershed Center. The project would not result in any change of uses in or outside of the Sunol Yard project site or ROW, and therefore would not appear to be in conflict with any adopted county and city plans and goals.

This IS systematically identifies the potential environmental impacts associated with implementation of the project, as well as feasible measures to avoid or substantially lessen such effects. The criteria used in the impact analysis of this IS support the intent of general plan goals and policies related to protection of the environment. As detailed throughout **Section E, Evaluation of Environmental Effects**, most of the environmental impacts attributable to the project are associated with construction activities, and these impacts would be reduced to less-than-significant levels through implementation of proposed mitigation measures. Therefore, the project would be consistent with the local general plans.

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D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- | | | |
|--|--|---|
| <input type="checkbox"/> Land Use | <input type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Biological Resources |
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Geology and Soils |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Wind and Shadow | <input type="checkbox"/> Hydrology and Water Quality |
| <input checked="" type="checkbox"/> Cultural and Paleontological Resources | <input checked="" type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Hazards/Hazardous Materials |
| <input type="checkbox"/> Transportation and Circulation | <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Mineral/Energy Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Public Services | <input type="checkbox"/> Agricultural and Forest Resources |
| | | <input type="checkbox"/> Mandatory Findings of Significance |

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E. EVALUATION OF ENVIRONMENTAL EFFECTS

This IS examines the project to identify potential effects on the environment. For each item on the IS checklist, the evaluation has considered the impacts of the project both individually and cumulatively. All items on the IS checklist that have been checked “Less than Significant with Mitigation Incorporated,” “Less-than-Significant Impact,” “No Impact,” or “Not Applicable” indicate that, upon evaluation, staff have determined that the project could not have a significant adverse environmental impact on that issue. A full discussion is included for all items checked “Less than Significant with Mitigation Incorporated” and “Less-than-Significant Impact,” and a brief discussion is included for items checked “No Impact” or “Not Applicable.” The items checked in **Section D, Summary of Environmental Effects** (see above) have been determined to be Less than Significant with Mitigation Incorporated.

Environmental impacts are numbered throughout this IS/MND using the section topic identifier, followed by sequentially numbered impacts. Mitigation measures are numbered to correspond to the impact numbers; for example, Mitigation Measure M-CP-1 addresses Impact CP-1 regarding cultural and paleontological resources. Cumulative impacts are discussed at the end of each environmental topic impact discussion, and are identified by the letter C; for example, Impact C-CP addresses cumulative cultural and paleontological resources impacts.

Approach to Cumulative Impact Analysis

Two approaches to a cumulative impact analysis are provided in California Environmental Quality Act (CEQA) Guidelines, Section 15130(b)(1): 1) the analysis can be based on a list of past, present, and reasonably foreseeable probable future projects producing closely related impacts that could combine with those of a project and 2) a summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine an appropriate list of individual projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the project. A relevant future project is defined as one that is “reasonably foreseeable,” such as a project for which an application has been filed with the approving agency, or whose funding has been approved.
- **Geographic Scope and Location.** A relevant project is one in the geographic area where effects could combine. The geographic scope varies on a resource-by-resource basis. For

example, the geographic scope for evaluating cumulative effects on air quality consists of the affected air basin.

- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or long-term operations) would likely coincide with the related effects of the project.

Table 9 lists the plans and projects in the project vicinity considered in the cumulative impact analysis, based on the above-referenced factors. Cumulative projects that could have construction schedules that overlap with the construction of the project are listed in **bold**.

**TABLE 9
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY**

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects</i>					
1	Alameda Creek Recapture Project (SFPUC) ^a	This project would recover water released from or bypassed around Calaveras Reservoir (pursuant to the instream flow schedules for the Calaveras Dam Replacement project), and return the water to the regional water system. The proposed project will recapture water that infiltrates into an existing quarry pond (Pond E2) and transfer it to SFPUC facilities in the Sunol Valley using a new pump station.	Construction-related traffic, noise, air quality, hydrology and water quality	None	2017 to 2018
2	Alameda Siphons Seismic Reliability Upgrade (SFPUC) ^b	The Alameda Siphons project extended approximately 3,000 feet from the Alameda East Portal across the Calaveras fault and from Alameda Creek to the Alameda West Portal. The project included: <ul style="list-style-type: none"> • A new siphon (Alameda Siphon No. 4) comprised of a 66-inch-diameter welded steel pipeline with 310 feet of a seismically designed special trench and thicker-walled pipe in the fault rupture zone, and a tunnel crossing under Alameda Creek. Alameda Siphon No. 4 was connected with the Coast Range Tunnel near the Alameda East Portal. • Seismic reinforcement of the Alameda Siphon No. 2 by installing 300 feet of engineered foundation treatment at the Calaveras fault crossing. • Seismic upgrades and improvements to vaults and valve houses at the Alameda East Portal, and a new connection to the Coast Range Tunnel. 	Air quality, utilities, hydrology and water quality, energy resources	None	Completed 2011

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
2 (cont.)		<ul style="list-style-type: none"> Replacing and extending the Alameda East Portal Overflow Pipeline and installing a new outlet structure at the southern end of quarry Pit F6 for discharges of water through the Alameda East Portal. Straightening of Calaveras Road in the vicinity of the Alameda Siphons, improvements to existing access roads, a new access road along the northern side of the Alameda Siphon No. 4, and retrofit of the bridges across Alameda Creek near the Alameda West Portal. 			
3	New Irvington Tunnel (SFPUC) ^c	<p>The NIT project includes construction of a new tunnel parallel to and just south of the existing Irvington Tunnel to convey water from the Hetch Hetchy system and the SVWTP to the Bay Area. When completed, the project would include the following components:</p> <ul style="list-style-type: none"> A new 18,200-foot-long, 10-foot-diameter tunnel. A new portal at the eastern end adjacent to the existing Alameda West Portal in the Sunol Valley with connections to the existing and proposed Alameda Siphons. A new portal in Fremont at the western end of the NIT, adjacent to the existing Irvington Portal with connections to Bay Division Pipeline Nos. 1, 2, 3, 4, and 5. 	Air quality, utilities, biological resources, hydrology and water quality, energy resources	None	Mid-2010 to 2015

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
3 (cont.)		The tunnel excavation used conventional mining methods, such as using a "road-header" and/or "drill-and-blast." A portion of the tunnel was also excavated using a tunnel boring machine. Excess spoils generated during project construction were placed into permanent berms at the South and North Spoils Sites.			
4	SVWTP Expansion and Treated Water Reservoir (SFPUC) ^d	<p>The SVWTP Expansion project included the following improvements:</p> <ul style="list-style-type: none"> • Increased sustainable capacity of the SVWTP to 160 million gallons per day by adding a new flocculation/sedimentation basin and by retrofitting some of the existing filters. • A new 17.5-million-gallon circular treated water reservoir and a new 3.5-million-gallon rectangular chlorine contact tank on the northern portion of the existing plant site. Roughly 350,000 cubic yards of excavated material would be removed from the plant for disposal. • New chemical storage and feed facilities for disinfection, including sodium hypochlorite and ammonia as well as new fluoride facilities. • Construction of approximately 2,700 feet of 78-inch-diameter pipe to connect the new treated water reservoir to the existing plant discharge pipeline, which would require a tunnel crossing of Alameda Creek. 	Air quality, utilities, hydrology and water quality, energy resources	None	Completed late 2013

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
4 (cont.)		<ul style="list-style-type: none"> Miscellaneous plant improvements, including: a new emergency generator and improvements to the plant electrical system and substation; an upgrade of the instrumentation and controls; a new filter washwater recovery basin; improvements to the flow distribution structure and associated facilities; improvements to the influent chemical mixing system; and replacement in-kind of existing chemical tanks. Habitat creation and restoration actions on CCSF-owned lands that are zoned for agricultural uses and/or leased for grazing lands. 			
5	San Antonio Pump Station Upgrade (SFPUC) ^e	This project replaced three corroded electrical pumps with three 1,000-horsepower electrical pumps; installed two 1.5-megawatt standby electrical generators and seismically retrofitted the existing pump station building by extending the foundation and shotcreting the building exterior. Two temporary staging areas were located adjacent to the San Antonio Pump Station and the Sunol Valley Chloramination Facility. No grading or excavation was necessary to accommodate the proposed staging areas.	Air quality, biological resources, hydrology and water quality	None	Completed late 2010

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
6 [Various locations]	Various Pipeline Inspection Projects (SFPUC) ^f	SFPUC pipeline inspections consist of internal evaluations of the pipe network. Pipelines are accessed via existing access ports. It is necessary to dewater the pipe before the inspection, and later disinfect the pipe before refilling it. The pipes are typically dewatered through existing air valves; discharges are made in accordance with an existing NPDES permit for the SFPUC drinking water transmission system (RWQCB Order No. R2-2008-0102), and would be subject to inspection and water quality BMPs. In rare cases, a minor amount of excavation may be necessary to gain access to the pipeline. Pipelines that could require inspection in the Sunol Valley include the San Antonio Pipeline, Calaveras Pipeline, and Alameda Siphons Nos. 1, 2, and 3, with dewatering discharges to either San Antonio or Alameda Creeks.	Air quality, hydrology and water quality,	None	Ongoing
7	San Antonio Reservoir Hypolimnetic Oxygenation System (SFPUC) ^g	This project included design to reduce excessive buildup of nutrients in the deepest layer of water in San Antonio Reservoir, thereby inhibiting future algal blooms; reduce the formation of iron, manganese, and hydrogen sulfide that results from a lack of oxygen in the reservoir; and maintain necessary oxygen concentration in the deepest layers of the reservoir to increase the usable habitat for cold-water fish. Project components included concrete pads for facilities, parking, and access roads; tanks; vaporizers; valves; piping and other associated structures; underground electrical supply line; and oxygen lines and diffusers suspended at specified depths in the reservoir.	Hydrology and water quality	None	Completed late 2009

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
8	Calaveras Dam Replacement (SFPUC) ^h	<p>The project provides for planning, design, and construction of a replacement dam at the Calaveras Reservoir to meet seismic safety requirements. When complete, the new dam would provide for a reservoir with the same storage capacity as the original reservoir (96,850 acre-feet), but the replacement dam would accommodate a potential enlargement of the dam in the future. The project includes the following improvements:</p> <ul style="list-style-type: none"> • Regrading of the existing dam and construction of a new earth and rock-fill dam. • Replacement of the existing spillway, stilling basin, and intake tower to increase seismic safety and improve operations and maintenance. • Installation of new outlet valves at the base of the dam for fishery releases and installation of fish screens on the existing adits. 	Construction-related traffic, noise, air quality, utilities, biological resources, hydrology and water quality, hazards and hazardous materials, energy resources	None	2011 to 2017

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
8 (cont.)		<ul style="list-style-type: none"> • Construction of a bypass tunnel at the Alameda Creek Diversion Dam (ACDD), a fish screen on the Alameda Creek Diversion Tunnel, and a fish ladder around the ACDD. • New or rehabilitated outlet works. • Upgrading of the electrical distribution line between Milpitas and Calaveras Dam. • Long-term implementation of minimum instream flow schedules for Alameda Creek below the ACDD and for Calaveras Creek below Calaveras Dam. • Habitat creation and restoration actions on CCSF-owned lands that are zoned for agricultural uses and/or leased for grazing lands. 			
9	Geary Road Bridge Replacement (SFPUC) ⁱ	The project includes replacement of the existing timber bridge and construction of a new steel bridge where Geary Road crosses Alameda Creek in the Sunol Regional Wilderness on lands owned by CCSF and operated by the East Bay Regional Park District.	Air quality, biological resources, hydrology and water quality, energy resources	None	Completed 2014

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>SFPUC Projects (cont.)</i>					
10	San Antonio Backup Pipeline (SFPUC) ^j	The project includes construction of several new facilities and improvements to provide reliable conveyance capacity for planned and emergency discharges of Hetch Hetchy water out of the SFPUC regional water system under future flow conditions. Construction includes an approximately 7,000-foot-long, 66-inch-diameter backup pipeline, a new discharge facility, a new chemical facility, a new pump station and wet well, and several auxiliary improvements. Project components are located in the Sunol Valley, south of the I-680 and SR 84 intersection along the western side of Calaveras Road on Alameda watershed lands owned by CCSF and managed by SFPUC.	Air quality, utilities, biological resources, hydrology and water quality	None	2013 to 2015
11	Town of Sunol Fire Suppression Project (SFPUC) ^k	The project includes improvement of fire suppression capabilities by increasing the number of hydrants and flows in and around the Town of Sunol. Project components include 2 miles of new pipelines on County roads, installation of approximately 26 new hydrants, and water tank replacement and upgrade.	Land use, aesthetics, air quality, utilities, hydrology and water quality, energy resources, agricultural and forest resources	Access to the SLTI project site is provided by some of the roads where construction of the new pipeline and hydrants will take place.	Completed 2014

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>Non-SFPUC Projects</i>					
12	Stream Management Master Plan Improvements (Zone 7 Water Agency) ^l	The Stream Management Master Plan includes implementation of 49 projects over the next 20 years throughout the Zone 7 service area (in the Tri-Valley Area). Reach 10 includes Arroyo de la Laguna; project activities included bank stabilization and protection features, grading and terracing of eroded banks, riparian corridor enhancement for 3,000 feet, and removal of barriers to steelhead fish migration.	Air quality, utilities, hydrology and water quality,	None	Construction of the projects in Reach 10 occurred from 2008 to 2010.
13	SMP-32 Quarry Operations (Lehigh Hanson Aggregates) ^m	Active mining operations are permitted under SMP-32 and occur on the approximately 242 acres of land leased to the Mission Valley Rock Company by the City and County of San Francisco under the jurisdiction of SFPUC. Processing facilities such as an asphalt batch plant or concrete plant are not present on-site for processing or production of the mined materials.	Land use, aesthetics, air quality, hydrology and water quality, energy resources, agricultural and forest resources	Quarry operations located adjacent to the proposed project site.	Operations ongoing since lease was signed in 2000.
14	State Route 84 Safety Project (Alameda County) ⁿ	Roadway improvements along SR 84 between the Rosewarnes Bridge and Farwell Bridge included: widening road shoulders; improving site distance and vertical clearances at bridges; and installation of a retaining wall along a section of Alameda Creek.	Air quality, hydrology and water quality	None	Completed 2009
15	State Route 84 Expressway Widening Project (Alameda County) ^o	Widening of SR 84 (Isabel Avenue) from four to six lanes from Jack London Boulevard in Livermore through the Isabel Avenue/Vallecitos Road intersection. When complete, project would add capacity, reduce congestion, improve local circulation, and eventually tie into the Isabel Avenue/I-580 interchange project.	Construction-related traffic, air quality	Although this project does not intersect geographically with the SLTI project site, SR 84 provides access to the SLTI project site which is several miles southwest of the planned widening.	2012 to 2016

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>Non-SFPUC Projects (cont.)</i>					
16	I-680 High Occupancy Vehicle Lane (Alameda County) ^P	This project included construction of a southbound and northbound High-Occupancy Vehicle lane on the I-680 Sunol grade with ramp metering and an auxiliary lane from SR 84 to the Montague Expressway to alleviate traffic congestion along I-680.	Air quality, hydrology and water quality	None	Completed in 2010
17	Alameda Creek Bridge Replacement Project (Previously the "State Route 84 Niles Canyon Safety Improvements Project") (Alameda County) ^Q	This project would reconstruct the existing Alameda Creek Bridge (also called the Richmond Bridge) over Alameda Creek in Niles Canyon in the City of Fremont to address operational deficiencies and increase the safety of the traveling public. The project would also realign the roadway to the west of the bridge for a length of approximately 1200 feet, to correct the sharp curve on the existing bridge approach. The project would improve traffic safety by improving sight distances, updating barrier rails, and providing a standard road shoulder width.	Air quality, utilities, hydrology and water quality	This project is located a few miles west of the SLTI project. Access to the SLTI project site is provided by the segment of SR 84 undergoing improvement.	2017 to 2018
18	PG&E Gas Pipeline Crossing (PG&E) ^R	This project would modify the cement-armored PG&E gas pipeline crossing of Alameda Creek in the Sunol Valley above the confluence of San Antonio Creek, which would eliminate a barrier to fish migration at most creek flow levels. The project involves modification of the concrete mat or construction of a fish ladder to allow fish passage.	Construction-related traffic, noise, air quality, utilities, hydrology and water quality	None	2015

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
<i>Non-SFPUC Projects (cont.)</i>					
19	Rubber Dam No. 1 and BART Weir Fish Passage Project (ACWD and Alameda County Flood Control and Water Conservation District) ^s	When complete, this project would install a fish ladder in the city of Fremont at the ACWD's Rubber Dam No. 1 and Bay Area Rapid Transportation (BART) weir to facilitate fish migration in lower Alameda Creek.	Air quality, hydrology and water quality, hazards and hazardous materials	None	2014 to 2015
20	Alameda County Fire Department Sunol Project (Alameda County Fire Department) ^t	ACFD proposes to build a Fire Station in Sunol on Paloma Way approximately one half mile west of Interstate 680. The project includes a pre-fabricated 2,000 square-foot fire station and a 2,500 square-foot garage adjacent to the main building.	Land use, aesthetics, construction-related traffic, noise, air quality, utilities, hazards and hazardous materials, energy resources, agricultural and forest resources	The project site is located approximately 500 feet east and across the street from the entrance to the SLTI project site on Paloma Way.	2015 to 2016

TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule		
<p>Notes:</p> <p>Bold text indicates that a cumulative project's construction schedule could overlap with the SLTI project construction schedule.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> ACDD = Alameda Creek Diversion Dam ACFD = Alameda County Fire Department ACWD = Alameda County Water District ACTIA = Alameda County Transportation Improvements Authority BART = Bay Area Rapid Transit BMP = best management practice Caltrans = California Department of Transportation CCSF = City and County of San Francisco I = Interstate </td> <td style="width: 50%; border: none;"> NIT = New Irvington Tunnel NPDES = National Pollutant Discharge Elimination System PG&E = Pacific Gas and Electric Company RWQCB = Regional Water Quality Control Board SFPUC = San Francisco Public Utilities Commission SLTI = Sunol Long Term Improvements SR = State Route SVWTP = Sunol Valley Water Treatment Plant </td> </tr> </table> <p>Sources:</p> <p>^a SFPUC, 2013. <i>WSIP Regional Projects Quarterly Report, 4th Quarter/Fiscal Year 2012-2013</i>. August 6, 2013.</p> <p>^b San Francisco Planning Department, 2008. <i>Initial Study/Mitigated Negative Declaration, SFPUC Alameda Siphons Seismic Reliability Upgrade Project</i>. San Francisco Planning Department File No. 2006.0776E. May.</p> <p>^c San Francisco Planning Department, 2009. <i>Final Environmental Impact Report for the San Francisco Public Utilities Commission New Irvington Tunnel Project</i>. San Francisco Planning Department File No. 2005.0162E, State Clearinghouse No. 2006092085. November 5; SFPUC, 2013. <i>WSIP Regional Projects Quarterly Report, 2nd Quarter/Fiscal Year 2012-2013</i>. February 5.</p> <p>^d San Francisco Planning Department, 2009. <i>Final Environmental Impact Report for the San Francisco Public Utilities Commission Sunol Valley Water Treatment Plant Expansion and Treated Water Reservoir Project</i>. San Francisco Planning Department File No. 2006.0137E, State Clearinghouse No. 2007082014. December 3.</p> <p>^e SFPUC, 2014. <i>San Antonio Pump Station Upgrades, Project Update</i>. Available online at: http://216.119.104.145/bids/projectDetail.aspx?prj_id=214. Accessed August 2014.</p> <p>^f San Francisco Planning Department, 2009. <i>Final Environmental Impact Report for the San Francisco Public Utilities Commission Sunol Valley Water Treatment Plant Expansion and Treated Water Reservoir Project</i>, San Francisco Planning Department File No. 2006.0137E, State Clearinghouse No. 2007082014. December 3.</p> <p>^g San Francisco Planning Department, 2009. <i>Final Environmental Impact Report for the San Francisco Public Utilities Commission New Irvington Tunnel Project</i>, San Francisco Planning Department File No. 2005.0162E, State Clearinghouse No. 2006092085. November 5.</p> <p>^h SFPUC, 2014. <i>Calaveras Dam Replacement Project (WSIP) Project Update</i>. Available online at: http://sfwater.org/bids/projectDetail.aspx?prj_id=141. Accessed August 2014.</p>						ACDD = Alameda Creek Diversion Dam ACFD = Alameda County Fire Department ACWD = Alameda County Water District ACTIA = Alameda County Transportation Improvements Authority BART = Bay Area Rapid Transit BMP = best management practice Caltrans = California Department of Transportation CCSF = City and County of San Francisco I = Interstate	NIT = New Irvington Tunnel NPDES = National Pollutant Discharge Elimination System PG&E = Pacific Gas and Electric Company RWQCB = Regional Water Quality Control Board SFPUC = San Francisco Public Utilities Commission SLTI = Sunol Long Term Improvements SR = State Route SVWTP = Sunol Valley Water Treatment Plant
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TABLE 9 (Continued)
CUMULATIVE PROJECTS IN THE SUNOL LONG TERM IMPROVEMENTS PROJECT VICINITY

Project No.	Project Name (Jurisdiction)	Project Description	Potential Cumulative Impact Topics	Potentially Affected Project Components/Areas of Overlap	Estimated Construction Schedule
		¹ San Francisco Planning Department, 2012. <i>Geary Road Bridge Replacement Project Preliminary Mitigated Negative Declaration</i> . Case No. 2008.0386E. June 13; SFPUC, 2014. <i>Geary Road Bridge, Project Update</i> . Available online at: http://sfwater.org/bids/projectDetail.aspx?prj_id=329 . Accessed August 2014.			
		^j San Francisco Planning Department, 2012. <i>San Antonio Backup Pipeline Project Final Environmental Impact Report</i> . Case No. 2007.0039E. State Clearinghouse No. 2007102030. September 20; SFPUC, 2013. <i>WSIP Regional Projects Quarterly Report, 4th Quarter/Fiscal Year 2012-2013</i> . August 6.			
		^k SFPUC, 2014. <i>Town of Sunol Fire Suppression System Project Fact Sheet</i> . Available at: http://sfwater.org/modules/showdocument.aspx?documentid=5149 . April 2014.			
		^l Livermore-Amador Valley Zone 7 Water Agency, 2006. <i>Zone 7 Stream Management Master Plan Final Master Environmental Impact Report</i> . Available online at: http://zone7water.s466.sureserver.com/final-smmp-eir . August 2006.			
		^m SFPUC, 2000. <i>Public Utilities Commission, San Francisco Water Department, Quarry Lease between City and County of San Francisco as Landlord, and Mission Valley Rock Company, as Tenant</i> . September.			
		ⁿ San Francisco Planning Department, 2009. <i>Final Environmental Impact Report for the San Francisco Public Utilities Commission New Irvington Tunnel Project</i> , San Francisco Planning Department File No. 2005.0162E, State Clearinghouse No. 2006092085. November 5.			
		^o Caltrans, 2008. <i>State Route 84 Expressway Widening Project Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact</i> . August 2008; ACTIA, 2010. <i>Route 84 Expressway, ACTIA 24, Monthly Report</i> . April.			
		^p ACTIA, 2011. <i>I-680 Sunol Express Lanes, ACTIA 8, Monthly Report</i> . June.			
		^q Caltrans, 2010. <i>Niles Canyon Safety Improvement Project Draft Environmental Impact Report/Environmental Assessment</i> . June 2010.			
		^r Alameda Creek Alliance, 2014. <i>Sunol Valley, PG&E Pipeline Crossing</i> . Available online at: http://www.alamedacreek.org/restoration-progress/sunol-valley.php . Accessed February 11, 2014.			
		^s ACWD, 2014. <i>Current Fish Passage & Related Projects, Rubber Dam No. 1 Replacement</i> . Available online at: http://www.acwd.org/index.aspx?NID=456 . Accessed February 11, 2014.			
		^t ACFD, 2014. <i>Draft Initial Study and Proposed Mitigated Negative Declaration, Sunol Fire Station, Sunol, California</i> . Prepared by Ground Zone Environmental Services. March 2014.			

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<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.1 LAND USE AND LAND USE PLANNING—					
Would the project:					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial impact upon the existing character of the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is in a primarily rural setting, south of the Town of Sunol and west of the SR 84/I-680 junction, in Alameda County, California. Adjoining the project site are gravel quarry operations, the Sunol Water Temple Agricultural Park, Alameda Creek, and Arroyo de la Laguna. Land uses in the project vicinity generally include open space and East Bay Regional Park lands such as the Pleasanton Ridge Regional Park to the north and Sunol Regional Wilderness to the south, as well as the urban uses of the greater San Francisco Bay Area.

The project site is designated as Water Management in the Alameda County General Plan. Land uses adjacent to the project site include a quarry to the east, SR 84 and the Town of Sunol to the north, Arroyo de la Laguna (Alameda Creek) and cultivated lands to the west, and the Sunol Golf Course to the south. The area that the Watershed Center would be constructed on is SFPUC land, including land leased to Mission Valley Rock Company, and operated by Lehigh Hanson. The SFPUC lease with Mission Valley Rock Company would need to be modified in order to construct the Watershed Center on that area. Overall land uses in the project vicinity are shown on **Figures 1 and 2**. The majority of the site is developed with the existing Sunol Yard, Temple Road, the Sunol Water Temple Agricultural Park, the Sunol Water Temple, a closed picnic area, and water supply infrastructure, such as the Sunol Pump Station and Filter Galleries.

Impact LU-1: The project would not physically divide an established community. (No Impact)

The project is not in an established community, nor adjacent to a community that is expanding. The project would be constructed on land owned by SFPUC and in use as a center for SFPUC's

maintenance and support operations in the East Bay Area, an agricultural park, a quarry, and the Sunol Water Temple. As a result, the project would not physically divide an established community (*No Impact*).

Impact LU-2: The project would be consistent with applicable plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

The proposed project facilities would not substantially alter existing land uses, because the project site would still be used for operation of the Sunol Yard, the Sunol Water Temple Agricultural Park, and visitor access to the Sunol Water Temple. With the exception of the addition of the Watershed Center and reopening of the picnic area, no new uses are proposed on the site.

As described in **Section C, Compatibility with Existing Zoning and Plans**, the project would not obviously or substantially conflict with applicable plans, policies, and regulations. The new Watershed Center would be compatible with, and would augment, the education purposes and visitor experience of the Sunol Water Temple. The project site is designated as Water Management in the Alameda County General Plan. Although CCSF is not legally bound by the plans and policies of other jurisdictions for properties such as these, which are located in other counties, the project is intended to, and would, serve the water management policies of SFPUC by modernizing Sunol Yard and operations, which would facilitate improved maintenance of water service operations. The project would also provide educational opportunities for the public, with respect to watershed management and water services, which would help to promote public awareness, appreciation, and understanding of water issues, water quality, and conservation. Therefore, the project would not conflict with the plans, policies, or regulations of CCSF, the SFPUC, or Alameda County, and impacts related to conflict with applicable land use plans, policies, or regulations would be *Less than Significant*.

Impact LU-3: The project would not have a substantial impact upon the existing character of the project vicinity. (Less than Significant)

Construction

Project construction would consist of activities (e.g., excavation, use of construction equipment, and construction traffic) that could result in increased traffic, noise, and emissions that, when combined, could temporarily alter the character of existing open space, agricultural, or recreational land uses. Potential physical environmental effects on surrounding land uses

resulting from implementation of the project are addressed in **Section E.2, Aesthetics**; **Section E.5, Transportation and Circulation**; **Section E.6, Noise**; and **Section E.7, Air Quality**. Because project construction activities would be temporary, would be limited in scale and intensity, and confined to the existing project site, the impact on the existing character of the vicinity would not be substantial. As described in **Section A.5.6, Project Description**, the SFPUC would require advance coordination for access to the existing agricultural park for tours and events, and would not allow public access to the Sunol Water Temple during construction activities at the Sunol Yard or Watershed Center. Although these access restrictions could continue for about 18 to 24 months during project construction, they would not result in any long-term or permanent changes in land use. On completion of project construction, existing access to land uses would be restored. Therefore, impacts on the existing character of the project vicinity due to construction of the project would be *Less than Significant*.

Operation

Because it seeks to improve and continue the existing land uses at the project site, the project would not result in a substantial change to existing land uses, or the permanent introduction of new or incompatible land uses that would adversely affect surrounding areas. The project site is developed with the Sunol Yard, the Sunol Water Temple Agricultural Park, a picnic area, and the Sunol Water Temple, in addition to open and cultivated areas adjacent to the Lehigh Hanson quarry. These types of land uses would continue at the project site. The addition of the new Watershed Center in the area adjacent to the quarry would be compatible with these uses, though the addition of the proposed Watershed Center would likely expand public use of and visitation to the Sunol Water Temple site, an activity that is presently allowed. As discussed elsewhere in this document, the anticipated increase in visitation to the site is not expected to cause significant adverse traffic, air quality, biological, or other physical environmental impacts, and could have beneficial social impacts in terms of enhanced recreational and educational opportunity. As discussed in **Section E.2, Aesthetics**, the addition of the new Watershed Center would be in the context of the Sunol Water Temple and Sunol Water Temple Agricultural Park, and would not adversely alter the visual character of the project vicinity. Therefore, project operation and maintenance activities would remain substantially consistent with current operations at these facilities. Project operation and maintenance would therefore have a *Less-than-Significant Impact* on nearby land uses.

Impact C-LU: The proposed project, in combination with past, present and reasonably foreseeable future projects in the vicinity of project sites, would not result in significant cumulative impacts related to land use. (Less than Significant)

The geographic scope for potential cumulative lands use impacts encompasses the area of the project vicinity, which generally includes open space and park lands, quarry operations adjoining the project site to the east that are leased to the Mission Valley Rock Company and operated by Lehigh Hanson, as well as the Town of Sunol to the north. Cumulative projects listed in **Table 9** above that are located within this geographic scope include the Town of Sunol Fire Suppression Project, the SMP-32 Quarry Operations, and the Alameda County Fire Department Sunol Project.

As discussed previously, construction of the project could have a less-than-significant effect regarding conflicts with applicable land use plans, policies, and regulations. Similarly, the identified cumulative projects would also be required to comply with applicable land use plans, policies, and regulations adopted for the purpose of minimizing an environmental effect. Accordingly, no significant cumulative impact related to conflicts with applicable plans, policies and regulations would result from the cumulative scenario to which the proposed project and other cumulative projects would contribute (*No Impact*).

As detailed in **Section E.2, Aesthetics**, the Watershed Center and Sunol Yard improvements have been designed to fit with the existing scale and setting, and would have a less-than-significant effect on the existing character of the project vicinity. While the addition of fire hydrants and increased flows associated with the Town of Sunol Fire Suppression Project would not change the existing character of the project vicinity, the other two cumulative projects have or could alter the character in the vicinity of the project site. The SMP-32 Quarry has substantially changed the existing character of the project vicinity since operations began in early 2006. The Alameda County Fire Department Sunol Project would develop a currently undeveloped parcel of land that would contribute to a change in the existing character of the project vicinity. Therefore, although the other projects would contribute to a cumulative land use impact associated with a change in the character of the existing project vicinity, the proposed project would not fundamentally change existing uses on the project site. Therefore, the incremental contribution of the proposed project to changes in land use would not be cumulatively considerable (*Less Than Significant*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.2 AESTHETICS—Would the project:					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Visual Setting and Visual Character

For purposes of this analysis, a 1-mile buffer surrounding the project site is defined as the Visual Resource Study Area (study area), and is considered the area in which existing publically accessible views could experience changes in visual character and quality (**Figure 6**). This buffer distance was determined based on the limited height of the proposed structures associated with the Watershed Center and Sunol Yard, which will all be one story (or less than 22 feet tall).

The study area is in the Pacific Mountain System, Pacific Border Province, and specifically, the California Coast Range physiographic region.¹⁴ The California Coast Range physiographic region is broadly characterized as a series of low north-south-trending mountains and valleys that parallel the California coast.¹⁵ Topography of this system is generally rolling.

The project site is south of the Town of Sunol and west of the SR 84/I-680 junction. The project site is in the Sunol Valley, and is distantly enclosed by rolling hillsides in all directions. Although

¹⁴ Physiographic regions are broad-scale subdivisions that share similar characteristics in terms of terrain texture, rock type, and geologic structure and history.

¹⁵ USGS, 2003. *A Tapestry of Time and Terrain*. Available online at: <http://tapestry.usgs.gov/physiogr/physio.html>. Accessed May 3, 2014.

mostly rural, man-made development such as agricultural oriented buildings, roadways, a golf course, a quarry, and overhead power distribution and transmission lines are visible throughout the study area (**Figure 6**). Visual resource analysts performed site visits on May 2, 2014, and July 10, 2014, to capture images of the study area and inventory the existing visual character within a 1-mile buffer of project.

To portray the existing visual character in the study area, visual resource analysts collected digital photographic imagery from four publically accessible View Point locations (VPs). These four VPs inventory the existing visual conditions in the Visual Resource Study Area, and represent typical views in the study area, as viewed by sensitive viewer groups (see **Figure 7**).¹⁶

As evidenced by the imagery taken from the four VPs shown below, the rolling and roughly triangular-shaped hillsides of the East Bay Hills serve to distantly enclose views in all directions from the project site (**Figures 8 through 11**). The Visual Resource Study Area ranges in elevation from a peak of 945 feet to a low of 238 feet, North American Vertical Datum (NAVD). The hillsides surrounding the project are mostly undeveloped and naturally vegetated with annual grassland or oak woodland habitat. Vegetation is concentrated in steep tree-lined drainages of the hillsides. The foothills occasionally form sequenced peaks and valleys. This repetition of form, combined with the mix of vegetation that covers the hillsides, demonstrates a high degree of visual quality due to lack of encroachment from intervening elements and as a result of their mostly unencumbered natural form. The surrounding hillsides and ridgelines are variable in elevation, adding a sense of depth and mass to the scenery adjacent to the project site. Where visible, the convergence of the surrounding hillsides with the valley floor creates a strong horizontal edge. This converging edge is prominent and well-defined when not obscured by structural development or other natural vegetative screening.¹⁷

¹⁶ Sensitive viewer groups are defined in the following subsection.

¹⁷ URS Site Reconnaissance, May 2, 2014 and July 10, 2014.

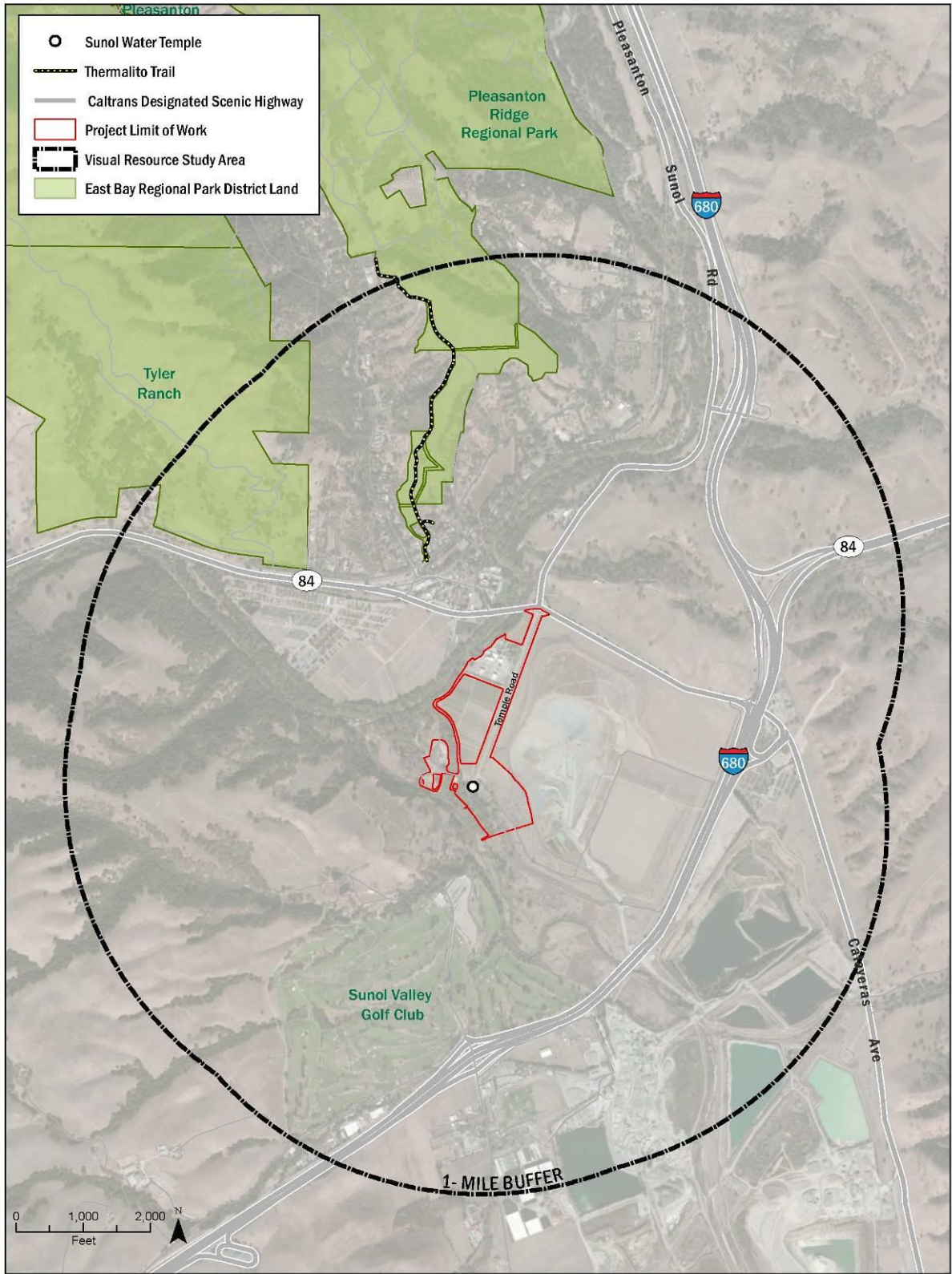


Figure 6
Visual Resource Study Area

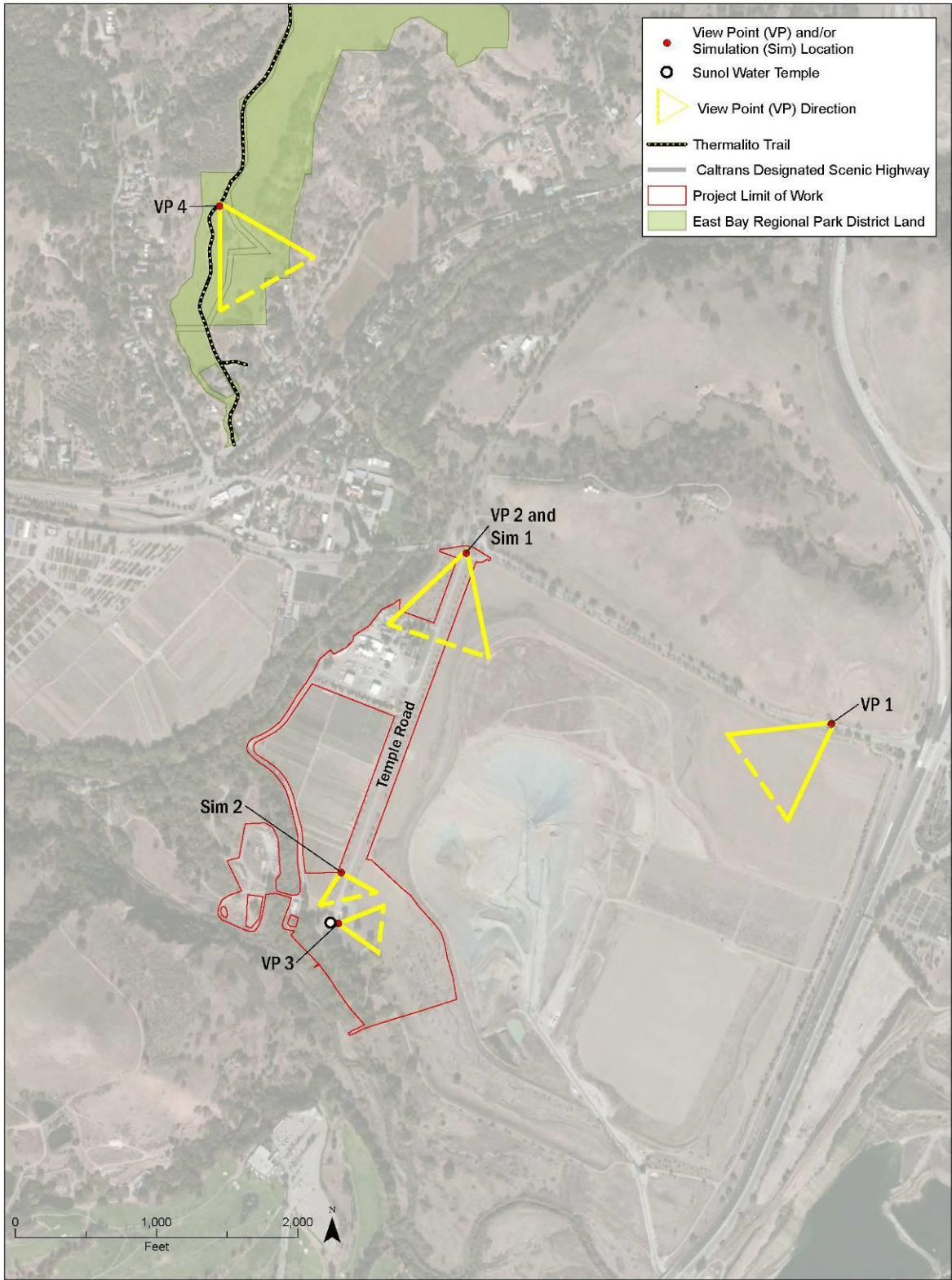


Figure 7
Visual Resource View Point and/or Simulation Locations



Figure 8
VP 1 – Facing Southwest from SR 84 toward the Project Site



Figure 9
VP 2 – Facing South from the Entrance to Temple Road

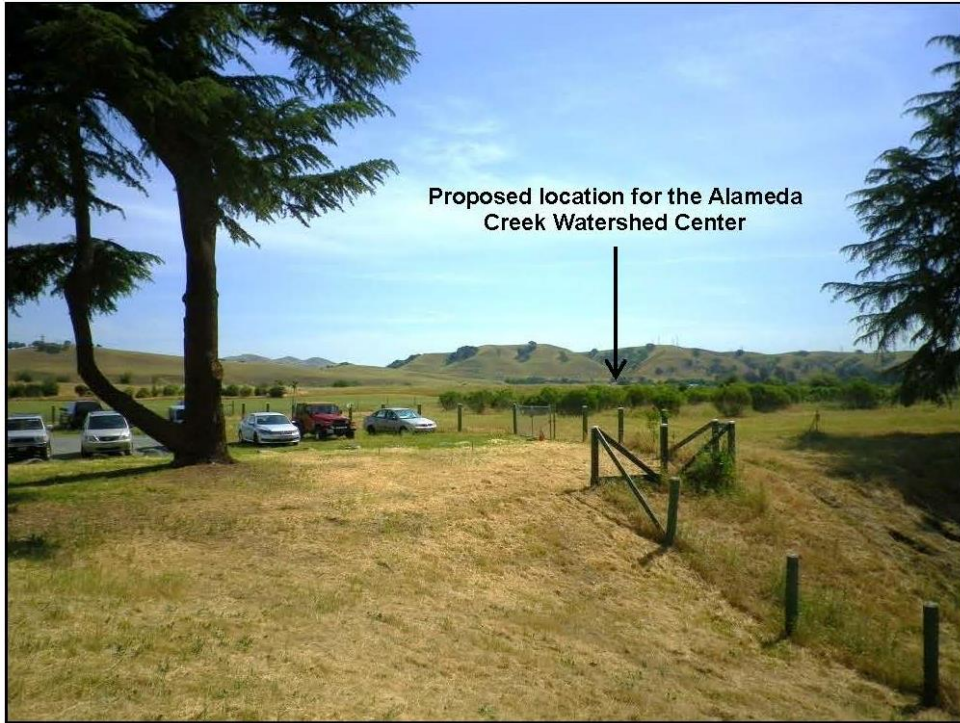


Figure 10
VP 3 – Facing Northeast from the Temple toward the Proposed Alameda Creek Watershed Center



Figure 11
VP 4 – View from Thermalito Trail Facing Southwest Toward Sunol Valley and Project Site

Affected Viewers and Visual Sensitivity

Potentially impacted viewers can be categorized into groups of shared sensitivity to changes in the existing scenic quality of a landscape. Viewer sensitivity (or public concern) for the scenic quality of a landscape or particular view is informed by the nature of the activity a user is engaged in at the time something is visible. Further considerations include the number of viewers, duration of exposure, and degree of public interest in a particular view. For example, highly sensitive viewers are generally assumed to include residents, recreationists, and motorists traveling on designated scenic highways. Less sensitive viewer groups are assumed to include viewers from commercial or industrial type land uses, or recreational users using motorized equipment such as off-highway vehicles. The project site is visible from three primary sensitive viewer groups, including 1) visitors to the Sunol Water Temple;¹⁸ 2) hikers traveling south on the Thermalito Trail; and 3) motorists traveling east and west on SR 84.

Visitors to the Sunol Water Temple are assumed to be among the most sensitive viewer groups with views of the site. Although their length of exposure is minimal overall, they are assumed to be highly sensitive to changes in the existing visual character and quality of this historically significant landscape/“scenic resource.”¹⁹

Viewers on Thermalito Trail are considered sensitive based on the recreational nature of the activity they are engaged in when the project site is visible. Hikers are assumed to seek direct connection with the natural environment, and therefore have elevated sensitivity to potentially adverse changes in existing visual quality.

Motorists traveling on SR 84 are considered sensitive because SR 84 is a Caltrans-Designated Scenic Highway.²⁰ SR 84 is also a Locally Designated Scenic Road, according to the Scenic

¹⁸ Viewers traveling on Temple Drive whose primary objective is to see and experience the Sunol Water Temple.

¹⁹ Additional information pertaining to the historic significance of this structure may be found in **Section E.4, Cultural and Paleontological Resources**, of this Initial Study, as well as in the Historic Resource Inventory Evaluation Report prepared for the Sunol Division Headquarters Complex and Sunol Water Temple Update, prepared by JRP and dated 2010.

²⁰ Caltrans, 2013. *Eligible and Officially Designated Scenic Highway Routes*. Available online at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm. Accessed May 1, 2014.

Highways Element of the Alameda County General Plan.²¹ Motorists traveling on SR 84 do not currently experience clear views of the Temple or the Sunol Yard because existing vegetation along the periphery of the project site obscures their views. Additionally, the Temple is ½ mile south of this scenic highway.²²

Impact AE-1: The project would not have a substantial adverse effect on a scenic vista. (Less than Significant)

A scenic vista is typically considered a location from which the public can experience unique and exemplary high-quality views of an area. Scenic vistas are often located at elevated vantage points that offer panoramic views. The Visual Resource Study Area was evaluated for the presence of designated scenic vistas by reviewing two planning/policy guidance documents, including 1) the Scenic Highways Element of the County of Alameda General Plan; and 2) the East Bay Regional Park District's (EBRPD's) Final Pleasanton Ridge Regional Park Land Use Plan.²³ For purposes of this analysis, views from SR 84 and I-680 are discussed as "scenic vistas" because SR 84 is a Caltrans-Designated Scenic Highway, and because I-680 is a designated State Scenic Highway.

No official corridor management plan has been adopted for SR 84, and the Scenic Highway Element of the Alameda County General Plan does not identify any particular scenic vistas along this route. Therefore, impacts to existing views along SR 84 are discussed generally.

Site reconnaissance in the Visual Resource Study Area as viewed from SR 84 indicates that views of the Sunol Yard and of the proposed Watershed Center would be almost entirely screened for travelers heading east on SR 84. This is due to existing vegetation along the Alameda Creek corridor. Vegetation along the Alameda Creek corridor would not be disturbed as a result of the project. For travelers heading west on SR 84 in the Visual Resource Study Area, views toward the project site are also mostly screened by existing vegetation and a gently rising topographical

²¹ Alameda County Planning, 1966. *General Plan, Scenic Route Element*. Available online at: http://www.acgov.org/cda/planning/generalplans/documents/Scenic_Route_Element_General_Plan_1966.pdf. Accessed May 4, 2014.

²² CCSF, 2000. *Alameda Watershed Management Plan*. August.

²³ East Bay Regional Park District, 2012. *Land Use Plan for Pleasanton Ridge Regional Park*. July. Available online at: http://www.ebparks.org/Assets/_Nav_Categories/Park_Planning/Pleasanton_Ridge_LUP/Pleasanton+Ridge+LUP+FINAL+07+17+2012+1.pdf. Accessed May 7, 2014.

berm that obscures views of the Temple when traveling west on SR 84. **Figure 8** shows existing views from SR 84 near its intersection with I-680. I-680 is just over ½ mile east of the project site. Site reconnaissance indicates that the project site is briefly visible to passengers in cars traveling north on I-680. Views from the northbound lanes of I-680 are brief (less than 10 seconds), and are mostly obscured by the concrete center divide that separates the north and southbound lanes of this freeway. Motorists traveling southbound on I-680 do not have views of the Temple or the Sunol Yard.

The existing visual character of the project site as viewed by motorists on SR 84 is expected to remain intact during construction and operation of the project. This is because rows of trees and other shrubby vegetation along SR 84 and adjacent to the Sunol Yard would continue to screen views of the project site from SR 84. Furthermore, views from SR 84 to the Watershed Center would continue to be blocked by an existing topographical berm. This berm would remain in place during construction and operation of the project. Therefore, the project would not result in any changes to existing visual character or quality as viewed by motorists traveling west or east on SR 84. Given the limited height of proposed Watershed Center and buildings in the Sunol Yard and the presence of vegetative screening, the project would not alter existing visual character, and therefore would not alter the existing visual quality of views from I-680, either.

A portion of the 5,271-acre Pleasanton Ridge Regional Park (which is part of the EBRPD) is in the Visual Resource Study Area of the project. Specifically, the southern terminus of the Thermalito Trail is less than ¼ mile northwest of the intersection of SR 84 and Temple Road. Viewers traveling south on the trail toward the Town of Sunol are at a superior elevation and have sweeping panoramic views of the Sunol Valley from the southern ¼ mile of the trail. For purposes of this analysis and due to the public and recreational use of the Trail, views from the Trail toward the project site are evaluated as a “scenic vista.” Review of the Pleasanton Ridge Master Plan indicates there are no designated scenic vistas in the Visual Resource Study Area of the project.²⁴ Therefore potential impacts from southerly views toward the project site from the Thermalito Trail are discussed generally.

²⁴ Ibid.

Visual resource analysts performed a site reconnaissance at the Thermalito Trail on July 10, 2014, to capture imagery of existing views. As evidenced on **Figure 11**, above, the Sunol Valley is a mix of open grassland and pockets of agricultural fields and development.

Figure 11 demonstrates the panoramic nature of the existing views from the trail. In addition to the project site, other development is currently visible from the Thermalito Trail, including agricultural oriented structures, single-family homes, a quarry, I-680, and SR 84. Site reconnaissance along the Trail indicates that the Temple is visible, but the Sunol Yard is screened by vegetation along Alameda Creek.

Construction and operation of the project would not result in notable changes to the existing visual character or quality of the landscape, because proposed development would not be outsized or out of scale with the existing development.²⁵ Construction of the Sunol Yard improvements (proposed to start in October 2015) and the Watershed Center (proposed to start in March 2016) would each last roughly 18 months. Operation of construction equipment would add a sense of movement and activity due to dump trucks, flatbed trucks, concrete mixers, cranes, and other equipment entering/leaving and working in the project site. However, construction would be temporary and is expected to occur over 2 years. Construction equipment would not obscure current views from the Thermalito Trail, nor would the equipment protrude above adjacent ridgelines. Therefore, construction of the project would have a *Less-than-Significant Impact* on existing visual character and quality as viewed from the Thermalito Trail.

The project site is not highly visible from the Thermalito Trail, and represents only a small proportion of the existing view from the Trail. The Watershed Center could have potential impacts to existing visual character or quality if it were to obscure existing views from the Trail; be designed in such a way that it was much larger or taller than already existing structures in the Sunol Valley and project site; or draw the viewer's attention toward the project site, causing their recreational experience to be less pleasurable. However, the Watershed Center would be constructed to blend into its topographical and vegetative surroundings, as described below.²⁶

²⁵ SFPUC, 2013. *Sunol Watershed Center Renderings*. July.

²⁶ Ibid.

The northern side of the Watershed Center is planned so that a vegetated embankment will be sloped up toward the roofline of the building. Because the sloping berm would be vegetated, and because the Watershed Center would be a long, narrow east-west-trending structure, the Watershed Center is not anticipated to substantially contrast with the existing topographical form (visual character) or scenic integrity/quality of its surroundings.²⁷ Additionally, the footprint of the Watershed Center would not encroach on existing line of sight toward the Sunol Water Temple; therefore, existing views from the Thermalito Trail toward the Watershed Center would have *Less-than-Significant Impacts* to existing visual character and quality of views from the Trail.

Operation of the Sunol Yard would continue to be obscured and largely screened in views from the Thermalito Trail, because the proposed height of all structures in the Sunol Yard would be less than 22 feet tall. The angle of observation from the trail, combined with the height and distance of the trail from the site, enables vegetation along Alameda Creek to continue to block views of the Sunol Yard from the Thermalito Trail. Therefore, operation of the Sunol Yard would have *Less-than-Significant Impacts* to visual character or quality.

Impact AE-2: The project would not substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and other features of the built or natural environment that contribute to a scenic public setting. (Less than Significant)

Scenic resources are considered visual features (either natural or built) that positively influence the scenic quality of an area. Common scenic resources include water, vegetation, trees, landscaping, and landform features that add color, harmony, pattern, and visual variety to an existing view. For the purposes of this project, the Sunol Water Temple and its associated features are considered to be a scenic resource due to their historic significance, formal design, and the degree of public interest in the structure.

Because the project site would be closed to the general public during construction, views of the Temple would not be available to the public for approximately 2 years. As noted in the discussion of AE-1 above, construction equipment would add a sense of movement to the site, but would not obstruct existing views of the surrounding hillsides. Furthermore, construction would be temporary. Although construction would cause currently accessible public views along

²⁷ Ibid.

Temple Road to be closed to the public, the temporary nature of this closure indicates the impact to this scenic resource would be *Less than Significant*.

Simulations were created to demonstrate potential impacts of the project (both the Sunol Yard and the Watershed Center) once constructed. Existing and simulated views are depicted on **Figures 12 and 13**.

As shown below in **Figure 12**, new structures in the Sunol Yard would encroach into current views from the entrance of Temple Road. This encroachment into views of the linear row of trees that line Temple Road would be minor and would not obstruct views of the Temple, which is the significant focal point of this view.²⁸ Furthermore, the project (consisting of one-story buildings) would not obstruct views of the distant hillsides or cause any structure to protrude above the skyline of these ridgelines. The simulation demonstrates that the proposed Watershed Center would not be visible from this location, and therefore would not cause any changes to the existing visual character or quality of this view.

The project, specifically new structures in the Sunol Yard, would cause a minimal degree of contrast with the existing vegetative form and texture of views toward the Sunol Water Temple, due to the intervening distances when viewed from publically accessible vantage points. This degree of contrast would be nominal in the context of the existing view. The Sunol Water Temple would remain the focal point of the existing view, and no new structures would dominate, obscure, or detract from the view. Therefore, the visual character and quality of this view remains largely unchanged. Because the Watershed Center is not visible from this location, and because the new structures at the Sunol Yard would not encroach on views of the Temple, operational impacts to the visual character and quality of this scenic resource would be *Less than Significant*.

As shown below in **Figure 13**, the proposed Watershed Center would encroach into current southeasterly views from Temple Road. This encroachment into views of existing vegetation, trees, and landform features would be minor and would not obstruct views of the Sunol Water Temple and its associated features. As further discussed in **Section E.4, Cultural and Paleontological Resources** below, the proposed location of the Watershed Center is sensitively sited to the southeast so as not to fragment or obscure the relationships between the Sunol Water

²⁸ The Acorn Group, 2014. *Alameda Creek Watershed Center in Sunol Interpretive Master Plan*. June.

Temple and its associated features and would ensure that the visual relationships between the associated features would remain intact. The conceptual plan also includes retaining some existing vegetation, and planting new trees between the Watershed Center and the Sunol Water Temple to reduce the visibility of the building from the Sunol Water Temple. Similar to the new structures proposed for the Sunol Yard, the proposed Watershed Center would be one story and would not obstruct views of the distant hillsides nor break the skyline of these ridgelines. Again, the visual character and quality of this view remains largely unchanged. Because no new structures would dominate, obscure, or detract from the view and the proposed Watershed Center would not encroach on views of the Temple, operational impacts to the visual character and quality of this scenic resource would be *Less than Significant*.



(a) Existing View



(b) Simulated View

Figure 12
Simulation 1 – Existing and Proposed Views of the Sunol Water Temple from the
Entrance of Temple Road

Impact AE-3: The project would not substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

Visual character is the overall impression of a landscape created by its unique combination of visual features such as landform, vegetation, water, and structures. Scenic quality is a measure of degree to which these elements blend together to create a landscape that is visually pleasing to a viewer. As such, viewer sensitivity informs the degree to which changes in visual quality may be considered significant. Generally, the key factors in determining the potential impact to visual character and quality are based on overall visual change/contrast, dominance, and view blockage. An adverse visual impact may occur when an action 1) perceptibly and substantially changes the existing physical features of the landscape that are characteristic of the region or locale; 2) introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or that become visually dominant from common viewpoints; or 3) block or completely obscure scenic resources in the landscape. The degree of impact depends on how noticeable the adverse change might be to sensitive viewer groups.

As discussed above, a simulation was created to demonstrate proposed views from Temple Road toward the proposed Watershed Center. Existing and simulated views are depicted on **Figure 13**. As shown on **Figure 13**, the Watershed Center and “Watershed Discovery Trail” would not disrupt the dominant natural form of southeasterly views from Temple Road. From this location, the proposed landscaped forecourt to the Temple is visible, as is a portion of the roof structure of the Watershed Center. The northern side of the Watershed Center is planned so that a vegetated embankment will be sloped up toward the roofline of the building. As previously noted, the berm would be vegetated so that it further obscures the roofline of this structure. Additionally, the Watershed Center is a long, narrow, east-west-trending structure, and from this angle of observation and distance, the limited bulk and mass of the Watershed Center prevents it from obscuring existing vegetation in the background of this view. As a result, the dominant form, line, color, and textures of this view remain intact. The project would not result in obstruction of any views of distant hillsides, or cause any structure to break the skyline of these distant ridgelines.



(a) Existing View



(b) Simulated View

Figure 13
Simulation 2 – Existing and Proposed Views Facing Southeast Toward the Watershed Center from Temple Road

No direct view or simulation of the Sunol Yard was prepared because it is not highly visible from public viewing locations toward the Temple. The Sunol Yard would be redeveloped with new structures, and reconfigured to improve efficiency of operations. As a result of this redevelopment, the project has the potential to alter the existing visual character and quality of this portion of the site.

Review of the Sunol Yard Improvements, Civic Design Review Phase 1 document suggests that the Sunol Yard has been designed to fit with the existing scale and character of its setting. The site plan states that the Sunol Yard “intends to account for the geometry of the Sunol Water Temple and the agricultural lines of the adjacent historic farmlands/orchards.”²⁹ The Sunol Yard improvements incorporate formal patterns of linear landscaped corridors, which are intended to create an organized rhythm that blends with the classical design of the Temple and the rural character of the Sunol Valley.”³⁰ Because of this, the improvements to the Sunol Yard are anticipated to create a sense of order at the site. This will improve the overall visual quality of this area, though it will remain screened from public viewing locations.

Based on the above findings, the project would have *Less-than-Significant Impacts* to existing measures of visual quality and character of the site and its surroundings. This significance determination is also based, in part, upon the analysis presented above, for Impacts AE-1 and AE-2.

Impact AE-4: The project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, or that would substantially impact other people or properties. (Less than Significant)

Construction-period activities are not expected to require lighting, because construction would occur primarily during daylight hours. Portable temporary lighting may be used during the course of construction, given the proposed hours of construction (see **Section A.5.7, Construction Workforce and Construction Hours** above), but this analysis assumes that it would be directed downward to minimize light trespass to adjacent areas (as proposed), and would be temporary in nature. Therefore, construction-period impacts from lighting would be *Less than Significant*.

²⁹ SFPUC, 2013. *Sunol Yard Improvements: Civic Design Phase 1*. April 15.

³⁰ *Ibid.*

Currently, the site of the proposed Watershed Center is not lit during evening hours. The Sunol Yard is lit with safety and security lighting. Long-term operation of proposed structures in the Sunol Yard and the Watershed Center would require installation of interior and exterior lighting (see **Section A.4.3, Lighting** above).

The Watershed Center would be open to the general public between 9:00 a.m. and 3:00 p.m. and for occasional evening events, so nighttime lighting at this facility would be predominantly for safety and security purposes. According to **Section A.4.3, Lighting** (above), all proposed lighting systems would be designed to minimize light trespass to neighboring properties, and would meet State of California Title 24 Energy Efficiency requirements. Furthermore, the lighting designs for outdoor facilities would be based on the building mounted cutoff luminaires to minimize glare and light pollution in adjacent areas.³¹ Therefore, the project would not create a new source of substantial light or glare that could adversely affect day or nighttime views in the area, or that would be substantially visible to other people or properties. As a result, impacts from lighting and glare at the Watershed Center and Sunol Yard would be *Less than Significant*.

Impact C-AE: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative effect on aesthetics. (No Impact)

The geographic scope for cumulative aesthetics impacts includes all projects that would be located within the publicly accessible viewshed of the proposed project. The cumulative project sites do not necessarily need to be visible simultaneously with the proposed project site from one fixed vantage point; however, for an impact to occur the sites must be visible in the same general vicinity by a viewer. Many projects listed in **Table 9** are within the geographic scope for cumulative impacts, but there are three projects located within the publically accessible viewshed of the proposed project. Projects that could have a cumulative aesthetic impact in combination with the proposed project are the Town of Sunol Fire Suppression Project, the SMP-32 Quarry Operations, and the Alameda County Fire Department Sunol Project.

There are no publically accessible vantage points, including Thermalito Trail, from which the cumulative projects and the proposed project can be viewed in the same general vicinity.

³¹ SFPUC, 2012. *Sunol Master Plan Conceptual Engineering Report, Planning Phase III*. Project No. CUW 2630601. Prepared by EMB/DPW-BD&C. April.

Therefore, there is no significant cumulative aesthetics impact to which both the proposed project and other projects would contribute (*No Impact*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.3 POPULATION AND HOUSING—					
Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project would improve the Sunol Yard, existing picnic area facilities, fencing, and Temple Road, and construct a new Watershed Center. The project would have no effect on the geographic extent or capacity of its existing water supply system, and therefore would not induce population growth. Additionally, the project would not displace substantial numbers of existing housing units or people, and would not require the construction of replacement housing.

The construction workforce would be small and would not require additional housing accommodations, and operation and maintenance of the project would increase the workforce by approximately 14 workers. However, this increase in workers would not substantially induce population growth in the area, and is not anticipated to require the construction of housing for these workers. For these reasons, the CEQA criteria related to population and housing are considered not applicable to the project.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.4 CULTURAL AND PALEONTOLOGICAL RESOURCES—Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cultural resources are broadly defined as buildings, sites, structures, landscapes, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific importance.^{32,33} Under CEQA, impacts to paleontological resources are also addressed under the rubric of cultural resources (see CEQA Appendix G checklist). This section describes cultural and paleontological resources in the proposed project area, and identifies and assesses the potential impacts to these resources that could occur with implementation of the proposed project. Mitigation measures to avoid or reduce adverse impacts are identified, as appropriate.

In accordance with the CEQA Checklist as modified by the CCSF Planning Department, the cultural resources analysis presented below describes potential impacts on historical, archaeological, and paleontological resources, as well as the potential for disturbance of human remains with implementation of the proposed project. A CEQA Area of Potential Effects (C-APE) was defined for the project, and includes all areas where cultural resources may be directly or indirectly affected by project activities, including all areas of potential ground disturbance and aboveground construction (the Sunol Yard, the proposed Watershed Center, all underground

³² McGimsey, Charles R. III, and Hester A. Davis, 1977. *The Management of Archeological Resources: The Airlie House Report*. Special Publication, Society for American Archaeology.

³³ National Park Service, 1991. *NPS-28 Cultural Resources Management Guideline*. U.S. Department of the Interior, National Park Service. Washington D.C.

utilities, new parking areas, staging areas, etc.). The C-APE is equivalent to the project limit of work as depicted on **Figure 2**. Baseline conditions for historic architectural resources and archaeological resources, including those known to contain human remains, in the proposed project C-APE are presented in technical reports produced prior to or specifically for the proposed project.^{34,35,36,37,38}

These studies assessed the potential eligibility of resources in the C-APE as historical resources, based on criteria for listing in the CRHR. To be eligible for the CRHR, a resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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
- Has yielded, or may be likely to yield, information important in prehistory or history (California Public Resources Code [PRC] Section 5024.1[c]).

For a resource to be eligible for the CRHR, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. Resources listed in or formally determined eligible for listing in the NRHP are listed in the CRHR.

³⁴ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

³⁵ JRP, 2008. *Analysis of Historic Districts Potentially Impacted by San Francisco Public Utilities Commission Water System Improvement Program Projects*. Prepared for San Francisco Public Utilities Commission, Bureau of Environmental Management, and City and County of San Francisco.

³⁶ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

³⁷ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

³⁸ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.

This section summarizes the findings from these studies as they pertain to the historical resources in the C-APE. It includes findings of the evaluation of the significance of historical resources in the C-APE under the NRHP and CRHR criteria, discussions of resource historic integrity, and evaluates project impacts in accordance with the CEQA Guidelines and the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Standards)* (CEQA Section 15064.5[b]).

The paleontological analysis is based on a records search completed at the University of California Museum of Paleontology, in concert with a geological assessment as presented in the archaeological technical report.³⁹ Article 10 and Article 11 of the San Francisco Planning Code pertain to individual city landmarks and historic districts, and to conservation districts in the city's downtown core area (C-3 district), respectively. Article 10 of the San Francisco Planning Code sets forth proposals for city landmark designations with the aid of the NRHP Criteria in evaluating a resource's historic significance. Article 11, Section 1102 of the San Francisco Planning Code, codifies the criteria for evaluating buildings in the C-3 districts of the city. Because the project does not propose improvements in C-3 districts, and because there are no designated city landmarks or districts in the proposed project area, Articles 10 and 11 of the San Francisco Historic Preservation Commission and Planning Code would not apply.

Impact CP-1: The project could cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code. (Less than Significant with Mitigation Incorporated)

Approach

Under CEQA, a "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. In addition, archaeological resources may be eligible to the CRHR as "unique archaeological resources." Effects to archaeological resources, both as historical

³⁹ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

resources and unique archaeological resources, are dealt with under **Impact CP-2**. The following discussion concerns impacts to historical resources of a non-archaeological nature.

Architectural surveys and evaluation reports, performed in 2003, 2008, and 2012 by JRP Historical Consulting, LLC (JRP), that included the Sunol Water Temple and the Alameda Creek Water Conveyance System District (ACWCSD), were reviewed by the preparers of this IS; and existing conditions were verified on June 22, 2012, by URS Corporation (URS) architectural history staff on behalf of the San Francisco Planning Department.⁴⁰ Guidance from the California Office of Historic Preservation notes that if there are not any substantive changes to the condition of the subject property, and the original determinations remain valid, an additional architectural survey is not necessary. After a review of the prior documents, and on behalf of the San Francisco Planning Department, URS prepared a California Department of Parks and Recreation (DPR) Form 523 Update Sheet to clarify the associated historic features of the Sunol Water Temple property; provide additional information concerning the associations of the overall landscape design with respect architect Willis Polk; and assess the integrity of the historic designed landscape.⁴¹

Historic Architectural Resources in the C-APE

The results of the records review and field reconnaissance indicate that the C-APE includes contributors to the NRHP/CRHR-eligible ACWCSD, as well as the NRHP/CRHR-eligible Sunol Water Temple. The ACWCSD was recommended as eligible under NRHP/CRHR Criterion A/1 “as an important and early development in the context of the urban water supply in California,” and eligible under Criterion C/3 for its “design and its innovative use of engineering to utilize the natural features, mainly the gravel beds of the Alameda Creek.”⁴² Constructed by the Spring Valley Water Company between 1887 and 1930, the ACWCSD is significant “as one of a few early water conveyance systems designed specifically to meet the needs of a large urban population,” and is “a significant work of engineering because it represents distinctive characteristics of a type,

⁴⁰ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

⁴¹ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.

⁴² JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

period, and method of construction.”⁴³ NRHP/CRHR Criterion D/4 does not apply to the ACWCSD, because this criterion applies to properties that contain or are likely to contain information bearing on an important archaeological research question. Contributors to the ACWCSD that are in the C-APE include the Sunol Water Temple and the Sunol Valley Filter Beds (the latter is also referred to as the Filter Gallery).⁴⁴ Contributors that are outside the C-APE include the Sunol Aqueduct and Niles Regulating Reservoir.⁴⁵ Two additional contributors, the Niles and Sunol dams, were demolished in 2006.⁴⁶ The Alameda Creek Water System was designated in 1976 as a California Historic Civil Engineering Landmark by the San Francisco section of the American Society of Civil Engineers.

In historic resource evaluations completed in 2003 and again in 2012, the Sunol Water Temple and its associated historic features, including the remaining section of a Carrefour on the south side of the intersection of Pleasanton-Sunol Road and Niles Canyon Road-Paloma Way,⁴⁷ were recommended as individually eligible for the NRHP/CRHR under Criterion C/3 for “its architecture and as a work of master architect Willis Polk.”^{48,49} The evaluation reports note that although the Sunol Water Temple was a relatively simple architectural commission, it was “representative of Polk’s versatility as a designer and commitment to the principles of academic eclecticism.”^{50,51} Design “simplicity, dignity, and refinement were fundamental values for Polk,”

⁴³ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company’s Alameda Creek System*. Prepared for the City and County of San Francisco.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ SFPUC, 2006. *Sunol/Niles Dam Removal Project Final Environmental Impact Report*. Planning Department Case No. 2001.1149E. Prepared by ESA.

⁴⁷ A Carrefour is a term in classical architecture that refers to an open space from which a number of streets or avenues radiate. See Harris, Cyril M. 1977. *Illustrated Dictionary of Historic Architecture*. New York: Dover Publications, Inc. The remaining portion of the Carrefour is also referred to in this document as the main gate.

⁴⁸ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company’s Alameda Creek System*. Prepared for the City and County of San Francisco.

⁴⁹ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

⁵⁰ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company’s Alameda Creek System*. Prepared for the City and County of San Francisco.

and were reflected in the Sunol Water Temple.^{52,53} The 2003 and 2012 evaluations do not include the Temple Road/allée as a separate feature of the Sunol Water Temple, but it is briefly mentioned as a feature of the Sunol Water Temple in the *Analysis of Historic Districts Potentially Impacted by San Francisco Public Utilities Commission Water System Improvement Program Projects*.⁵⁴ Additional archival research by the SFPUC (and reported by URS in a 2014 DPR Form 523 Update Sheet), revealed that in addition to the Sunol Water Temple and Carrefour, the Temple Road was an integral feature within an intentionally designed landscape completed by architect Willis Polk.⁵⁵ The Sunol Valley Filter Beds, constructed c. 1900, were not designed by Polk, but the architect positioned the Water Temple adjacent to the beds to integrate them into his overall design scheme. The 2014 DPR Form 523 Update Sheet noted that the designed landscape was an integral part of the larger property's significance under NRHP/CRHR Criteria A/1 and C/3.

The Sunol Water Temple was recommended as not eligible under NRHP/CRHR Criterion B/2 because it "does not appear that this temple is associated with any people that have made significant contributions to local, state, or national history."^{56,57} It was also recommended as not eligible under NRHP/CRHR Criterion D/4 because it is a well-documented resource that is not

⁵¹ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

⁵² JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

⁵³ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

⁵⁴ SFPUC, 2008. *Analysis of Historic Districts Potentially Impacted by San Francisco Public Utilities Commission Water System Improvement Program Projects*.

⁵⁵ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.

⁵⁶ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

⁵⁷ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

likely to contain information bearing on an important historical or archaeological research question. The Sunol Water Temple area also includes a modern pump station, temporary restrooms, farming operations, and non-functioning restroom facilities near the picnic area that do not contribute to the historical resource's significance.

The JRP evaluations of 2003 and 2012 confirmed that the Sunol Division Headquarters (now known as the Sunol Corporation Yard) lacked sufficient integrity to be considered a historical resource under CEQA. The Sunol Cottage in the Sunol Division Headquarters was also found to individually lack sufficient integrity in 2007, a finding confirmed in 2012.^{58,59}

Contributing and Non-Contributing Features. The features constructed on the Sunol Water Temple property during its period of significance (1910) and that contribute to its significance under NRHP/CRHR Criteria A/1 and C/3 were previously identified.^{60,61,62,63} These contributing features are the Sunol Water Temple structure, its formal Carrefour at the intersection of Pleasanton-Sunol Road and Niles Canyon Road-Paloma Way, the Temple Road/allée that leads from the Carrefour to the Sunol Water Temple, and the Sunol Valley Filter Beds to the east of the Sunol Water Temple. All of these features are axially aligned with one another, with the Temple serving as the visual focal point.^{64,65}

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- ⁵⁸ William Self and Associates, 2007. *SFPUC Sunol Water Temple, Former Supervisor's Dwelling*. State of California, Department of Parks and Recreation, Primary Record and Building, Structure, and Object Record, California Historical Resource Information System, Northwest Information Center, Sonoma State University, Rohnert Park, California.
- ⁵⁹ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report: Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.
- ⁶⁰ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.
- ⁶¹ JRP, 2008. *Analysis of Historic Districts Potentially Impacted by San Francisco Public Utilities Commission Water System Improvement Program Projects*. Prepared for San Francisco Public Utilities Commission, Bureau of Environmental Management, and City and County of San Francisco.
- ⁶² JRP, 2012. *Final Historic Resources Inventory and Evaluation Report Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.
- ⁶³ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.
- ⁶⁴ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

Integrity. Integrity is the ability of a property to convey its significance. The evaluation of integrity is grounded in an understanding of a property’s physical features during the period of significance, and how they relate to its significance. Integrity has seven components or aspects— location, design, materials, workmanship, setting, feeling, and association. As discussed above, for a property/resource to be eligible for the NRHP/CRHR, it must also retain enough integrity to be recognizable as a historical resource, and to convey its significance.

In a 2012 report, JRP noted that the Sunol Water Temple “retains all of its integrity. The location has not changed, the design remains the same, the setting has not changed drastically, the Temple was restored in 2000 using the same materials, the workmanship remains the same as Willis Polk had envisioned 100 years prior. It also retains integrity of feeling and association with Willis Polk.”⁶⁶ One modification to the Sunol Water Temple that has occurred since 2002 is the installation of a wheelchair lift on the west side of the building.⁶⁷ Character-defining features of the Temple include its position adjacent to the Sunol Valley Filter Beds, its axial relationships with the Carrefour, Temple Road, and Filter Beds, its round shape, as well as its overall classical design.

The integrity of the Carrefour has been affected by the elimination of half of the resource’s former circular arrangement at the intersection of Pleasanton-Sunol Road and Niles Canyon Road-Paloma Way. To bring the intersection up to more modern safety standards, the northern half of the Carrefour was removed, while the southern half (the half with the entrance gate to the Sunol Water Temple) was retained. Even with the removal of half of the Carrefour, the element remains significant feature of the larger Sunol Water Temple property.⁶⁸ The character defining elements

⁶⁵ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.

⁶⁶ JRP, 2012. *Final Historic Resources Inventory and Evaluation Report Sunol Division Headquarters Complex and Sunol Water Temple Update*, Sunol, California. Prepared for the City and County of San Francisco Public Utilities Commission.

⁶⁷ Ibid.

⁶⁸ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company’s Alameda Creek System*. Prepared for the City and County of San Francisco.

of the Carrefour include its semi-circular plan, classical detailing, reliefs, and its axial relationship with Temple Road and the Water Temple.

The Temple Road/allée has been altered since its construction in 1910. Historic photographs and original site plans show that the road surface was originally bladed dirt or gravel. These photographs, in addition to the 1910 site plans, reveal that the road was edged with a continuous, low-lying hedge, and exhibited two rows of small trees.⁶⁹ This high density landscape arrangement was replaced over time by the SFPUC; the current configuration is two rows of trees with a spacing distance that appears to be slightly greater than the original pattern. Currently, the road consists of an asphalt surface and is approximately 18 feet wide. Despite these modifications over time, the Sunol Water Temple, its associated features, and its designed landscape retain sufficient integrity of location, feeling, association, materials, workmanship, setting, and design to be individually eligible for the NRHP/CRHR, and therefore a historical resource under CEQA. Character defining features of the Temple Road include its linear alignment and its axial relationship with the Water Temple and the Carrefour.

Although the integrity of the Sunol Valley Filter Beds is not specifically discussed in the evaluation of the ACWCSD, the field reconnaissance of the site did not reveal any substantive changes to the resource since its evaluation in 2003, and the Sunol Valley Filter Beds, although predating the Water Temple, were clearly integrated into Polk's landscape design.⁷⁰ As a contributor to the ACWCSD and as an associated feature of the individually eligible Sunol Water Temple's designed landscape, the Sunol Valley Filter Beds are eligible for the NRHP/CRHR, and are therefore a historical resource under CEQA. Character-defining features of the Filter Beds (that are visible at the surface) include their depressed profile and grassy beds. The Filter Bed to the southeast of the Water Temple also includes a concrete walkway and remnants of a concrete pad that formerly held a low balustrade surround.

⁶⁹ URS, 2014. *Sunol Water Temple, DPR 523 Update Sheet*. Prepared for the San Francisco Public Utilities Commission.

⁷⁰ JRP, 2003. *Historic Resources Inventory and Evaluation Spring Valley Water Company's Alameda Creek System*. Prepared for the City and County of San Francisco.

Project Effects

As described above, the Sunol Water Temple and its associated features are an eligible historical resource. These structures are also contributors to the ACWCSD, which is also an eligible historical resource. Contributing features of these historical resources would be affected by the project: the Sunol Water Temple, the Sunol Valley Filter Beds, the Carrefour, and Temple Road. These features are part of a larger historic designed landscape that contributes to the significance of the Sunol Water Temple property. This analysis evaluates the impact of project implementation on historical resources in accordance with CEQA Guidelines Section 15064.5(b), which defines a substantial adverse change in the significance of a historical resource as follows:

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. Material impairment is further defined as demolishing or materially altering 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 CRHR or a local register of historical resources.

As noted in CEQA Section 15064.5(b)(3), a project that follows the *Standards* shall be considered to be mitigated to a less-than-significant level. Of the four treatment options offered by the *Standards*, the one that would apply to the proposed project would be Rehabilitation, which is defined as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values,” generally referred to as the *Secretary of the Interior’s Standards for Rehabilitation (Standards for Rehabilitation)*.

The *Standards for Rehabilitation* require that the historic character of a property be retained and preserved, and that the removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property be avoided. Repair is emphasized over replacement. Replacement of historic features is allowable under the *Standards*; however, the new features should match the old in design, color, texture, and where possible, materials. The *Standards* recognize situations where replacement in-kind is not technically, economically, or environmentally feasible. In such situations, compatible substitute materials that have similar characteristics can be considered.

Project components that would comply with the *Standards* include the removal of non-historic features from the area immediately near the Sunol Water Temple, which include a restroom building, temporary restroom facilities, barbed-wire fencing to the south of the Sunol Water Temple near the picnic area, a concrete construction staging pad used for the 2000 restoration of the temple, and an informal gravel parking area for 15 vehicles. The removal of these elements would clarify the historic visual relationships between the Sunol Water Temple and associated features.

The Temple Road would be repaved, and shoulders made of resin pavement or like material would be installed. The paved surface of the Temple Road does not date from the period of significance, and the addition of the shoulders would modify the width of the Temple Road/allée to accommodate pedestrians. The addition of the shoulders would make the Temple Road/allée surface appear wider than its historic appearance, but the surface would be of a compatible material, likely similar to the compacted dirt/gravel material used for the original Temple Road. Landscape vegetation that has flanked the road over time has changed and evolved with the management of the site. The existing grass ground cover was not present during the period of significance. As a result, impacts from the repaving and installation of shoulders to Temple Road would be *Less than Significant* as the Temple Road would retain its character defining features, most notably its axial relationship with the Water Temple.

As a part of the Watershed Center, the setting of the Sunol Water Temple and its associated features would be modified by the construction of the one-story Watershed Center, access road, and parking spaces for approximately 35 cars and three buses. A rectilinear circulation pattern of walkways around the Center is designed to be consistent and compatible with the formal nature of the Sunol Water Temple and associated features. The proposed placement of the modern building to the northeast of the Sunol Water Temple has the potential to impact the setting of the Sunol Water Temple and the Sunol Valley Filter Beds. However, the proposed location of the Watershed Center is sensitively sited to the southeast so as not to fragment or obscure the axial relationships between the Sunol Water Temple and its associated features. The Center's location would ensure that the visual relationships between the associated features would remain intact. The conceptual plan also includes retaining existing vegetation, and planting new trees between the two buildings to reduce the visibility of the building from the Sunol Water Temple and the Sunol Valley Filter Beds (see **Figures 5 and 13**). In addition, simulations indicate that the new buildings proposed in the Sunol Yard would not visually intrude into the linear arrangement of

trees along the allée/avenue between the Sunol Water Temple and the Carrefour (see **Figure 12**). As a result, these project elements would result in impacts on historical resources that are *Less than Significant* because they would not materially impair the character-defining features of the Water Temple and its associated features – most notably the axial relationships between the Temple, Temple Road, Carrefour, and Filter Beds.

The Sunol Valley Filter Beds would remain in place south of the proposed Watershed Center; and the proposed changes to the setting caused by the construction of the Watershed Center and the landscape modifications near the Sunol Water Temple would be minimally visible from the Sunol Valley Filter Beds because the Filter Beds are not open to public access and lie several feet below the proposed site of the Watershed Center. For these reasons, no project elements, including proposed fencing around the Sunol Valley Filter Beds, would fragment or obstruct the axial relationship between the Sunol Valley Filter Beds and the Sunol Water Temple. No direct or indirect impacts from project construction are anticipated. Therefore, project impacts to the Sunol Valley Filter Beds would be *Less than Significant*.

The proposed forecourt would replace the current pavement immediately north of the Water Temple. The forecourt would consist of a central grass panel flanked by walkways composed of resin pavement or like material. The Temple Road would terminate at the forecourt; an access road to the east would approach the Watershed Center. A paved, short term parking area would also be added to the east of Temple Road. The parking area would be obscured by new vegetation from the Water Temple, Temple Road/alley, and Carrefour. Designed to the approximate width of Temple Road, the grass panel would be flanked to the east and west by trees that approximate the alignment and height of the existing trees on the sides of Temple Road. The existing trees along the Temple Road/allée are not original to the period of significance for the Sunol Water Temple, but their current height appears similar to the height of vegetation depicted in historic period photographs and plans (**Appendix A**). As a result, impacts from the forecourt design would be *Less than Significant* as the forecourt would be compatible with the historic design of the Water Temple property and would not inhibit or obscure the axial relationships between the Sunol Water Temple, Temple Road/allée, Carrefour, and Sunol Valley Filter Beds.

There is a potential for significant adverse impacts to be caused by the operation of construction equipment during construction of the Watershed Center. Damage caused by this equipment due to operator accidents or use in close proximity to the Sunol Water Temple and its associated

features may diminish the integrity of historical resources. Situated at the entrance to the facility, the Carrefour, for instance, has the potential to be impacted when construction vehicles enter and exit the facility.

To minimize the potential for such significant impacts that could affect the historical resource's eligibility for listing through material impairment, the implementation of **Mitigation Measure M-CP-1a, Historic Resources Protection Plan**, is required to reduce impacts to a level that is *Less than Significant with Mitigation Incorporated*. This would be accomplished by preparing and implementing a plan to educate workers, situate equipment storage yards away from historical resources, and manage vehicle operations near historical resources, which would then serve to reduce the potential for accidental damage of onsite historical resources. With implementation of such a plan, and given the ample staging areas and access points to the property, it would be feasible to avoid significant impacts to onsite historical resources.

As indicated in **Table 13** in **Section E.6, Noise**, project-related construction activities are estimated to generate vibration levels well below the 0.5 in/sec PPV and 0.3 in/sec PPV thresholds for transient and continuous vibrations, respectively, to buildings, even if two pieces of equipment were both operating 20 feet from a structure. Because both the Carrefour and the Water Temple are more than thirty years old, the more conservative "older residential building" category established by the Federal Transit Administration was used. In light of the above, construction activities near these two buildings would not generate sufficient vibration to cause impacts to either structure that would result in the material impairment of either resource, which would result in a *Less than Significant Impact*.

Nevertheless, large construction equipment may generate vibration that could cause damage to the historic fabric of the historical resource, thereby causing a *significant* impact. To avoid the potential for significant impacts to historic resources, the implementation of **Mitigation Measure M-CP-1b, Preconstruction Surveys and Vibration Monitoring**, is required to reduce the potential for vibration-related impacts to a level that is *Less than Significant with Mitigation Incorporated*. These required surveys and monitoring would reduce the potential for vibration effects on historical resources by identifying potential sources of vibration, and undertaking alternative construction methods with less vibratory potential.

Mitigation Measure M-CP-1a: Historic Resources Protection Plan

The SFPUC shall retain a qualified engineer, in coordination with a qualified historic architect or architectural historian, to prepare a historic resources protection plan that specifies actions and methods that the contractor will undertake to reduce the likelihood of accidental collision damage to the Sunol Water Temple, Carrefour, and Sunol Valley Filter Beds when construction equipment pass in proximity to these historical resources. The plan shall require the Contractor to monitor activities to ensure use of protective measures. At a minimum, the plan shall address: 1) guidelines for the operation of construction equipment near the historical resources; 2) storage of construction materials and equipment away from the resources, as appropriate; 3) pre- and post-construction recording of the Sunol Water Temple, Carrefour, and the Sunol Valley Filter Beds to confirm post-construction condition; 4) requirements for monitoring and documenting compliance with the plan; and 5) use of exclusion fencing, and/or signs and education/training of construction workers about the protection of the historical resources. The plan shall be reviewed and approved by the SFPUC and implemented prior to use of project construction equipment in these three areas. In case accidental damage occurs during the construction of the project, the plan shall also direct the Contractor to stop the work activity that caused the damage, propose interim protection measures, and develop repair measures. The repair measures shall be reviewed and approved by the SFPUC prior to Contractor implementation, and will be monitored by the SFPUC for compliance with Secretary of the Interior's Standards for Treatment of Historic Properties.

Mitigation Measure M-CP-1b: Preconstruction Surveys and Vibration Monitoring

Prior to construction, the SFPUC shall retain the services of a California-licensed geotechnical engineer or similarly qualified expert in vibration effects on structures to 1) assess the potential for vibration effects on the Sunol Water Temple, Carrefour, and Sunol Valley Filter Beds from construction activities; 2) identify pre-construction and construction-period activities to be conducted by the contractor to monitor for and report on potential vibration effects, including settlement and cracking; and 3) identify measures to be undertaken by the contractor if vibration effects are identified during monitoring, such as stopping adverse construction activities, contractor use of alternative construction methods that reduce the potential for vibratory impacts, and reduced vehicle speeds. The SFPUC shall also implement **Mitigation Measure M-CP-1c**,

Secretary of the Interior's Standards for Treatment of Historic Properties, to repair damage to onsite historical resources caused by the project.

As a part of the proposed Carrefour repair work, (see **Section A.4.1, Sunol Corporation Yard Improvements**, above), the existing concrete pillars would be inspected and repaired, as necessary. Repairs would retain existing architectural features. The existing wrought-iron fence and gate would be cleaned and repainted, or where necessary, components of the fence would be replaced. The existing modern gate opener and hardware would be upgraded to meet current security standards.

There is a potential for this project component to result in repairs that may not be consistent with the *Standards*, and therefore have a *significant* impact on the character-defining features of the Carrefour. To avoid significant impacts caused by the proposed repair work to the Carrefour, implementation of **Mitigation Measure M-CP-1c, Secretary of the Interior's Standards for Treatment of Historic Properties**, would be required to reduce impacts to a level that is *Less than Significant with Mitigation Incorporated*, by developing a process by which the proposed work for the Carrefour is reviewed by the Planning Department for consistency with the *Standards*.

Mitigation Measure M-CP-1c: Secretary of the Interior's Standards for Treatment of Historic Properties

Details of the proposed repair work to the Carrefour, including but not limited to plans, drawings, and photographs of existing conditions, shall be submitted by the SFPUC to the San Francisco Planning Department prior to implementation. An architectural historian that meets the Secretary of the Interior's Professional Qualification Standards within the Planning Department will review the proposed project for compliance with the *Standards*. If necessary, the SFPUC shall pursue and implement a redesign of the proposed repair work to the Carrefour to the extent feasible, so that consistency with the *Standards* is achieved and/or a significant impact is avoided, as determined by the Planning Department.

Impact CP-2: The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. (Less than Significant with Mitigation Incorporated)

Approach

The following discussion assesses impacts to archaeological resources meeting the requirements for listing as historical resources, as described above, as well as impacts to unique archaeological resources as described in CEQA Guidelines Section 15064.5 and PRC Section 21083.2.⁷¹ If an archaeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a unique archaeological resource as outlined in PRC 21083.2, it is still entitled to attention under CEQA.

As outlined in the Historic Context and Archaeological Survey Report (HCASR) for the project, inventory efforts for archaeological resources included a review of ethnographic and historic literature and maps, archaeological base maps and site records, survey reports, and atlases of historic places on file at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University; Native American contacts; an archaeological pedestrian reconnaissance survey; and extended subsurface archaeological investigations in the vicinity of the proposed Watershed Center and the existing Sunol Cottage (Figure 3, feature 5).⁷²

The C-APE is within the boundaries of the Mexican-era *Rancho Valle de San José* land grant, granted in 1839 by Governor Juan Alvarado to Antonio María Pico, Agustín Bernal, Juan Pablo Bernal, and María Dolores Bernal de Suñol. A survey of Spanish- and Mexican-period adobe buildings conducted in the early 20th century by Hendry and Bowman identifies an adobe residence owned by the Suñol family as having existed previously in the C-APE.⁷³ In 1862, Charles Hadsell, a prominent farmer and rancher originally from Massachusetts, acquired 2,332 acres of the *Valle de San José* land grant, including what is now the project C-APE. Hadsell

⁷¹ Archaeological resources (or sites) are also referred to as “heritage sites” by some tribal members.

⁷² URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

⁷³ Hendry, G.W., and J.N. Bowman, 1940. *The Spanish and Mexican Adobe and Other Buildings in the Nine San Francisco Bay Counties, 1776 to about 1850*. On file at the Bancroft Library, University of California Berkeley.

resided in and ran a dairy in the C-APE until he sold it to the Spring Valley Water Company in approximately 1875. It is possible that archaeological remains of the adobe buildings and other appurtenant structures, as well as the remains of other features such as corrals, gardens, and hollow/filled features containing artifacts associated with the historic-period occupation, may still exist in the C-APE.

Archaeological Resources in the C-APE

As a result of the inventory efforts, two archaeological sites have been identified in the C-APE. One site, CA-ALA-565/H, contains primarily prehistoric archaeological material, features, and fragmentary human remains, as well as limited historic-era artifacts.^{74,75,76} The site was originally recorded in 1993, and subsequently subjected to subsurface archaeological testing. The investigation identified three artifact concentrations in the site. Two of the areas had cultural material dated to protohistoric occupation (A.D. 1500-1700). In the third area, projectile points and bone tools were found, in addition to transfer-printed ceramics, possibly evincing a historic-era occupation.⁷⁷ The excavation recovered cultural materials to a depth of 51 inches bgs.^{78,79} The southern and western boundaries of CA-ALA-565/H were reconfirmed in 2012 through pedestrian surveys and a subsurface extended archaeological survey consisting of augers and borings.⁸⁰

During the 2012 field inventory efforts, a second archaeological resource was identified, and designated as field recording number SYIP-1.⁸¹ This historic-era resource contains limited mid- to

⁷⁴ Luby, Edward M., 1993. *Archaeological Site Records for P-01-000015*. On file at the NWIC.

⁷⁵ Luby, Edward M., 1995. *Preliminary Report on Archaeological Investigations in the Sunol Valley, Alameda County, California*. Proceedings of the Society for California Archaeology (8): 167-174.

⁷⁶ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

⁷⁷ Luby, Edward M., 1995. *Preliminary Report on Archaeological Investigations in the Sunol Valley, Alameda County, California*. Proceedings of the Society for California Archaeology (8): 167-174.

⁷⁸ Luby, Edward M., 1993. *Archaeological Site Records for P-01-000015*. On file at the NWIC.

⁷⁹ Luby, Edward M., 1995. *Preliminary Report on Archaeological Investigations in the Sunol Valley, Alameda County, California*. Proceedings of the Society for California Archaeology (8): 167-174.

⁸⁰ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

⁸¹ Ibid.

late-19th century artifacts in association with compacted earth features, which were identified during inspection of the crawl space below the former Sunol Cottage and existing Administration Building in the Sunol Yard. Temporally diagnostic artifacts and spatial information, gained from historical descriptions and maps, indicate that elements of the archaeological deposit may be associated with the Suñol Adobe or the Hadsell occupation.⁸²

Based on substantial evidence, the San Francisco Planning Department has determined that SYIP-1 and CA-ALA-565/H constitute historical resources pursuant to Section 15064.5(a)(3) of the CEQA Guidelines. As the sites will be treated as historical resources, it is not necessary to consider their status as unique archaeological resources in this analysis.

Although not all the characteristics of these archaeological sites are known, they are likely to yield information important in prehistory or history, and therefore appear eligible to the CRHR under Criterion 4. In addition, if historic-era associations with the early Suñol or Hadsell occupation of the property are confirmed, both archaeological sites may be eligible to the CRHR under Criterion 1, for their association with events that made a significant contribution to history at the local or state level.

As currently proposed, construction of the Watershed Center would occur at least partially within the confines of CA-ALA-565/H, and project demolition and construction in the Sunol Yard would occur on SYIP-1. Excavation of new building foundations would be accomplished by backhoe or excavator. The depth of the excavations would vary depending on facility height and site conditions, but would generally not exceed 5 feet below the current ground surface, except at the locations of the existing underground fuel storage tanks and existing and proposed wastewater holding tanks, where excavation work may range to 15 feet below grade. Given these subsurface impacts, implementation of the proposed project could result in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5, which would be a significant impact. However, implementation of **Mitigation Measure M-CP-2a, Treatment of Known Archaeological Resources**, would reduce impacts to a level that is *Less than Significant with Mitigation Incorporated* by requiring that resources are properly identified and protected upon discovery, and that an archaeological research design and treatment plan (ARDTP), as described below, is implemented.

⁸² Ibid.

In addition to the potential impacts to known resources, ground-disturbing construction activities have the potential to inadvertently expose and therefore affect previously unknown archaeological resources, including those that may be CRHR-eligible. As described in the HCASR, subsurface testing using borings and backhoe scrapes was conducted in the southern portion of the C-APE and in the vicinity of the Sunol Cottage.⁸³ No archaeological resources were identified as a result of these extended archaeological survey efforts; however, there is the potential that previously unidentified archaeological resources may be exposed as a result of project-related ground disturbance. The inadvertent exposure of previously unknown archaeological resources that qualify as historical resource as addressed under CEQA Guidelines Section 15064.5 would be a potentially significant impact. However, implementation of **Mitigation Measure M-CP-2b, Archaeological Monitoring and Accidental (Post-review) Discovery of Archaeological Resources**, would reduce impacts to a level that is *Less than Significant with Mitigation Incorporated* by requiring an appropriate treatment strategy, such as archaeological data recovery.

CEQA Section 21083.2.(b) provides that the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in-place (e.g., through “capping”⁸⁴) or left in an undisturbed state. Alternative treatments may be considered if preservation in place is not feasible, or, if feasible, when a data recovery program or interpretive use of the resource provides superior mitigation. As discussed in **Section A.4.2**, the SFPUC considered alternative locations and designs for the Watershed Center in order to avoid impacting site CA-ALA-565/H, but did not identify any as able to feasibly meet the Project’s goals, and found that all other alternative areas onsite could themselves involve other environmental impacts. Having reviewed the record, the San Francisco Planning Department agrees that locating the Watershed Center elsewhere onsite could result in other potentially significant impacts (see **Section A.4.2, Development of the Alameda Creek Watershed Center**). Capping CA-ALA-565/H is also not considered a viable alternative in this case because placing the Watershed Center on a fill prism of sufficient height to keep the building foundation, road bed, and subsurface utilities above the archaeological site matrix could cause significant visual impacts on the viewshed of the adjacent Sunol Water Temple, which is part of an

⁸³ Ibid.

⁸⁴ Capping an archaeological site means to cover it with a layer of sterile soil before building directly on top of the site in question.

eligible historic district and as discussed above, could result in contamination of the archaeological site matrix by impurities in the imported fill and could damage site constituents (and, thereby, the site's research and cultural values) through compaction caused by construction activities and the weight of the fill and building. Nevertheless, and as noted above, **Mitigation Measure M-CP-2a, Treatment of Known Archaeological Resources**, would reduce impacts to this site to a level that is *Less than Significant with Mitigation Incorporated* by requiring that archaeological resources are properly identified and protected upon discovery, and that an archaeological research design and treatment plan (ARDTP), as described below, is implemented.

In the case of archaeological site SYIP-1, further investigations, possibly leading to data recovery, are considered the preferred mitigation. Very little is known of the historic-era Sunol and Hadsell occupations of the project area. Historic documentation of these occupations is very limited and no archaeological excavations have been conducted to-date which may provide information on this time period. The characteristics of this site make it unsuitable for public interpretation in-place (given that it is the administrative hub of the Sunol Corporation Yard, and as such, it is an area that is not open to the general public). As a result, there exists greater value in extracting the potential data within SYIP-1 than preserving the potential resource in-place.

Given these considerations, the following site-specific mitigation measures have been developed for the treatment of known archaeological resources and to avoid potentially significant adverse effects of the proposed project on legally important archaeological resources known to be within the project area:

Mitigation Measure M-CP-2a: Treatment of Known Archaeological Resources

The SFPUC shall retain the services of a qualified archaeological consultant, meeting the Secretary of Interior standards for archaeology, from the pool of qualified archaeological consultants maintained by the Planning Department Archeologist, or an alternate archaeological consultant on approval of the ERO. The archaeological consultant shall develop and undertake any archaeological monitoring, testing, and mitigation programs required in connection with this Mitigation Measure, the scope and implementation of which shall be directed and approved by the ERO or designee.⁸⁵

⁸⁵ San Francisco Planning Department, 2008. *MEA WSIP Projects Archaeological Guidance*.

Archaeological site CA-ALA-565/H. In consultation with the ERO or designee, the archaeological consultant shall design and carry out an archaeological testing program at CA-ALA-565/H. The goal of the testing program shall be to provide an enhanced delineation of the archaeological site's structure and content in areas of planned construction. The plan shall also detail the participation of Native American cultural resource monitors during excavation and testing. The testing program shall be documented to the ERO in a preapproved format.

On the basis of the testing results and in consultation with the ERO or designee, the consultant shall prepare an Archaeological Research Design and Treatment Plan (ARDTP) for the recovery and treatment of resources determined to be potentially eligible to the California Register of Historical Resources (CRHR). The ARDTP shall identify how data recovery and other treatments, such as development of interpretive materials, will preserve the significant information of the archaeological resources to be impacted by the project. That is, the ADRTTP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ADRTTP will establish the procedures for data recovery and other treatments, describe how the investigation will address the research issues, and specify that the results will be provided in an Archaeological Data Recovery Report to the ERO or designee following implementation of the ARDTP. In general, data recovery shall be limited to the portions of the archaeological resource that could be adversely affected by the proposed project. The ARDTP shall include the elements specified in EP's Archaeological Guidance #7, including goals of the plan, description of the resource, research questions, field methods for recovering resources, laboratory methods, other treatment options (i.e., interpretive programs), and details on Native American coordination, as well as a practical work plan to carry out the program. The SFPUC shall ensure that the provisions of the ARDTP are carried out.

Archaeological site SYIP-1. The archaeological consultant shall monitor and, as necessary, direct the demolition of the Sunol Cottage and administration building to better determine the vertical and horizontal extent, and potential significance, of the

cultural deposit SYIP-1.⁸⁶ The buildings shall be deconstructed in a manner that minimizes impacts to the deposit below the crawl space; for example, by first removing all walls and roofs above the subfloor, then carefully deconstructing the subfloor. The SFPUC shall ensure that archaeological resources uncovered during this process are protected until the ERO or designee has determined appropriate treatment. The results of this phase of work shall be documented to the ERO in a letter report.

In consultation with the archaeological consultant, the ERO or designee shall determine if new discoveries made during fieldwork at SYIP-1 appear to constitute historical resources. If the ERO determines that the newly discovered archaeological resources constitute historical resources, the ERO may require treatment such as archaeological data recovery or the creation of an interpretive product. Treatment, if required, shall be presented in an ADRTP, as described above, prior to implementing data recovery. The SFPUC shall ensure that the provisions of the ARDTP are carried out.

Plan approvals and distribution. All plans and reports prepared by the consultant further to this Mitigation Measure shall be submitted first and directly to the ERO or designee for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Once approved, copies of the reports shall be distributed as follows: the California Historical Resources Information Center (NWIC) shall receive one copy; the ERO shall receive a copy of the transmittal of the reports to the NWIC. EP shall receive one bound, one unbound, and one unlocked, searchable PDF copy on CD (of archival quality) as well as copies of any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the CRHR. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

⁸⁶ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

Mitigation Measure M-CP-2b: Archaeological Monitoring and Accidental (Post-review) Discovery of Archaeological Resources

This Mitigation Measure is required to avoid and/or minimize potential adverse effects of construction-related activities on previously unknown, accidentally discovered, and potentially important resources by ensuring that they are recognized, protected, and treated appropriately.

Monitoring Plan. The SFPUC shall retain the services of an archaeological consultant meeting the Secretary of Interior standards for archaeology from the pool of qualified archaeological consultants maintained by the Planning Department archaeologist or an alternate archaeological consultant upon approval of the ERO. In consultation with the ERO or designee, the consultant shall prepare an Archaeological Monitoring Plan (AMP) in conformity to EP's Archaeological Guidance that specifies how archaeological monitoring shall be carried out on the project site, including monitoring locations, authority of the archaeological monitor, reporting, and steps to be implemented in the event of a discovery, including Native American coordination. The SFPUC shall ensure that the terms of the AMP are carried out.

ALERT Sheet and Training. The SFPUC shall ensure, prior to any soils disturbing activities, the distribution of the Planning Department's archaeological resource "ALERT" sheet to all personnel (including, machine operators, field crew, supervisory personnel, etc.) of the project prime contractor, any project subcontractor and any utilities firm involved in soils disturbing activities within the project site (including demolition, excavation, grading, foundation work, etc.). The SFPUC shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) confirming that all field personnel have received copies of the Alert Sheet. A preconstruction training shall be provided to all construction personnel by a qualified archaeologist prior to their starting work on the project. The training may be provided in person or using a video or handout prepared by the qualified archaeologist. The purpose of the training is to enable personnel to identify archaeological resources that may be encountered and to instruct them on what to do if a potential discovery occurs.

The SFPUC shall ensure that the following actions are carried out if any indication of an archaeological resource is encountered during any soils disturbing activity of the project:

1/ The project Contractor, SFPUC, or archaeological monitor shall immediately notify the

ERO or designee and the Contractor shall immediately suspend any soils disturbing activities within a minimum of 50 feet of the discovery until the ERO or designee has determined what additional measures shall be undertaken. This radius may be reduced at the discretion of the onsite archaeological monitor. 2/ The SFPUC shall immediately instruct the contractor to secure the resource in consultation with the archaeological consultant to protect it from vandalism, looting, or other damage. Each newly discovered resource shall be documented on a DPR 523 form that shall be submitted to the NWIC; the ERO shall receive a copy of the transmittal of the reports to the NWIC.

The archaeological consultant shall advise the ERO whether or not the discovery appears to constitute a historical or unique archaeological resource and, therefore, requires additional action. If the ERO or designee determines that the discovery may constitute a historical resource or unique archaeological the consultant will evaluate the resource. If confirmed as an historical or unique archaeological resource, the site shall be subject to archaeological data recovery and/or other treatment designed to minimize the effect of the project.

Plans and reports prepared by the consultant in connection with this Mitigation Measure shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.

Archaeological data recovery and treatment programs that may be required as the result of an unanticipated discovery may necessitate that construction is suspended for a maximum of 4 weeks. This suspension of construction would be restricted to areas subject to archaeological data recovery. The suspension may only be extended beyond 4 weeks if the ERO determines that additional time is needed to complete data recovery as the only feasible means to reduce potential effects on the archaeological resource to a less-than-significant level, as defined in CEQA Guidelines Section 15064.5 (a)(c). All archaeological activities carried out in connection with this Mitigation Measure shall conform to EP's Archaeological Guidance series.

Consultation with Descendant Communities. On discovery of an archaeological site associated with Native Americans, an appropriate representative of the descendant

group and the ERO shall be contacted.^{87,88} At the discretion of the ERO or designee, the Native American representative may be given the opportunity to: consult with the ERO regarding evaluation and appropriate archaeological treatment of the site; monitor archaeological field investigations of the site and/or view the materials recovered from the site and/or consult with the ERO regarding any interpretative treatment of the site. A copy of the Archaeological Data Recovery Report, if required by the ERO, shall be provided to the representative of the descendant group.

Impact CP-3: The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (No Impact)

Approach

The Society of Vertebrate Paleontology (SVP) developed the Conformable Impact Mitigation Guidelines (SVP Guidelines), which outline criteria to assess paleontological sensitivity based on the potential of a geologic unit to contain significant paleontological resources.⁸⁹

Based on these guidelines, a vertebrate fossil is considered significant unless otherwise demonstrated, due to the relative rarity of vertebrate fossils. Vertebrate fossils are so uncommon that, in many cases, each recovered specimen will provide additional important information about the morphological variation or the geographic distribution of its species. Additionally, certain invertebrate or botanical fossils are considered significant paleontological resources if they provide new and substantial taxonomic, phylogenetic, ecologic, or stratigraphic data. The SVP defines paleontological resources to be significant fossils or assemblages of fossils if they are unique, unusual, rare, uncommon, and diagnostically or stratigraphically important, and/or add to an existing body of knowledge in specific areas—stratigraphically, taxonomically, and/or regionally.

⁸⁷ The term “archaeological site” is intended here to minimally include any archaeological deposit, feature, burial, or evidence of burial.

⁸⁸ An “appropriate representative” of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the project area as maintained by the California Native American Heritage Commission.

⁸⁹ Society of Vertebrate Paleontology, 1995. Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, Society of Vertebrate Paleontology News Bulletin, Vol. 163, pp. 22-27.

A rock unit is considered “sensitive” to adverse impacts if there is a high probability that grading, excavation, or other earth-moving will jeopardize significant fossil remains. Typically, high-sensitivity paleontological resources are categorized as rock units older than Holocene (recent) for which vertebrate or significant invertebrate fossils, or significant suites of plant fossils have been recovered.

The paleontological importance or sensitivity of each rock unit exposed is the measure most amenable to assessing the significance of paleontological resources, because the areal distribution of each rock unit can be delineated on a topographic or geologic map. The paleontological sensitivity of a stratigraphic unit reflects its potential paleontological productivity and sensitivity, as well as the scientific significance of the fossils it has produced. This method of paleontological resource assessment is the most appropriate, because discrete levels of paleontological importance can be delineated on a topographic or geologic map.

Paleontological Resources in the C-APE

Geologic mapping of the SLTI project area indicates that the project site is on Holocene alluvium, related to the adjacent confluence of Alameda Creek and Arroyo de la Laguna. Some limited areas of artificial fill are also mapped, and appear to be potentially related to the construction of existing roads, the Sunol Water Temple, and subsurface infiltration galleries.

The Holocene alluvial units consist of stream channel deposits (Qhc) and stream terrace deposits (Qht). The lower channel deposits are the result of very recent (historic-era to modern) deposition along the scoured channels of Alameda Creek and the Arroyo de la Laguna. In the “Picnic Area” and “Construction Staging Area,” these deposits may be more accurately described as an inset terrace of Alameda Creek. This is confirmed by soils mapping for the area, which shows that the Qhc deposits are coterminous with the soil series “Yolo loam over gravel” (Yo). The typical profile for this series comprises approximately 91 centimeters (3 feet) of loam overlying gravelly sand. The remainder of the project area is mapped as Holocene Qht. Soils mapping for the area shows that, except near Niles Canyon Road, the Qht deposits are coterminous with the soil series “Yolo loam” (YmB).⁹⁰ The typical profile for this series comprises loam deposits over 1.8 meters

⁹⁰ Natural Resources Conservation Service, United States Department of Agriculture, 2011. *Web Soil Survey*. Available online at: <http://websoilsurvey.nrcs.usda.gov>, accessed December 12, 2011.

(6 feet) thick. The soil series has been dated to 2,000 years or younger.⁹¹ A subsurface coring investigation conducted for the archaeological analysis of the project area confirmed that the vertical C-APE for the project is comprised of Holocene alluvial deposits.

Project Effects

Given the relatively recent age and depth of the Qht map unit in this area, the strata within the area of project effects cannot be reasonably expected to contain either vertebrate paleontological remains or unique geologic features. Therefore, the project would have *No Impact* on a unique paleontological resource or site or unique geologic feature.

Impact CP-4: The project could disturb any human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation Incorporated)

Section 15064.5 of the CEQA Guidelines assigns special importance to human remains, and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under PRC Section 5097.98.

Given the proposed construction of project components—including the Watershed Center, which is at least partially within the recorded boundaries of CA-ALA-565/H, and which has been reported to contain human remains—the inadvertent discovery of human remains during project implementation represents a distinct possibility. Therefore, ground-disturbing construction activities related to project implementation have the potential to inadvertently expose—and therefore affect—human remains. The inadvertent exposure of previously unidentified human remains would be a potentially significant impact. However, implementation of **Mitigation Measure M-CP-4, Accidental Discovery of Human Remains**, would address impacts on any human remains and associated funerary objects that are inadvertently exposed during project construction activities, by requiring the SFPUC to adhere to appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition protocols. With implementation of these measures, impacts relating to disturbance of human remains would be *Less than Significant with Mitigation Incorporated*.

⁹¹ Southard, Randall, and Stewart Winters, 2010. Soil Development and Fertility in an Alluvial Chronosequence, Southwestern Sacramento Valley. Paper prepared for the Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California. Available online at: http://kearney.ucdavis.edu/Undergrad_Fellowship_Reports/WintersFinalReport.pdf. Accessed January 21, 2012.

Mitigation Measure M-CP-4: Accidental Discovery of Human Remains

The following measures shall be implemented should construction activities result in the accidental discovery of human remains and associated cultural materials:

The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activities shall comply with applicable state laws. This shall include immediate notification of the coroner of the county in which the project is located, and in the event of the coroner's determination that the human remains are Native American, notification of the California NAHC, which shall appoint a MLD (PRC Section 5097.98). The archaeological consultant, SFPUC, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours for the MLD to make recommendations after access has been allowed to the remains. If the MLD and the other parties do not agree on the reburial method, the SFPUC shall follow Section 5097.98(b) of the PRC, which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

Impact C-CP: Construction of the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, could result in a significant cumulative impact on cultural resources. (No Impact)

The geographic scope of potential cumulative impacts on archaeological, historic architectural and paleontological resources impacts is the proposed project's C-APE. There are no other projects within the proposed project's C-APE, therefore there is no potential for a significant cumulative impact to archaeological, historic architectural, and paleontological resources (*No Impact*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.5 TRANSPORTATION AND CIRCULATION—					
Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is not near an airfield; Mineta San Jose International Airport is about 16 miles to the southwest, and Metropolitan Oakland International Airport is about 20 miles to the northwest. These distances are outside of the limits of established height restrictions for development in the vicinity of airports, described in Federal Aviation Administration (FAA) regulations.⁹² Therefore, Criterion E.5.c in the checklist above is not discussed further in this analysis.

⁹² 14 C.F.R. Part 77. *Safe, Efficient Use, and Preservation of the Navigable Airspace*. Available online at: <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=14:2.0.1.2.9&idno=14>. Accessed April 28, 2014.

The study area for transportation and circulation consists of a network of regional and local roadways primarily next to or near the project site, and roadways affected by project construction- and operation-related vehicles and other related activities. These roadways are SR 84 (also known as “Niles Canyon/Paloma Road”), I-680, and Temple Road. Direct vehicular access to the project site is gained via Temple Road, which includes a two-way, gated driveway that intersects with Niles Canyon/Paloma Road and Pleasanton-Sunol Road, and the intersection is an all-way stop-controlled intersection, as each intersection approach is stop-controlled (i.e., STOP signs are present at each intersection approach). Traffic counts were conducted on Temple Road (project site driveway) during a 48-hour, midweek period (Wednesday, Thursday) in April 2014, to identify the weekday average daily traffic (ADT) volumes along the roadway. Traffic counts were conducted by videotaping vehicles traveling in and out of Temple Road; the camera was positioned across (north of) Temple Road, at the intersection with Niles Canyon Road-Paloma Way and Pleasanton-Sunol Road. Based on these recent counts, the ADT along Temple Road is about 330 vehicles traveling in and out of the project site.⁹³ The most recent data published by Caltrans indicate that the annual average daily traffic (AADT) on I-680 near the project site is about 113,000 to 140,000 vehicles.⁹⁴ In addition, recent data published by Caltrans indicate that the AADT on SR 84 near the project site is about 27,500 vehicles.⁹⁵

In 2012, Caltrans published the *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*.⁹⁶ The study evaluated current roadway traffic safety conditions along a portion of Niles Canyon Road (SR 84), between Mission Boulevard and I-680. Notably, the report provides an evaluation of the unsignalized intersection of Pleasanton-Sunol Road and Niles Canyon Road (SR 84), which is also the same intersection that provides direct access to Temple Road (project driveway). According to the report, the intersection currently experiences a high level of traffic congestion, and operates at unacceptable level of service (LOS) conditions (at LOS E and F) during the morning and afternoon peak commute periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.), respectively. LOS is a qualitative description of an intersection’s

⁹³ CHS Consulting Group, 2013. *72-Hour Machine Traffic Counts*.

⁹⁴ Caltrans, 2012. *Traffic Volumes on California State Highways*. Available online at: <http://traffic-counts.dot.ca.gov/index.htm>. Accessed April 29, 2014.

⁹⁵ Ibid.

⁹⁶ Caltrans, 2012. *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*. Available online at: <http://www.dot.ca.gov/dist4/nilescanyon/>. Accessed May 5, 2014.

performance, based on the average delay per vehicle. Intersection LOS range from A, which indicates free flow or excellent conditions with short delays; to F, which indicates congested or overloaded conditions with extremely long delays. LOS A, B, C, and D are generally considered excellent to satisfactory service levels; LOS E is generally undesirable; and LOS F is unacceptable. In this report, Caltrans identified two potential traffic safety improvement options for this intersection: 1) constructing a roundabout; or 2) installing a signalized intersection.

The signalized option is favored by the community⁹⁷ and would, according to the report, improve traffic conditions to LOS D (an acceptable service level), but operationally would not be as effective as a roundabout, considering both operations and collision frequency. The roundabout option, however, would require a larger footprint, and the potential relocation of the existing gate at the project entrance. Although these two intersection options were analyzed, none have been authorized and/or approved by Caltrans, and the schedule to implement and construct either option (or an alternative to these options) is not available at the time of this analysis.⁹⁸

There are no public parking facilities, either on street (e.g., striped, metered spaces in a dedicated parking lane) or off street (e.g., a parking lot or parking garage, typically accessed by driveway), in the vicinity of the project. There is a one-story building housing a grocery store and market at the northeastern corner of the Pleasanton-Sunol Road/Niles Canyon Road-Paloma Way/Temple Road intersection, with an adjacent small, gravel-paved parking lot for customers and employees; this lot is not available for public use. Parking facilities in the project site include a series of gravel, unmarked (unstriped) parking areas that allow parking for employees and visitors.⁹⁹

The project is in a rural area that is not currently served by public transportation. The Altamont Corridor Express regional rail provides weekday and weekend service between the communities of Stockton and San Jose, and has stations in Pleasanton and Fremont. There is no station in the

⁹⁷ Caltrans, 2012. *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*. Available online at: <http://www.dot.ca.gov/dist4/nilescanyon/>. Accessed May 5, 2014.

⁹⁸ According to the *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*, the two options proposed at this intersection are categorized as “mid-term” improvement projects, and implementation of such projects would be based on their environmental impacts and level of project development effort. Based on the findings in the report, there is no established schedule and/or implementation program for either improvement project at this intersection.

⁹⁹ It is noted that because the onsite parking at the project site is unmarked and unstriped, the current off-street parking supply (i.e., number of parking spaces) at the project site cannot be determined.

Town of Sunol; however, the rail alignment runs approximately 0.30 mile west of the project site (there is an at-grade crossing along Main Street in Sunol, and the alignment passes over Niles Canyon Road [SR 84]).

In general, typical pedestrian facilities would include sidewalks, crosswalks, curb ramps at intersections with sidewalks, and other pedestrian treatments at intersections (e.g., countdown signals and walk buttons). There are no pedestrian facilities on the roadways or intersection adjacent to the project site, though there are some sidewalks on portions of Niles Canyon Road (SR 84) west of the project site, at bridges and underpasses, and in the Town of Sunol. Similarly, the project site, being a maintenance yard, does not include sidewalks or pedestrian walkways. According to the Alameda Countywide Bicycle Plan,¹⁰⁰ there are no established bikeways near the project site. Furthermore, there are no bicycle facilities (e.g., bicycle racks or lockers) at the project site, and employees associated with the existing onsite uses do not bicycle to the project site; however, members of the public occasionally bicycle to the Sunol Water Temple.

Approach to Analysis

Significance criteria (including thresholds of significance) commonly used by the San Francisco Planning Department to assess whether a proposed project would result in significant impacts to the transportation network expand on and overlap with the CEQA Guidance Appendix G checklist listed above, and similarly are geared toward impacts that occur with project operations (i.e., ongoing, long-term, impacts), not temporary, short-term impacts associated with project construction. Therefore, the following impact analysis focuses on the net change of use on the project site, and its transportation-related impacts in the project vicinity.

Construction-related transportation impacts are not generally considered significant because of their temporary duration and limited scope. Construction of the project elements would generate vehicle traffic (construction workers' vehicles, equipment, and trucks) traveling to and from the project site during the estimated 24-month construction period. Transportation-related construction impacts of the project would be considered a *Less-than-Significant Impact*. However, the City of San Francisco recognizes that construction-related transportation impacts, including construction access and any conflicts, would be of interest to decision makers, other agencies,

¹⁰⁰ ACTC, 2012. *Alameda Countywide Bicycle Plan*. October 25. Available online at: http://www.alamedactc.org/app_pages/view/5390. Accessed April 29, 2014.

local jurisdictions, and members of the public. Therefore, following the analysis of operational transportation impacts of the project, a discussion of the construction-related traffic and access—and any conflicts with the transportation system in the area—is included for informational purposes, as provided below.

Construction-Related Transportation Information

Construction activities for the project would consist of site preparation; excavation and removal; backfilling; grading; and paving and landscaping, with some overlap of construction of the Sunol Yard and Watershed Center (see **Tables 3 and 4**, above). The number of construction workers and construction vehicles would vary by construction phase (see **Tables 7 and 8**, above). Entrance to and exit from the project site would be via the existing driveway (Temple Road), which connects at the intersection of Niles Canyon Road-Paloma Way and Pleasanton-Sunol Road. Staging areas for equipment and material stockpiling would be onsite and in appropriate construction or exclusion zones (see **Figure 2**, above); there would be no staging on public ROWs (e.g., adjacent streets) or private properties. Similarly, there would be no external roadway or travel lane closures necessary for construction.

As proposed, construction workers would park in the project site, specifically, in the Sunol Yard when available, or in designated construction staging areas. There would be no worker parking along public ROWs (see **Section A.5.6, Construction and Public Access**, above).

This analysis assumes that vehicle trips and truck trips by construction workers (which include but are not limited to flatbed trucks, concrete mixers, and dump trucks) would travel to and from the project site on a dedicated route, and would use regional routes to access the project site. Given the location of the project site, it is expected that the majority of construction vehicles and workers would use I-680 and to an extent, SR 84 (Calaveras Road-Niles Canyon Road). Construction activities are proposed to occur primarily from 7:00 a.m. to 7:00 p.m., Monday through Friday; and regularly on weekends (Saturday and Sunday) from 8:00 a.m. to 5:00 p.m. (see **Section A.5.7, Construction Workforce and Construction Hours**, above). The project would require a workforce ranging from 5 to 12 construction workers, depending on the particular phase of construction and specific project component. In the event that all components of the Sunol Yard are constructed at the same time, an average of 52 workers and a maximum of 81

workers would be traveling to and from the project site.¹⁰¹ Similarly, construction of the Watershed Center would require an average of 10 construction workers a day at the project site; however, in the event all of the components of the Watershed Center are constructed at the same time, an average of 20 workers and a maximum of 28 workers would be traveling to and from the project site. Although construction worker travel mode is unknown, this analysis assumes that all workers would travel to and from the project site in their own vehicles. Based on these estimates and assumptions, the project would generate a maximum of 210 weekday round-trips by construction workers (341 one-way vehicle trips) and an average of 113 round-trips by construction workers (170 one-way vehicle trips). Overall, the project would generate an approximate maximum of 73 total daily truck trips (146 one-way trips); however, the number of daily trucks per activity would range between 3 and 20 roundtrips per day, depending on the type of construction and schedule.¹⁰²

Table 10 presents the number of construction-related vehicles trips generated by the project for each construction activity. As shown, the project would generate a total average of 90 construction worker trips, a maximum of about 136 worker trips and a total average of about 73 haul truck trips per day.

¹⁰¹ This is a conservative 'worst case' scenario since most of the construction activities must be completed sequentially. Additional detail on estimated construction scheduling is presented in Appendix B.

¹⁰² The daily truck trip estimation does not include "off-road" trucks and/or related machinery or equipment, as these components would be transported to the project site and remain on-site for an extended, scheduled period of time, and would not traverse nearby roadways on a daily basis during construction.

**TABLE 10
WEEKDAY CONSTRUCTION VEHICLE TRIP GENERATION**

Project Activity	Average (Maximum) Worker Construction Trips ^a		On-Road Truck Trips ^c	
	Round-Trip	One-Way	Round-Trip	One-Way
Sunol Yard				
Administration building	12 (18)	24 (36)	20	40
Shops	10 (15)	10 (30)	10	20
Demolition of existing facilities	8 (14)	16 (28)	3	6
Construction of fuel tank site	5 (8)	10 (16)	4	8
Installation of generator and transformer	5 (8)	10 (16)	4	8
Storage areas	7 (10)	14 (20)	7	14
Landscaping/Paving	5 (8)	10 (16)	4	8
Subtotal	65 (101)^b	118 (203)^b	52	104
Watershed Center				
Building	10 (14)	20 (28)	16	32
Landscaping/Paving/Displays	10 (14)	20 (28)	5	10
Subtotal	25(35)^b	50 (70)^b	21	42
Total Trips	90 (136)^b	168 (273)^b	73	146

Sources: Kennedy/Jenks Consultants & Water Resources Engineering, 2012; CHS Consulting Group, 2014.

Notes:

^a The range of daily workers (and worker vehicle round-trips), assuming all workers would travel to and from the project site in their own vehicles.

^b The total round-trip and one-way construction worker vehicle trips were multiplied by a factor of 1.25 to account for any miscellaneous midday trips during a typical work day.

^c Table presents total number of estimated on-road truck trips per project facility to be constructed; fewer trucks would be required for each individual activity per project facility on a daily basis (e.g., grading, excavating, or paving).

Project construction activities would not conflict with transit, pedestrian or bicycle trips in the project vicinity because transit service, pedestrian and formal bicycle facilities are not present in the immediate project vicinity.

Construction-related vehicles would most likely travel to the project site prior to 7:00 a.m. and leave the project after 7:00 p.m., the temporary increase in traffic from construction activities and for the most part avoid the typical peak period commute traffic along adjacent roadways or intersections. Therefore, it is not anticipated that the increase in traffic from construction activities

would substantially contribute to existing or future traffic volumes along roadways or to congested conditions at the intersection of Pleasanton-Sunol Road/Niles Canyon Road (SR 84)/Temple Road (project driveway) during the weekday peak commute periods.

A Traffic Control Plan would be required and, at a minimum, would include but not be limited to the following provisions:

- Truck routes shall be identified. Haul routes that minimize truck traffic on local roadways and residential streets shall be used to the extent possible.
- Construction vehicle movement shall be controlled and monitored by onsite inspectors enforcing standard construction specifications.
- Truck trips shall be scheduled outside the peak morning and evening commute hours, to the extent possible.
- Construction shall be coordinated with facility owners or administrators of police and fire stations (including all fire protection agencies). Emergency service vehicles shall be given priority for access.
- The contractor shall be encouraged to reduce the number of vehicle trips by construction workers by facilitating the use of public transportation and minimizing parking availability for construction workers.
- The contractor shall coordinate with other contractor(s) for projects in the vicinity and share information regarding schedule, duration of activities, vehicle routing and detouring (if applicable), staging of vehicles, etc.

As described above in **Section A.5.8, Standard Construction Measures**, the SFPUC would provide a 14-day-advance public notice, before construction, describing project construction activities, schedule information, anticipated effects, and contact information. The notice would be distributed to adjacent properties and included on the SFPUC website, along with project information.

As previously stated, the transportation impacts identified below focus on the nature and magnitude of potential impacts of the proposed net change in the operation of the project site.

Impact TR-1: The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. (Less than Significant)

As described in **Section A, Project Description**, the SFPUC proposes to upgrade the existing Sunol Yard and its facilities, as well as construct the Watershed Center, to introduce and promote educational and recreational activities at the project site.

The project would coordinate with, and be guided by, the goals and policies established in the Alameda County General Plan, and specifically in the General Plan's *East County Area Plan*.¹⁰³ Specific policies that are applicable to the project are minimizing traffic congestion levels throughout the East County street and highway system (Policy 183); maintaining a safe, convenient, and effective bicycle system (Policy 211); and maintaining a safe and convenient pedestrian system that links residential, commercial, and recreational uses, and encourages walking as an alternative to driving (Policy 212).

As presented in the *Alameda Countywide Bicycle Plan*, specific bicycle improvement projects in proximity to the project site include installing a Class III bicycle route along Pleasanton-Sunol Road (from Sunol Boulevard in Pleasanton to Niles Canyon Road-Paloma Way in Sunol); installing a Class I multi-use path adjacent to I-680 (from Niles Canyon Road-Paloma Way in Sunol to Mission Boulevard in Fremont); and installing a Class III bicycle route along Niles Canyon Road (from Pleasanton-Sunol Road in Sunol to near Mission Boulevard in Fremont). As presented in the *Alameda Countywide Pedestrian Plan*, there are no planned pedestrian improvement projects in proximity to the project site.¹⁰⁴ The proposed project would not conflict with any of the above policies or potential planned transportation improvement projects in the project vicinity. Therefore, impacts on these Plans and Policies, including for alternative modes, would be *Less than Significant*.

¹⁰³ Alameda County Planning, 1994 [Revised 2000]. *East County Area Plan*. May 1994 [Revised November 2000].

¹⁰⁴ ACTC, 2012. *Alameda Countywide Pedestrian Plan*. October 25. Available online at: http://www.alameda.ctc.org/app_pages/view/5390. Accessed April 29, 2014.

Traffic

The project would involve upgrading and replacing most of the existing facilities, including project site driveways/roads at the Sunol Yard, and would revise the overall layout of these facilities. The project would also construct the Watershed Center to provide educational and recreational uses for visitors of the site. The Watershed Center would include other onsite improvements, including a “Watershed Discovery Trail”—a meandering walk through a landscape reflecting the middle and upper reaches of the Alameda Creek Watershed—and would improve a public picnic area, and make landscape improvements around the Sunol Water Temple.

Based on these planned uses at the project site, the project would generate long-term vehicle trips associated with employees (e.g., administration, facility management and maintenance personnel) and non-employees (e.g., visitors/general public) on a daily basis.

Employee Trips. As stated in **Section A, Project Description**, the project would result in little change in the operation and maintenance of improved project facilities at the Sunol Yard. Additional staffing would be needed to operate and maintain the proposed facilities, and an estimated additional 14 office staff (over the existing 47 staff at Sunol Yard) are planned to use the Sunol Yard following project completion. It is noted that the scheduled workday hours for employees at the Sunol Yard may vary; therefore, employee work hours may be staggered during a typical weekday. In addition to office staff, the Watershed Center would be staffed with an estimated four new employees. The site would be open to the general public Monday through Friday, from 9:00 a.m. to 3:00 p.m.; and as the budget allows, potentially on the weekends and for periodic evening events.

Although employee travel mode and work schedule are unknown, for this analysis it was assumed that all new employees would travel to and from the project site in their own vehicles, that all new employees would be travelling to the project site during the a.m. peak period, and that only the additional office staff (about 14 employees) would be leaving during the p.m. peak period.¹⁰⁵ Therefore, based on these estimates, the project is assumed to result in a net increase of

¹⁰⁵ The proposed Watershed Center would close at 3:00 p.m.

18 employee vehicle round trips (36 one-way trips) that would travel to and from the project site on a typical day; 14 of those trips would occur outbound during the p.m. peak period.

Non-Employee (Visitor) Trips. The Sunol Yard component of the project would not attract any visitor trips on a regular basis; however, for planning and design purposes the SFPUC estimates that the Watershed Center could attract up to 100 visitors on each day that it is open.¹⁰⁶ Although mode choice data for these potential visitor trips cannot be accurately predicted at the time of the analysis, this analysis assumes that most (if not all) visitor trips would be made via private automobile (a combination of single-occupancy vehicles and carpool vehicles) and charter/school buses (e.g., private groups and school field trips). Therefore, it is assumed for the purposes of this analysis, that although the project could potentially attract up to 100 visitors on each day that it is open,¹⁰⁷ the project would generate fewer vehicle trips due to anticipated carpooling and bus transport for larger groups. Because the Watershed Center hours would be open approximately from 9:00 a.m. and 3:00 p.m. (as the budget allows), the majority (if not all) of visitor-related vehicle trips would travel to and from the project site outside normal weekday commute peak periods (7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.).

The measure of effectiveness in evaluating the performance of the circulation system is commonly conducted by performing a detailed intersection level of service (LOS) analysis during a weekday peak commute period, typically during the morning period of 7:00 a.m. to 9:00 a.m. and/or during the evening period of 4:00 p.m. to 6:00 p.m., when the maximum use of much of the transportation system occurs. As described, the unsignalized intersection of Pleasanton-Sunol Road/Niles Canyon Road (SR 84)/Temple Road (project driveway) currently operates at unacceptable LOS conditions and Caltrans prepared a technical study to evaluate current intersection conditions and to modify this intersection (e.g., installation of a signal or roundabout) in order to improve traffic and circulation conditions.¹⁰⁸

¹⁰⁶ SFPUC, 2013. *Responses to URS Request for Information (RFI dated 10/1/2013)*. Sunol Long Term Improvements Project. October.

¹⁰⁷ It is noted that for purposes of the analysis and to be consistent with the air quality analysis, a conservative estimate of 100 daily visitor trips was assumed after the project is constructed and operational. It was further assumed, for the purposes of conducting a conservative analysis, that the current uses at the project do not generate any visitor trips.

¹⁰⁸ Caltrans, 2012. *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*. Available online at: <http://www.dot.ca.gov/dist4/nilescanyon/>. Accessed May 5, 2014.

The project would not generate a considerable amount of new vehicle trips to this intersection during the typical weekday peak commute periods. Visitor-related vehicle trips would travel in and out of the project site outside peak commute periods on a weekday basis and therefore, would not contribute any new vehicle trips to this intersection during peak commute periods, and would not affect existing traffic conditions at this intersection during the peak commute periods. For purposes of this analysis, it is conservatively assumed that new employee-related vehicle trips would equate up to 18 new inbound vehicle trips during the typical morning peak commute period and up to 18 new outbound vehicle trips during the typical evening peak commute period.

Furthermore, as described in the *Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor*, there are significant vehicle queues during the morning and evening peak commute periods on the eastbound (Niles Canyon Road) and southbound (Pleasanton-Sunol Road) approaches at this intersection of Pleasanton-Sunol Road/Niles Canyon Road (SR 84)/Temple Road (project driveway). The vehicle queues along these intersection approaches are contributing to worsening traffic operations and thus, resulting in unacceptable service levels (LOS E and F).

Although information on the residence (or origin-location) of future employees is not known at this time, it is conservatively assumed that few (if any) new employees would originate in the Town of Sunol, and that the majority (if not all) new employees would originate in locations to the north and east (e.g., Alameda and Contra Costa counties), and south (e.g., cities of Fremont in Alameda County, and locations in Santa Clara County). Given the location of the project site and assuming that the new employee vehicle trips would be originating from points north, east, and south of the project site, employees would likely utilize the freeway network (including I-680 and I-880 [and then connect to I-680]) to access the project site (as the I-680 ramps are 0.65 miles from the project site) as opposed to traveling a substantial distance along Niles Canyon Road. Therefore, it is reasonable to assume that the majority of new employee-related vehicle trips (18 trips) would avoid traveling along a large portion of Niles Canyon Road in order to access the project and would utilize I-680 off-ramps at Niles Canyon Road (southbound off-ramp) and at Calaveras Road (northbound off-ramp) as the main route to the project site. Because the majority of new employee trips would likely be traveling westbound along Niles Canyon Road to access the project site, these new vehicle trips would not contribute to any existing vehicle queues along the eastbound or southbound approaches at the intersection of Pleasanton-Sunol Road/Niles

Canyon Road (SR 84)/Temple Road (project driveway) during the morning commute peak period. Similarly, the new employee vehicle trips exiting the project site during the evening peak commute period would be queued along the project driveway at the intersection (assuming they all ended their work shift at the same time), and the majority of these employee trips would then turn eastbound along Niles Canyon Road in order to access I-680 ramps and head northbound or southbound along the freeway to their destination. As a result, the majority of these employee vehicle trips would not likely contribute to the adverse queuing conditions in the eastbound or southbound approaches during the evening peak commute period. In addition, employee vehicles exiting the project site and turning left (westbound) along Niles Canyon Road or continuing north along the intersection (along Pleasanton-Sunol Road) would not contribute to the adverse queuing conditions in the eastbound or southbound approaches during the evening peak commute period, as well.

Based on these findings, the employee vehicles (18 vehicle trips) entering and exiting the project site during the peak commute periods would not substantially contribute to existing vehicle queues or result in a substantial contribution (i.e., less than one percent) to existing peak-period congestion levels at the intersection of Pleasanton-Sunol Road/Niles Canyon Road/Temple Road (project driveway). Therefore, the project would not result in adverse traffic effects to the surrounding roadway network, even at intersections or along freeways that may experience existing congestion and potential traffic impacts to nearby roadways and intersections related to the net change of operations on the project site would be *Less than Significant*.

Parking

Existing onsite surface parking areas in the project site would be redeveloped as a part of the project. Covered parking would be constructed at Sunol Yard for maintenance vehicles and equipment, and for employees; and visitor parking would be provided on the northern side of the Sunol Yard.

The Watershed Center would include two new parking facilities for employees and visitors. As shown on **Figure 5 in Section A, Project Description**, there would be a surface parking lot adjacent to the Sunol Water Temple, providing approximately six to eight parking spaces. There would also be two surface parking areas near the Watershed Center. These parking areas would provide approximately 35 spaces for passenger vehicles, and three parking spaces for buses.

Public Transit

There are no bus transit routes or commuter rail lines that directly serve the project site. The project would not be expected to generate new transit trips, primarily because there are no existing facilities at or near the project site to accommodate transit riders (e.g., bus stop/station). Therefore, potential impacts to transit facilities and services during project operation would be *Less than Significant*.

Pedestrian and Bicycle Impacts

There are no bicycle facilities that would provide direct access to the project site, and the presence of pedestrian facilities is limited. As previously stated, employees do not currently bicycle to the project site, and it is unlikely that they would forego their current mode of transport (e.g., private automobile) to access the project site once it is operational. However, it is noted that visitors occasionally bicycle to the Sunol Water Temple, and as discussed above in **Section A.4.2. Development of Alameda Creek Watershed Center**, the proposed project would install bicycle racks on the project site to accommodate any patrons wishing to bicycle to the project site.¹⁰⁹ No offsite bicycle improvements would be implemented as a part of the proposed project.

The project would include internal pedestrian improvements in the project site. Pedestrian walkways would be constructed to allow for access to onsite facilities, including the Sunol Yard and Watershed Center area, as well as a pathway to connect to the Watershed Center to the picnic area, and a walkway to connect the Watershed Center with the Sunol Water Temple Agricultural Park (see **Sections A.4.1, Sunol Corporation Yard Improvements** and **A.4.2, Development of Alameda Creek Watershed Center**, above). No offsite pedestrian improvements are proposed as a part of the project.

Based on the above discussion, the net change in the operation on the project site would not conflict with plans, policies, or ordinances related to the circulation system, including alternative modes of travel, and project impacts would be *Less than Significant*.

Impact TR-2: The project would not conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other

¹⁰⁹ It is noted that the potential increase in bicycle trips from non-employees cannot be measured, because bicycle activity at the project site is sporadic, and the majority of existing patrons do not bicycle to the project site on a regular, daily basis.

standards established by the county congestion management agency for designated roads or highways (Less than Significant)

Alameda County Transportation Commission (ACTC) serves as the Congestion Management Agency (CMA) of Alameda County. As the County's CMA, ACTC is responsible for managing the county's blueprint to reduce traffic congestion and improve air quality, including Alameda County's Congestion Management Plan (CMP) transportation system. Roadways and intersections in proximity to the project site that are designated in the CMP roadway system include SR 84 and I-680.¹¹⁰ The LOS standard for all CMP freeways and state highways is LOS E, and any facility operating at LOS F is deemed deficient. The LOS standard for CMP intersections is LOS D, and intersections operating at LOS E or F are operating at unacceptable conditions. The CMP also contains an element promoting the use of alternative transportation modes and ways to reduce future travel demand. As previously discussed, portions of I-680 and SR 84 (CMP-designated roadways) would be used by employees and visitors to access the project site on a daily basis; but as discussed under Impact TR-1, the estimated increase in daily traffic associated with employees and visitors of the project would be marginal relative to current daily traffic levels along portions of I-680 and SR 84 in proximity to the project site. Similarly, although the intersection of Pleasanton-Sunol Road/ Niles Canyon Road (SR 84)/Temple Road (project driveway) currently operates poorly during the weekday morning and evening peak commute periods (at LOS E and F, respectively), the project would not result in a substantial contribution to existing traffic levels or existing adverse vehicle queuing and congestion levels along CMP roadways, nor result in a considerable amount of new vehicle trips that would further degrade traffic conditions along SR 84, or at the intersection of Pleasanton-Sunol Road and SR 84. Therefore, the project's net new visitor and employee vehicle trips would not be a substantial contribution to the existing poorly operating conditions at this adjacent intersection. Based on these findings, the project would not conflict with applicable CMP standards along designated roads or highways, and potential operational traffic impacts would therefore be *Less than Significant*.

¹¹⁰ ACTC, 2013. *Congestion Management Program*. October. Available online at: http://www.alamedactc.org/app_pages/view/5224. Accessed April 29, 2014.

Impact TR-3: The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. (Less than Significant)

The project seeks to improve the existing access driveway (Temple Road) along the same ROW, and improve internal site circulation through consolidation of existing uses on the project site. Similarly, the Watershed Center would include parking and access for bus traffic, and would be located at the end of Temple Road, away from the Sunol Yard. As a result, the project would not introduce any design hazards or incompatible uses, and therefore, potentially hazardous traffic impacts would be *Less than Significant*.

Impact TR-4: The project would not result in inadequate emergency access. (Less than Significant)

The planned internal improvements along Temple Road (project driveway) and on the Sunol Yard, and in the proposed Watershed Center's parking lot aisles in the 35-space parking area would need to be designed to enable adequate maneuvering for emergency vehicles. The project would provide emergency access similar to that provided under current (existing) conditions, and would therefore have a *Less-than-Significant Impact* on emergency vehicle access.

Impact TR-5: The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

As discussed above, the project would involve onsite improvements, and would not permanently eliminate or modify alternative transportation corridors or facilities, nor would the project result in any conflicts related to established policies or programs that support such facilities. Based on these findings, project-related impacts on alternative modes of transportation would be *Less than Significant*.

Impact C-TR: The project, in combination with past, present, and reasonably foreseeable future projects, would not result in cumulative transportation and circulation impacts. (Less than Significant Impact)

The geographic scope for the analysis of cumulative traffic impacts includes the local and regional roadways that would be used for construction-related vehicles as well as employee and visitor access to the site. These roadways include SR 84 (also known as "Niles Canyon/Paloma Road"), I-680, and Temple Road. The cumulative projects in the vicinity of the proposed project are listed in **Table 9** above. Specifically, construction of the following projects is expected to coincide with the proposed project and could increase traffic temporarily on roadways used to access the project site:

- Alameda Creek Recapture Project
- Calaveras Dam Replacement
- State Route 84 Expressway Widening Project
- PG&E Gas Pipeline Crossing
- Alameda County Fire Department Sunol Project

Other projects included in the cumulative projects list have already been constructed and are operational (i.e., Alameda Siphons Seismic Reliability Upgrade, SVWTP Expansion and Treated Water Reservoir Project, San Antonio Pump Station Upgrade, and SMP-32 Quarry Operations). These and the above-listed projects are those that could use roadways that overlap with those that would be used by the proposed project.

As discussed above, project operation is estimated to generate a net new 18 peak hour vehicle trips from employees, and less than 100 daily vehicle trips from visitors that would likely be dispersed throughout a typical weekday. The net new daily trips could contribute to peak hour traffic conditions, but most visitors' vehicle trips would likely be dispersed throughout the day and more likely arrive and depart during non-peak hours. As discussed above, the intersection of SR-84 and Pleasanton-Sunol Road could possibly be signalized or improved with a roundabout¹¹¹ under cumulative conditions, which would improve operating conditions (to LOS D and LOS A, respectively under existing conditions). However, no funding has been identified to implement these improvements, and therefore these improvements were not assumed in this cumulative analysis. Regardless, the project would not inhibit these improvements to occur in the future if funding for implementation occurs. Further, as previously stated, the project-generated trips during the weekday peak commute periods would not substantially contribute to existing vehicle queues or result in a substantial contribution (i.e., less than one percent) to existing peak-period congestion levels at the intersection of Pleasanton-Sunol Road/Niles Canyon Road/Temple Road (project driveway). Therefore, considering the amount of project operational traffic, and in consideration of cumulative growth and traffic conditions in the project vicinity, as described above, the project's potential peak hour vehicle trips would not substantially contribute to cumulative traffic conditions along area roadways from other past, present, and reasonably

¹¹¹ Caltrans, 2012. Final Quantitative Road Safety Analysis Study Report for State Route 84 – Niles Canyon Road Corridor. Available online at: <http://www.dot.ca.gov/dist4/nilescanyon/>. Accessed May 5, 2014.

foreseeable future projects, and impacts would not be cumulatively considerable (less than significant), and no mitigation is required.

Considering the project's construction-related traffic, project construction is expected to begin in October-November 2015 and to be completed by September 2017. As indicated above, project construction could occur within the same vicinity and timeframe as other planned projects. Roadways in the vicinity of the above-cited planned projects could experience an increase in traffic volumes and increase in construction vehicles due to the project and combined construction activities, which could intermittently affect traffic conditions in the project vicinity (due to overlapping construction schedules and related activities).

Assuming all components of the Sunol Yard and Watershed Center were under construction at the same time, an average of 72 workers and a maximum of 109 workers would be traveling to and from the project site. Although construction worker travel mode is unknown, this analysis assumes that all workers would travel to and from the project site in their own vehicles. Additionally, construction of the project would generate an approximate maximum of 73 total daily truck trips; with the daily average trucks ranging between 3 and 20 truck trips per day. Construction-related vehicles would travel to the project site predominantly prior to 7:00 a.m. and leave the project after 7:00 p.m., and therefore the temporary increase in traffic from construction activities would not coincide with typical peak period commute traffic along adjacent roadways or intersections, which occurs between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. In addition, project construction activities would not conflict with transit, pedestrian or bicycle trips in the project vicinity because transit service, pedestrian and formal bicycle facilities are not present in the immediate project vicinity.

Although it is speculative to estimate other construction project traffic, work schedules, or deliveries, construction of the project and other projects in the vicinity would be considered temporary and intermittent in nature and therefore, less than significant.

As discussed above, the development and implementation of the required Traffic Control Plan by the SFPUC or its contractor would further address potential transportation disruptions, and would require the SFPUC to coordinate with the appropriate jurisdictional agencies on potentially overlapping projects.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.6 NOISE—Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Be substantially affected by existing noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not within 2 miles of a public airport or in the vicinity of a private airstrip. In addition, the project would not include development of noise-sensitive facilities that would be affected by existing noise levels. Therefore, significance criteria 6e, 6f, and 6g are not applicable. Project implementation would result in temporary increases in construction noise in the vicinity of the project site, as well as minor noise increases from project operations, including periodic use of an emergency generator for testing/maintenance and during power outages.

Impact NO-1: The project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (No Impact)

The project would occur entirely within unincorporated Alameda County. Project construction has the potential to result in short-term noise increases that could be in excess of the Alameda County Noise Ordinance standards. However, the Alameda County ordinance exempts

construction noise from specific noise limits, as long as the construction is conducted within the specified time limits, as summarized in **Table 11**.

As noted in **Section A.5.7, Construction Workforce and Construction Hours**, above, construction activities are proposed to occur Monday through Friday, from 7:00 a.m. to 7:00 p.m.; and on weekends from 8:00 a.m. to 5:00 p.m. These construction hours would be consistent with the ordinance time limits. As a result, no conflicts with the ordinance would occur during project construction. Therefore, the project would have *No Impact* per this noise criterion.

**TABLE 11
ALAMEDA COUNTY NOISE ORDINANCE FOR CONSTRUCTION ACTIVITIES**

Construction Time Limits			Noise Limit for Construction Occurring Within Time Limits
Weekdays	Saturdays	Sundays	
7 a.m. to 7 p.m.	8 a.m. to 5 p.m.	8 a.m. to 5 p.m.	None

Source: Alameda County Municipal Code, Section 6.60.070E.

An existing backup generator would be replaced under the proposed project. An emergency generator could generate noise levels up to 73 A-weighted decibels (dBA) at a distance of 50 feet.¹¹² Sound from point sources, such as a generator, decreases at a rate of 6 decibels (dB) per doubling of distance. At the nearest sensitive receptor, approximately 825 feet away (Sunol Glen Elementary School), noise from the generator is estimated to be approximately 49 dBA. However, operation of the emergency generator would be occasional, limited to power outages and periodic testing (during daytime hours).

The Alameda County Noise Ordinance for non-construction activities is summarized in **Table 12**. During daytime hours (7 a.m. to 10 p.m.), there is no time limit for noise sources that generate noise levels less than 50 dBA at the receiving land use. Therefore, impacts related to periodic and occasional operation of the proposed emergency generator for testing and power outages during daytime hours would be *Less than Significant*.

¹¹² FHWA, 2006. *Construction Noise Handbook*, Section 9.0, Publication No. FHWA-HEP-06-015. Available online at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook00.cfm

TABLE 12
ALAMEDA COUNTY NOISE ORDINANCE FOR NON-CONSTRUCTION ACTIVITIES

Receiving Land Use: Residential or School Noise Level Limits			
Category	Cumulative Number of Minutes in any 1-Hour Time Period	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
1	30	50 dBA	45 dBA
2	15	55 dBA	50 dBA
3	5	60 dBA	55 dBA
4	1	65 dBA	60 dBA
5	0	70 dBA	65 dBA

Source: Alameda County Municipal Code, Section 6.60.040.
 Note:
 dBA = A-weighted decibels

Impact NO-2: The project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. (Less than Significant)

Operation of heavy construction equipment, such as pile drivers, vibratory rollers, and excavators, create waves that radiate along the surface and downward into the earth. These surface waves can be felt as ground vibration. The waves dissipate energy with distance from the source; the amount of attenuation depends on the source, the site geology, and other factors, but generally attenuates at a rate slightly greater than 50 percent for each doubling of distance.

Groundborne noise occurs when groundborne vibration causes the ground surface and structures to radiate audible acoustic energy. Groundborne noise can be an issue in cases where the primary airborne noise path is blocked, such as in the case of a subway tunnel passing near a residence or other noise-sensitive land use. However, construction activities associated with the SLTI project would not include tunneling or underground construction; the construction activities would generate airborne noise and surface vibration. Therefore, no impacts related to groundborne noise from construction activities are expected to occur (*No Impact*), and groundborne noise is not discussed further in this document.

Construction of project facilities could cause vibration that would disturb local residents and/or cause cosmetic damage to nearby buildings and structures, including buried facilities such as pipelines. Significance thresholds for vibration are based on guidelines issued by Caltrans, which

provide guidance for general construction projects, as well as transportation projects.¹¹³ To assess the potential for construction-related vibration to cause cosmetic damage to nearby structures, this analysis applies a 0.3-inch-per-second (in/sec) peak particle velocity (PPV) threshold for continuous vibration sources (e.g., compactors/rollers), and a 0.5-in/sec PPV threshold for transient vibration sources (e.g., blasting, ball drop).¹¹⁴ To assess the potential for construction-related vibration to cause disturbance or annoyance to residences, this analysis applies a 0.01-in/sec PPV threshold for continuous vibration sources and a 0.04-in/sec PPV threshold for transient vibration sources during nighttime hours (10 p.m. to 7 a.m.).¹¹⁵ For this analysis, a significant vibration impact would occur if vibration levels exceed the nighttime annoyance thresholds during nighttime hours at residential receptors. To assess the potential for construction-related vibration to cause damage to buried facilities such as pipelines, this analysis applies a 4.0-in/sec PPV damage threshold.¹¹⁶

Typical vibration levels associated with the operation of proposed construction equipment, at a distance of 25 feet, are listed in **Table 13**.

TABLE 13
VIBRATION LEVELS FOR PROPOSED CONSTRUCTION EQUIPMENT AT 25 FEET

Equipment	Peak Particle Velocity in/sec
Compactor/Roller	0.210
Large Bulldozer	0.089
Loaded Trucks	0.076
Notes: Source: FTA, 2006. in/sec = inch per second	

¹¹³ Caltrans, 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. Prepared by Jones & Stokes. June. Available online at: <http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf>

¹¹⁴ Because some of the structures near the SLTI project site were constructed more than 30 years ago, the more conservative “older residential building” category is used. Ibid.

¹¹⁵ The “barely perceptible” category is used for nighttime work. Ibid.

¹¹⁶ Based on studies by the American Association of State Highway and Transportation Officials, vibration measured at ground level is much greater than the vibration measured at the buried pipelines. As a result, surface vibration measurements overestimate the vibration levels present at buried utilities. At least one major utility has established a criterion of 4.0 inch/sec PPV over its fiber-optic cables.

As indicated in **Table 13**, project-related construction activities are estimated to generate vibration levels well below the 0.5-in/sec PPV and 0.3-in/sec PPV thresholds for transient and continuous vibrations, respectively, to buildings; and the 4.0-in/sec PPV vibration threshold for buried utilities, even if two pieces of equipment were both operating 25 feet from a structure. At the closest adjacent structure (Sunol Glen Elementary, approximately 825 feet away from the project site), construction-related vibration levels are estimated to be 0.005 in/sec PPV or less; construction-related vibration levels at other sensitive structures further away would be even less. Therefore, impacts from groundborne vibration generated by construction activities on adjacent or nearby residences and other buildings or structures would be *Less than Significant*.

Construction would occur during daytime hours; therefore, no impacts related to human nighttime annoyance are expected to occur (*No Impact*).

After completion of the project, operation of the Sunol Yard would not cause an increase in vibration as compared to the existing conditions (given that no expansion of Sunol Yard use is proposed post-construction), and therefore would have *No Impact*. Any vibration associated with operation of the replacement backup generator would be the same as or less than the existing generator, and therefore would have *No Impact*.

Impact NO-3: The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

The sound-pressure level has become the most common descriptor used to characterize the loudness of a sound. Because human hearing can detect a very wide range of intensity, a logarithmic scale (dB) is used to keep sound-pressure levels within a manageable range. Human perception is such that a change in sound level of 1 dB is the smallest change perceived by an attentive listener, a change of 3 dB is just noticeable to the casual listener, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as a halving or doubling of the sound level. For purposes of this analysis a permanent increase in ambient noise levels greater than 3 dB would be considered significant.

The project would not substantially add to or change the current activities occurring at the Sunol Yard; however, the project would result in an increase in vehicle trips to the site once construction is completed. Sunol Yard staff would increase approximately from 47 to 61, the Watershed Center would be staffed by four employees, and the SFPUC estimates for planning

and design purposes that the Watershed Center could have up to 100 visitors each day it is open. These changes could result in a total increase in vehicle round trips from approximately 47 to 90 (based on the addition of 18 new employees and a conservative estimate of 25 daily vehicle round trips for Watershed Center visitors). Existing ambient noise levels at the nearest sensitive receptor (Sunol Glen Elementary School) are dominated by traffic on SR 84 and I-680; an increase of 43 vehicle round trips on these roadways would not appreciably increase the noise levels generated by these sources for the reasons that follow. At Paloma Way, the entrance road to the Sunol Yard and Watershed Center, this approximate doubling in trips would result in an increase in source noise levels of approximately 3 dB (the noise level of two equal sources is 3 dB greater than the noise level of one source). A change in 3 dB is just noticeable to the casual listener, and would therefore not be a significant increase in noise levels. Using Federal Transit Administration (FTA) methodology (FTA, 2006), the proposed project daily round trips would generate a worst-case hourly noise level of 46 dBA equivalent continuous noise level (L_{eq}) at a distance of 50 feet from Paloma Way. Sound from line sources, such as roads or highways, decreases at a rate of 3 dB per doubling of distance. Because Paloma Way is nearly 800 feet from the Sunol Glen Elementary School, the resulting hourly noise level at the school is estimated to be 37 dBA L_{eq} . This noise level would be expected to be substantially lower than the existing ambient noise levels at the school and would not result in an increase to the existing ambient noise levels, therefore, the noise impacts from the increase in vehicle trips would be *Less than Significant*.

As discussed in Impact NO-1, an existing backup generator will be replaced under the proposed project. Because the replacement generator is expected to be the same noise level or quieter than the existing generator, this action would result in No Impact.

Impact NO-4: The project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

To address the CEQA significance criterion regarding “substantial temporary or periodic noise increases in ambient noise levels” for construction noise, a “substantial” noise increase is defined as an increase in noise to a level that causes interference with land use activities at nearby sensitive receptors. One indicator that construction noise could interfere with daytime (7 a.m. to 10 p.m.) activities is speech interference.

Noise peaks generated by construction equipment could result in speech interference in adjacent buildings if the noise level at the interior of the building exceeds 45 to 60 dBA. A typical building

can reduce noise levels by 25 dBA with the windows closed.¹¹⁷ This noise reduction could be maintained only on a temporary basis in some cases, because it assumes that windows must remain closed at all times. Assuming a 25-dBA reduction with the windows closed, an exterior noise level of 70 dBA L_{eq} at sensitive receptors would maintain an acceptable interior noise environment of 45 dBA. Construction would take place during warm weather (summer and fall) when houses without air conditioning typically have windows open for cooling. Construction-related noise could exceed the speech interference criterion inside homes if windows were open. For this analysis, it is assumed that a significant noise impact would occur if exterior noise levels remained above the 70-dBA L_{eq} speech interference threshold for longer than 2 weeks.

The types of construction equipment that would be used for the project are listed in **Appendix B**. These types of equipment (i.e., backhoes, trucks and cranes) typically generate maximum noise levels of approximately 74 to 90 dBA maximum sound level at 50 feet.¹¹⁸ When such maximum levels are adjusted for typical usage factors (the percentage of time when equipment is actually operating over the day), the adjusted noise levels would be approximately 68 to 83 dBA L_{eq} at a distance of 50 feet from the source. At the Sunol Glen Elementary School (approximately 825 feet away), the noise levels are estimated to be reduced to 44 to 59 dBA, worst-case. These noise levels are well below the 70-dBA speech interference threshold; therefore, the impact from construction noise levels would be *Less than Significant*.

There would be a temporary increase in truck noise along haul/delivery routes to the project sites. Although the number of construction-related truck trips per day would vary depending on the construction activity, the maximum number of daily round trips is estimated to be approximately 73, or approximately six round trips per hour. Using FTA methodology (FTA, 2006), this worst-case would generate hourly noise levels of 55 dBA L_{eq} at a distance of 50 feet from Paloma Way. At Sunol Glen Elementary School, approximately 825 feet away, the hourly noise levels would be reduced to approximately 43 dBA L_{eq} . This noise level is well below the 70-dBA L_{eq} speech interference criterion, and is expected to be below the existing ambient noise levels at this school; therefore, noise increases from construction-related traffic would be *Less than Significant*.

¹¹⁷ U.S. EPA, 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Publication No. EPA 550/9-74-004. March.

¹¹⁸ FHWA, 2006. *Construction Noise Handbook*, Section 9.0, Publication No. FHWA-HEP-06-015. Available online at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook00.cfm

Impact C-NO: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would result in less-than-cumulatively considerable noise impacts. (Less than Significant)

The geographic scope of potential cumulative noise impacts encompasses the project site, its immediate vicinity, and areas next to proposed haul routes. Construction of the project could result in temporary noise and vibration increases. Cumulative projects listed in bold in **Table 9** could overlap, to some extent, with construction of the proposed project. Of the cumulative projects listed in **Table 9**, only six might overlap in regards to schedule. These projects include:

- Alameda Creek Recapture Project
- Calaveras Dam Replacement
- State Route 84 Expressway Widening Project
- PG&E Gas Pipeline Crossing
- Alameda County Fire Department Sunol Project

Of these projects, only the Alameda County Fire Department Sunol Project would also overlap geographically with some aspects of the proposed project. This project would be located approximately 500 feet east of the entrance to the proposed project site on the north side of Paloma Way.

There would be no permanent operational noise impacts associated with this project (Impacts NO-1 and NO-3) as compared to baseline conditions and, therefore, the project would not contribute to any cumulative impacts associated with long-term noise increases. As discussed in Impact NO-2 above, potential vibration impacts on onsite structures would be site-specific, as they would only occur within 25 feet of the structures; therefore, no significant cumulative noise or vibration impact would result.

Temporary increases in project-related construction noise (Impact NO-4) would not exceed the 70-dBA speech interference threshold at the closest sensitive receptors. However, if these increases were to occur at the same time as any construction-related noise increases from cumulative projects located nearby, there would be a potential for cumulative, temporary noise levels to exceed the 70-dBA speech interference threshold at the closest sensitive receptor (Sunol Glen Elementary). Although the timing of Alameda County Fire Department Sunol Project's construction could overlap with that of the proposed project, the overlap of construction noise impacts would not create a significant cumulative noise impact to the nearest sensitive receptor

due to the proposed Fire Station's location across the street from, and approximately 500 feet to the east of the proposed project.

During project construction, there would be a potential for cumulatively significant noise increases on local roadways if construction-related truck traffic were generated by cumulative projects and the proposed project on the same delivery/haul/access routes at the same time. However, because the number of truck delivery/haul trips associated with construction at the project site would be minimal (maximum 6 trucks per hour), the project's contribution to any significant cumulative noise increases on local or regional roadways due to overlapping construction traffic would be less than cumulatively considerable (*Less Than Significant*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.7 AIR QUALITY – Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overview

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin (SFBAAB), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties, and portions of Sonoma and Solano counties. The BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the SFBAAB, and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards. The most recent air quality plan, the *2010 Clean Air Plan*, was adopted by the BAAQMD on September 15, 2010. The *2010 Clean Air Plan* updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases (GHGs) in a single, integrated plan; and establish emission control measures to be adopted or implemented. The *2010 Clean Air Plan* contains the following primary goals:

- Attain air quality standards;
- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce GHG emissions and protect the climate.

The *2010 Clean Air Plan* represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of air quality plans.

Criteria Air Pollutants

In accordance with the CCAA and the CAA, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide, PM, nitrogen dioxide, sulfur dioxide, and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment¹¹⁹ or unclassified for most criteria pollutants, with the exception of ozone, particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), and particulate matter less than or equal to 10 microns in diameter (PM₁₀); these pollutants are designated as non-attainment for either state or federal standards. By its very nature, regional air pollution is largely a cumulative impact, because no single project is large enough to result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.¹²⁰

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. **Table 14** identifies air quality significance thresholds, followed by a discussion of each threshold. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to

¹¹⁹ "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there are not enough data to determine the region's attainment status for a specified criteria air pollutant.

¹²⁰ BAAQMD, 2011. *California Environmental Quality Act Air Quality Guidelines*. May. Page 2-1.

an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants in the SFBAAB.

**TABLE 14
CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS**

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other BMPs	Not Applicable	
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter less than or equal to 10 microns in diameter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter ROG = reactive organic gases			

Ozone Precursors. As stated previously, the SFBAAB is currently designated as non-attainment for ozone and PM. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on the CCAA and CAA emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds per day).¹²¹ These

¹²¹ BAAQMD, 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*. October. Page 17.

levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Particulate Matter (PM₁₀ and PM_{2.5}).¹²² The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards. For PM₁₀ and PM_{2.5}, the emissions limit under NSR is 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.¹²³ Although the regulations specified above apply to new or modified stationary sources, land use development projects result in ROG, NO_x, PM₁₀, and PM_{2.5} emissions as a result of increases in vehicle trips, architectural coating, and construction activities. Therefore, the thresholds specified above can be applied to the construction and operational phases of land use projects, and those projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or PM. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction-phase emissions.

Fugitive Dust. Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of BMPs at construction sites significantly control fugitive dust.¹²⁴ Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.¹²⁵ The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.¹²⁶ The City's Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The BMPs employed in compliance

¹²² PM₁₀ is often termed "coarse" particulate matter, and is made of particulates that are 10 microns in diameter or smaller. PM_{2.5}, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

¹²³ BAAQMD, 2009. Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance. October. Page 16.

¹²⁴ Western Regional Air Partnership, 2006. *WRAP Fugitive Dust Handbook*. September 7. Available online at: http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf, accessed February 16, 2012.

¹²⁵ BAAQMD, 2009. Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance. October. Page 27.

¹²⁶ BAAQMD, 2011. *California Environmental Quality Act Air Quality Guidelines*. May.

with the City's Construction Dust Control Ordinance provide an effective strategy for controlling construction-related fugitive dust.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long-duration) and acute (i.e., severe but of short-term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and mortality. There are hundreds of different types of TACs, with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another

Unlike criteria air pollutants, TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach to determine which sources and pollutants to control, as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.¹²⁷

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day-care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress; or, as in the case of residential receptors, their exposure time is greater than for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

¹²⁷ In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

Exposures to PM_{2.5} are strongly associated with mortality, respiratory diseases, and lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.¹²⁸ In addition to PM_{2.5}, diesel particulate matter (DPM) is of concern. The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.¹²⁹ The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

The BAAQMD 2011 *CEQA Air Quality Guidelines* contain thresholds of significance for individual project local health risks and hazards. **Table 15** identifies the BAAQMD individual project thresholds for cancer risk, non-cancer hazard index, and PM_{2.5} concentration. **Table 15** also includes the BAAQMD cumulative health risk and hazard thresholds, which are used to evaluate the risks and hazards from the project in combination with all local sources.

**TABLE 15
LOCAL HEALTH RISK AND HAZARD SIGNIFICANCE THRESHOLDS**

Threshold	Cancer Risk (in a Million)	Non-Cancer Hazard Index	PM _{2.5} Annual Average Concentration (µg/m ³)
Individual Project Threshold	10.0	1.0	0.3
Cumulative Threshold	100.0	10.0	0.8
Notes: µg/m ³ =microgram per cubic meter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter			

Impact AQ-1: The project would not conflict with or obstruct implementation of applicable air quality plans. (Less than Significant)

The most recently adopted air quality plan for the SFBAAB is the *2010 Clean Air Plan*. The *2010 Clean Air Plan* is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as practicable, and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. The plan

¹²⁸ SFDPH, 2008. *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review*. May.

¹²⁹ CARB, 1998. *CARB Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines."* October.

builds on the main objective of the *2005 Ozone Strategy*, which was to comply with state air quality planning requirements as mandated by the CCAA. The *Bay Area Ozone Attainment Plan* was adopted by BAAQMD in 2001 in response to the U.S. Environmental Protection Agency's finding of failure of the Bay Area to attain the national ambient air quality standard for ozone. The *Bay Area Ozone Attainment Plan* includes a control strategy for ozone and its precursors, to ensure reduction in emissions from stationary sources, mobile sources, and the transportation sector.

The thresholds of significance in the BAAQMD 2011 *CEQA Air Quality Guidelines* were established to be consistent with the air quality attainment plans. As discussed under Impact AQ-2, below, emissions from project construction and project operations would not exceed the thresholds of significance, and would therefore be consistent with the applicable plans. As a result, the project would not conflict with or obstruct the implementation of the applicable air quality plans, and the impact would be *Less than Significant*.

Impact AQ-2: Project construction activities would generate fugitive dust and criteria air pollutants, and could violate applicable air quality standards. (Less than Significant)

Construction activities (short-term) typically result in emissions of ozone precursors and PM in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. The proposed project includes site preparation, demolition, excavation, building construction, and paving. During the project's approximately 24-month total construction period (including construction activities at the Sunol Yard and the Watershed Center), construction activities would have the potential to result in emissions of ozone precursors and PM.

Emissions from off-road construction equipment use, generator use, hauling truck trips, and worker vehicle trips during the construction period were calculated using California Emissions Estimator Model (CalEEMod) 2013, In-Use Off-Road Diesel Vehicle Regulation (OFFROAD) 2011, OFFROAD2007, and Emission Factors Model (EMFAC) 2011. Details of the assumptions and calculation methodologies are included in the *Sunol Long Term Improvements Project Air Quality*

Technical Report, and are summarized in **Table 16**.¹³⁰ As shown in **Table 16**, project construction emissions would not exceed the applicable BAAQMD thresholds of significance. As a result, project construction emissions would result in a *Less-than-Significant Impact*.

**TABLE 16
PROJECT CONSTRUCTION EMISSIONS**

Source	Emissions (tons)					
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)	PM ₁₀ (fugitive dust)	PM _{2.5} (fugitive dust)
Off-Road Equipment	0.13	1.68	0.07	0.07	0.24	0.08
Portable Generators	0.02	0.27	0.01	0.01	–	–
On-Road Haul Truck Trips	0.01	0.33	0.00	0.00	0.00	0.00
On-Road Haul Truck Idling	0.00	0.00	0.00	0.00	–	–
On-Road Worker Trips	0.07	0.05	0.01	0.00	–	–
Total Emissions (tons)	0.23	2.32	0.09	0.08	0.24	0.08
Average Daily Emissions (lbs/day)	0.96	9.57	0.38	0.34	1.01	0.33
BAAQMD Thresholds of Significance (pounds/day)	54	54	82	54	BMP	BMP
Exceeds Threshold?	No	No	No	No	No	No
Source of thresholds: BAAQMD, 2011. Notes: BAAQMD = Bay Area Air Quality Management District BMP = best management practices NO _x = oxides of nitrogen PM ₁₀ = particulate matter less than or equal to 10 microns in diameter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter ROG = reactive organic gases Average daily emissions are based on a 22-month construction duration, assuming 22 working days per month.						

Project-related demolition, grading, and other construction activities may generate fugitive dust that could contribute PM emissions into the local atmosphere. The BAAQMD does not have

¹³⁰ URS, 2014. *Sunol Long Term Improvements Project Air Quality Technical Report*. Prepared for the San Francisco Planning Department. January.

quantitative mass emission thresholds for fugitive dust emissions, but recommends that BMPs, such as the “Basic Construction Mitigation Measures” listed in Table 8-1 in the BAAQMD 2011 *CEQA Air Quality Guidelines*, be implemented to reduce potential fugitive dust impacts during construction activities.¹³¹ The SFPUC Standard Construction Measures (see **Section A.5.8, Standard Construction Measures**) include the implementation of BMPs that are consistent with the BAAQMD 2011 *CEQA Air Quality Guidelines*. Therefore, fugitive dust impacts during construction would be *Less than Significant*.

Operation of the project would result in emissions from on-road worker and visitor vehicle trips, emergency generators, fugitive emissions from fuel storage and dispensing, and area sources, such as landscaping, architectural coatings, and combustion of natural gas on site. Emissions from these sources were calculated using CalEEMod2013, EMFAC2011, and manual spreadsheet calculations. Details of the assumptions and calculation methodologies are included in the above-referenced *Sunol Long Term Improvements Project Air Quality Technical Report*, and are summarized in **Table 17**.¹³² As shown in **Table 17**, project operational emissions would not exceed the applicable BAAQMD thresholds of significance for annual or daily operational emissions. As a result, project operational emissions impacts would be *Less than Significant*.

¹³¹ BAAQMD, 2011. *California Environmental Quality Act Air Quality Guidelines*. May.

¹³² URS, 2014. *Sunol Long Term Improvements Project Air Quality Technical Report*. Prepared for the San Francisco Planning Department. January.

**TABLE 17
PROJECT OPERATIONAL EMISSIONS**

Source	Emissions (tons/year)			
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)
Emergency Generator	0.00	0.03	0.00	0.00
Refueling Station Fugitive Emissions	0.04	–	–	–
Landscaping	0.34	0.00	0.00	0.00
Natural Gas Combustion	0.01	0.09	0.01	0.01
Mobile Sources	0.30	0.96	0.01	0.01
Total Annual Emissions (tons/year)	0.69	1.08	0.02	0.02
BAAQMD Thresholds of Significance (tons/year)	10	10	15	10
Exceeds Threshold?	No	No	No	No
Average Daily Emissions (pounds/day)	3.80	5.91	0.11	0.11
BAAQMD Thresholds of Significance (lbs/day)	54	54	82	54
Exceeds Threshold?	No	No	No	No
Source of thresholds: BAAQMD 2011.				
Notes:				
BAAQMD = Bay Area Air Quality Management District				
NO _x = oxides of nitrogen				
PM ₁₀ = particulate matter less than or equal to 10 microns in diameter				
PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter				
ROG = reactive organic gases				

Impact AQ-3: The project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). (Less than Significant)

The BAAQMD 2011 *CEQA Air Quality Guidelines* state that if the project construction emissions do not exceed any of the applicable criteria pollutant or precursor thresholds, the project would result in a less-than-significant impact on both an individual and cumulative basis. Similarly, if the project operational emissions do not exceed any of the applicable criteria pollutant or precursor thresholds, the project would result in a less-than-significant impact on both an individual and cumulative basis. As shown above in Impact AQ-2), project construction emissions and project operational emissions would not exceed BAAQMD significance thresholds. Therefore, the project would result in a *Less-than-Significant* cumulative impact.

Impact AQ-4: The project could expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

The BAAQMD recommends that projects be evaluated for their potential health risk impacts on sensitive receptors within 1,000 feet of an emission source. The project site is in a primarily rural area, with residences and the Sunol Glen Elementary School within 1,000 feet of the site.

Project construction would generate exhaust emissions that include TACs, such as DPM, and PM_{2.5}. DPM and PM_{2.5} pose potential health risks to nearby sensitive receptors. A construction health risk assessment was performed using the ISCST3 model, with methodologies consistent with the BAAQMD Guidelines. Details of the assumptions, dispersion modeling, and health risk calculation methodologies are included in the *Sunol Long Term Improvements Project Air Quality Technical Report*, and are summarized in **Table 18**.¹³³ As shown in **Table 18**, health risks and PM_{2.5} concentration increases associated with project construction would not exceed the BAAQMD significance thresholds, impacts would be *Less than Significant*.

**TABLE 18
PROJECT CONSTRUCTION HEALTH RISK ASSESSMENT RESULTS**

Receptor Type	Cancer Risk (in a Million)	Non-Cancer Hazard Index	PM _{2.5} Annual Average Concentration (µg/m ³)
Residential	3.67	0.0049	0.012
School	0.25	0.0014	0.007
BAAQMD Thresholds of Significance	10	1.0	0.3
Exceeds Threshold?	No	No	No
Notes: Non-Cancer Hazard Index represents the chronic Hazard Index. BAAQMD = Bay Area Air Quality Management District µg/m ³ = microgram per cubic meter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter			

Project operations would generate onsite TAC emissions associated with emergency generator operation and fugitive losses from gasoline storage and dispensing operations. The emergency generator would also generate onsite PM_{2.5} emissions. A health risk assessment of project

¹³³ Ibid.

operations was performed using the ISCST3 model, with methodologies consistent with the BAAQMD Guidelines. Details of the assumptions, dispersion modeling, and health risk calculation methodologies are included in the *Sunol Long Term Improvements Project Air Quality Technical Report*, and are summarized in **Table 19**.¹³⁴ As shown in **Table 19**, health risks and PM_{2.5} concentration increases associated with project operations would not exceed the BAAQMD significance thresholds, impacts would be *Less than Significant*.

**TABLE 19
PROJECT OPERATION HEALTH RISK ASSESSMENT RESULTS**

Receptor Type	Cancer Risk (in a Million)	Non-Cancer Hazard Index	PM _{2.5} Annual Average Concentration (µg/m ³)
Residential	0.37	0.0003	0.0003
School	0.01	0.0001	0.0002
BAAQMD Thresholds of Significance	10	1.0	0.3
Exceeds Threshold?	No	No	No
Notes: Non-Cancer Hazard Index represents the chronic Hazard Index. BAAQMD = Bay Area Air Quality Management District µg/m ³ = microgram per cubic meter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter			

A cumulative health risk analysis was also performed to examine the cumulative health risk impacts from project construction, project operation, and other local sources. The BAAQMD Stationary Source Screening Tool was used to identify health risks from permitted stationary sources within 1,000 feet of the project site. The BAAQMD Screening Tables for PM_{2.5} Concentrations and Cancer Risks Generated from Surface Streets was also used to identify health risks from high-volume roadways within 1,000 feet of the project site. Details of the assumptions and methodologies used in this cumulative analysis are included in the above-referenced *Air Quality Technical Report*, and are summarized in **Table 20**. These tools identified one stationary source (FID 130, Plant No. 13551) and one high-volume roadway (SR 84) as local health risk sources. **Table 20** shows the screening health risks from these local sources, and also shows that

¹³⁴ Ibid.

cumulative health risks from the project and other sources in the vicinity would be below the applicable BAAQMD thresholds of significance. As a result, cumulative health risk impacts would be *Less than Significant*.

**TABLE 20
CUMULATIVE HEALTH RISK ANALYSIS RESULTS**

Receptor Type	Cancer Risk (in a Million)	Non-Cancer Hazard Index	PM _{2.5} Annual Average Concentration (µg/m ³)
Project Construction	3.67	0.0049	0.012
Project Operation	0.37	0.0003	0.0003
AT&T (FID 130, Plant No. 13551)	21.11	0.007	0.037
SR 84	2.70	--	0.111
Total Cumulative	27.85	0.0122	0.16
BAAQMD Thresholds of Significance	100	10.0	0.8
Exceeds Threshold?	No	No	No
Notes: Non-Cancer Hazard Index represents the chronic Hazard Index. Project construction and operation risks are based on the maximum risk receptor. BAAQMD = Bay Area Air Quality Management District µg/m ³ = microgram per cubic meter PM _{2.5} = particulate matter less than or equal to 2.5 microns in diameter SR = State Route			

Impact AQ-5: The project could create objectionable odors affecting a substantial number of people. (Less than Significant)

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The project would not include these types of facilities or operations, and therefore would not result in a new permanent source of substantial odors.

During construction, diesel exhaust from construction equipment would generate some odors. Also, when funding allows, Temple Road would be repaved, which would create odors associated with the new asphalt. This would not require the use of an asphalt batch plant, but would require the laying of new asphalt brought in by trucks. However, construction-related odors would be temporary and would not persist on project completion. In addition, the nearest

receptor is approximately 825 feet away, and odors would likely dissipate before reaching the receptor. Therefore, the project would not create a significant source of new odors, and odor impacts would be *Less than Significant*.

Impact C-AQ: Project construction or operation would not result in a cumulatively considerable net increase of any criteria pollutant or precursors for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard. (Less than Significant)

Regional air pollution is by its very nature largely a cumulative impact. Emissions from past, present and future projects contribute to the region's adverse air quality on a cumulative basis. No single project by itself would be sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.¹³⁵ The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Project emissions are compared below to BAAQMD thresholds, which indicate whether or not emissions would be cumulatively considerable.

To address cumulative impacts on regional air quality, the thresholds of significance for construction related criteria pollutants and precursor emissions have been developed, which represent the levels at which a project's individual emissions of criteria pollutants and precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality violations. If average daily emissions exceed these thresholds, the project would result in a cumulatively significant impact. As indicated in **Table 15** above, construction-related criteria pollutant and precursor emissions associated with the project would not exceed the applicable significance thresholds, and therefore the project's contribution to any significant cumulative impacts on regional air quality would not be cumulatively considerable (*Less Than Significant*).

¹³⁵ BAAQMD, 2011. *California Environmental Quality Act Air Quality Guidelines*. May. Page 2-1.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.8 GREENHOUSE GAS EMISSIONS –					
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section describes GHG emissions and global climate change; the existing regulatory framework governing GHG emissions; and the potential GHG impacts from implementing the project. The project is evaluated for compliance with San Francisco’s *Strategies to Address Greenhouse Gas Emissions*, recognized by the BAAQMD as meeting the criteria of a qualified GHG reduction strategy.

Setting

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the earth, similar to the way a greenhouse traps heat. The accumulation of GHGs has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community; however, in general it can be described as the changing of the earth’s climate caused by natural fluctuations and anthropogenic activities (i.e., those relating to or resulting from the influence of humans) that alter the composition of the global atmosphere.

Sources of Greenhouse Gas Emissions

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. Although the presence of the primary GHGs in the atmosphere is naturally occurring, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are largely emitted from human activities. The actions of humans accelerate the rate at which these compounds occur in the earth’s atmosphere. Emissions of CO₂ are largely by-products of fossil-fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Black carbon has recently emerged as a major contributor to global climate change, possibly second only to CO₂. Black carbon is produced naturally and by

human activities as a result of the incomplete combustion of fossil fuels, biofuels, and biomass.¹³⁶ N₂O is a byproduct of various industrial processes and has a number of uses, including as an anesthetic and an aerosol propellant. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which are generated in certain industrial processes. GHGs are typically reported in “carbon dioxide-equivalent” measures (CO₂e).¹³⁷

There is international scientific consensus that human-caused increases in GHGs have contributed to and will continue to contribute to climate change. Many impacts resulting from climate change, including increased fires, floods, severe storms, and heat waves, are occurring already and will only become more frequent and more costly.¹³⁸ Secondary effects of climate change are likely to include a global rise in sea level; impacts on agriculture, the state’s electricity system, and native freshwater fish ecosystems; changes in disease vectors; and changes in habitat and biodiversity.^{139,140}

CARB estimated that in 2011 California produced about 448 million gross metric tons of CO₂e (MMTCO₂e; about 494 million U.S. tons of CO₂e).¹⁴¹ CARB found that transportation is the source of 38 percent of the state’s GHG emissions, followed by industrial sources at 21 percent and electricity generation at 19 percent (both in-state generated and imported electricity). Commercial and residential fuel use (primarily for heating) accounted for 10 percent of GHG emissions.¹⁴²

¹³⁶ Center for Climate and Energy Solutions, 2010. What is Black Carbon? April. Available online at: <http://www.c2es.org/docUploads/what-is-black-carbon.pdf>. Accessed May 20, 2013.

¹³⁷ Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in “carbon dioxide-equivalents,” which present a weighted average based on each gas’ heat absorption (or “global warming”) potential.

¹³⁸ California Natural Resources Agency, 2009. *2009 California Climate Adaptation Strategy Discussion Draft*, 2009, Sacramento. pp. 48–55.

¹³⁹ California Climate Change Portal, 2013. Available online at: <http://www.climatechange.ca.gov>. Accessed December 12, 2013.

¹⁴⁰ California Energy Commission, 2013. *Our Changing Climate 2012*. Available online at: <http://www.energy.ca.gov/publications/CEC-500-2012-007/CEC500-2012-007.pdf>. Accessed December 12, 2013.

¹⁴¹ The abbreviation for “million metric tons” is MMT; million metric tons of CO₂ equivalents is written as MMTCO₂E.

¹⁴² CARB, 2014. “California Greenhouse Gas Inventory for 2000-2011—by Category as Defined in the 2008 Scoping Plan,” Available online at: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-11_2013-08-01.pdf. Accessed November 6, 2013.

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) and the industrial/commercial sector were the two largest sources of GHG emissions. Together, they accounted for about 36 percent of the Bay Area's 95.8 MMTCO_{2e} emissions in 2007. Industrial and commercial electricity and fossil-fuel consumption (including office and retail) were the second-largest contributors of GHG emissions, at about 34 percent of total emissions. Electricity generation accounts for approximately 16 percent of the Bay Area's GHG emissions. This is followed by residential fuel use (e.g., home water heaters and furnaces) at 7 percent, off-road equipment at 3 percent, and agriculture at 12 percent. Among industrial sources, oil refining currently accounts for more than 40 percent of GHG emissions, or approximately 15 percent of the total Bay Area GHG emissions.¹⁴³

Regulatory Setting

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide GHGs emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels (approximately 457 MMTCO_{2e}); by 2020, reduce emissions to 1990 levels (estimated at 427 MMTCO_{2e}); and by 2050 reduce statewide GHG emissions to 80 percent below 1990 levels (approximately 85 MMTCO_{2e}).

In response, the California legislature passed Assembly Bill (AB) 32 in 2006 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement emission limits, regulations, and other measures, so that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction from forecast emission levels).¹⁴⁴

Pursuant to AB 32, CARB adopted a scoping plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. The scoping plan is the state's overarching plan for addressing

¹⁴³ BAAQMD, 2010. *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007*. February. Available online at: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx. Accessed November 6, 2013.

¹⁴⁴ OPR, 2008. *Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. June 19. Available online at: <http://opr.ca.gov/docs/june08-ceqa.pdf>. Accessed May 22, 2013.

climate change. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, or about 15 percent from 2008 levels.¹⁴⁵ The scoping plan estimates a reduction of 174 MMTCO₂e from the transportation, energy, agriculture, forestry, and high global warming potential sectors (see **Table 21**, below). In the scoping plan, CARB identified an implementation timeline for the GHG reduction strategies.¹⁴⁶ CARB is currently updating the 2008 scoping plan, and the 2013 update to the scoping plan will include CARB's climate change priorities for the next 5 years. Additionally, it will lay the groundwork to reach post-2020 goals set forth in Executive Order S-3-05.

The AB 32 scoping plan recommendations are intended to curb projected business-as-usual growth in GHG emissions, and to reduce those emissions to 1990 levels. Therefore, meeting AB 32 GHG reduction goals would result in an overall annual net decrease in GHGs, compared to current levels, even accounting for projected increases in emissions resulting from anticipated growth.

The scoping plan also relies on the requirements of Senate Bill (SB) 375 to implement the carbon emission reductions anticipated from land use decisions. SB 375 was enacted to align local land use and transportation planning to further achieve California's GHG reduction goals. SB 375 requires regional transportation plans, developed by metropolitan planning organizations, to incorporate a "sustainable communities strategy" in their regional transportation plans that would achieve GHG emission reduction targets set by CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. SB 375 would be implemented over the next several years. Plan Bay Area, the Bay Area Metropolitan Transportation Commission's 2013 Regional Transportation Plan, is the first plan subject to SB 375.

¹⁴⁵ CARB, 2010. *California's Climate Plan: Fact Sheet*. Available online at: http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf. Accessed May 22, 2013.

¹⁴⁶ CARB, 2013. *Assembly Bill 32 Overview*. Available online at: <http://www.arb.ca.gov/cc/ab32/ab32.htm/>. Accessed May 22, 2013.

**TABLE 21
GHG REDUCTIONS FROM THE AB 32 SCOPING PLAN SECTORS**

GHG Reduction Measures By Sector	GHG Reductions (MMTCO_{2e})
Transportation sector	62.3
Electricity and natural gas	49.7
Industry	1.4
Landfill methane control measure (discrete early action)	1
Forestry	5
High global warming potential GHGs	20.2
Additional reductions needed to achieve the GHG cap	34.4
Total	174
Other Recommended Measures	
Government operations	1-2
Methane capture at large dairies	1
Additional GHG reduction measures:	
Water	4.8
Green buildings	26
High recycling/zero waste <ul style="list-style-type: none"> • Commercial recycling • Composting • Anaerobic digestion • Extended producer responsibility • Environmentally preferable purchasing 	9
Total	41.8-42.8
<p>Sources:</p> <p>a CARB 2008. Climate Change Scoping Plan, December 2008. Available online at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm. Accessed May 22, 2013.</p> <p>b CARB 2013. California's Climate Plan: Fact Sheet. Available online at: http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf. Accessed May 22, 2013.</p> <p>Notes:</p> <p>AB = Assembly Bill GHG = greenhouse gas MMTCO_{2e} = million gross metric tons of carbon dioxide equivalents</p>	

AB 32 further anticipates that local government actions will reduce GHG emissions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments themselves, and notes that successful implementation of the scoping plan relies on local governments' land use planning and urban growth decisions. This is because local governments have the primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.¹⁴⁷ The BAAQMD has analyzed the effectiveness of the region in meeting AB 32 goals from the actions outlined in the scoping plan. It determined that, to meet AB 32 GHG reduction goals, the Bay Area would need to achieve an additional 2.3 percent reduction in GHG emissions from the land use–driven sector.¹⁴⁸

SB 97 required the Governor's Office of Planning and Research (OPR) to amend the state CEQA guidelines to address the feasible mitigation of GHG emissions or the effects of GHGs. In response, OPR amended the CEQA guidelines to provide guidance for analyzing GHG emissions. Among other changes to the CEQA Guidelines, the amendments added a new section to the CEQA Checklist (CEQA Guidelines Appendix G) to address questions regarding the project's potential to emit GHGs.

The BAAQMD is the primary agency responsible for regulating air quality in the nine-county SFBAAB. The BAAQMD recommends that local agencies adopt a GHG reduction strategy consistent with AB 32 goals. The BAAQMD also recommends that subsequent projects be reviewed to determine the significance of their GHG emissions, based on the degree to which that project complies with a GHG reduction strategy.¹⁴⁹ As described below, this recommendation is consistent with the approach to analyzing GHG emissions outlined in the CEQA guidelines.

¹⁴⁷ CARB, 2008. *Climate Change Scoping Plan*. December. Available online at: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed November 6, 2013.

¹⁴⁸ BAAQMD, 2009. California Environmental Quality Act Guidelines Update, Proposed Thresholds of Significance. December. Available online at: <http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Proposed%20Thresholds%20of%20Significance%20Dec%207%2009.ashx>. Accessed November 6, 2013.

¹⁴⁹ BAAQMD, 2012. *California Environmental Quality Act Air Quality Guidelines*, updated May 2012. Available online at: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en. Accessed November 6, 2013.

At a local level, CCSF has developed a number of plans and programs to reduce its contribution to global climate change. San Francisco's GHG reduction goals, as outlined in the 2008 Greenhouse Gas Reduction Ordinance, are as follows:

- By 2008, determine CCSF's GHG emissions for 1990, which is the baseline level against which reductions are measured;
- By 2017, reduce GHG emissions by 25 percent below 1990 levels;
- By 2025, reduce GHG emissions by 40 percent below 1990 levels; and
- By 2050, reduce GHG emissions by 80 percent below 1990 levels.

CCSF's Greenhouse Gas Reduction Strategy documents its actions to pursue cleaner energy, to conserve energy, and to adopt alternative transportation and solid waste policies. As identified in the strategy, CCSF has implemented a number of mandatory requirements and incentives that have measurably reduced GHG emissions. These include the following: increasing the energy efficiency of new and existing buildings; installing solar panels on building roofs; implementing a green building strategy; adopting a zero waste strategy; enacting a construction and demolition debris recovery ordinance; establishing a solar energy generation subsidy; incorporating alternative fuel vehicles in the City's transportation fleet (including buses); and enacting a mandatory recycling and composting ordinance. The strategy also identifies 42 specific regulations for new development that would reduce CCSF's GHG emissions.

The Greenhouse Gas Reduction Strategy concludes that CCSF's policies and programs have reduced GHG emissions below 1990 levels, exceeding statewide AB 32 GHG reduction goals. As reported, San Francisco's communitywide 1990 GHG emissions were approximately 6.15 MMTCO_{2e}. A recent third-party verification of San Francisco's 2010 communitywide and municipal emissions inventory has confirmed that San Francisco has reduced its GHG emissions to 5.26 MMTCO_{2e}, representing a 14.5 percent reduction in GHG emissions below 1990 levels.^{150,151}

¹⁵⁰ ICF International, 2012. "Technical Review of the 2010 Community-wide GHG Inventory for the City and County of San Francisco." Memorandum from ICF International to San Francisco Department of the Environment. April 10. Available online at: http://www.sfenvironment.org/sites/default/files/fliers/files/icf_memo_to_sfe_-_2010_community-wide_ghg_inventory_-_4.10.2012.pdf. Accessed November 6, 2013.

¹⁵¹ ICF International, 2012. "Technical Review of San Francisco's 2010 Municipal GHG Inventory." Memorandum from ICF International to San Francisco Department of the Environment. May 8.

Approach to Analysis

In compliance with SB 97, OPR amended the CEQA Guidelines to address the feasible mitigation of GHG emissions or the effects of GHGs. Among other changes to the CEQA Guidelines, the amendments added a new section to the CEQA Checklist (CEQA Guidelines Appendix G) to address questions regarding the project's potential to emit GHGs. The potential for a project to result in significant GHG emissions that contribute to the cumulative effects on global climate change is based on the CEQA Guidelines and CEQA Checklist, as amended by SB 97; and is determined by an assessment of the project's compliance with local and state plans, policies, and regulations adopted for the purpose of reducing the cumulative effects of climate change. GHG emissions are analyzed in the context of their contribution to the cumulative effects of climate change, because a single land use project could not generate enough GHG emissions to noticeably change the global average temperature. CEQA Guidelines Sections 15064.4 and 15183.5 address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs, and describes the required contents of such a plan. As discussed above, San Francisco has prepared its own Greenhouse Gas Reduction Strategy, demonstrating that San Francisco's policies and programs have collectively reduced communitywide GHG emissions to below 1990 levels, meeting GHG reduction goals outlined in AB 32. The City is also well on its way to meeting the long-term GHG reduction goal of reducing emissions 80 percent below 1990 levels by 2050. Chapter 1 of the City's *Strategies to Address Greenhouse Gas Emission* (the Greenhouse Gas Reduction Strategy) describes how the strategy meets the requirements of CEQA Guidelines Section 15183.5. The BAAQMD has reviewed San Francisco's Greenhouse Gas Reduction Strategy, concluding that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move

Available online at: http://www.sfenvironment.org/sites/default/files/fliers/files/memo_to_sfe_-_2010_municipal_ghg_inventory_-_icf_international_-_8_may_2012_-_final.pdf. Accessed November 6, 2013.

toward reaching the state's AB 32 goals, and also serve as a model from which other communities can learn."¹⁵²

With respect to CEQA Guidelines Section 15064.4(b), the factors to be considered in making a significance determination include: 1) the extent to which GHG emissions would increase or decrease as a result of the proposed project; 2) whether or not a proposed project exceeds a threshold that the lead agency determines applies to the project; and 3) demonstrating compliance with plans and regulations adopted for the purpose of reducing or mitigating GHG emissions.

The GHG analysis provided below includes a qualitative assessment of GHG emissions that would result from a proposed project, including emissions from an increase in vehicle trips, natural gas combustion, and/or electricity use, among other factors. Consistent with the CEQA Guidelines and BAAQMD recommendations for analyzing GHG emissions, the significance standard applied to GHG emissions generated during project construction and operational phases is based on whether the project complies with a plan for the reduction of GHG emissions. The City's Greenhouse Gas Reduction Strategy is the City's overarching plan documenting the policies, programs and regulations that the City implements towards reducing municipal and communitywide GHG emissions. In particular, San Francisco implements 42 specific regulations that reduce GHG emissions, which are applied to projects in the City. Projects that comply with the Greenhouse Gas Reduction Strategy would not result in a substantial increase in GHGs, because the City has shown that overall communitywide GHGs have decreased and that the City has met AB 32 GHG reduction targets. Individual project compliance with the City's Greenhouse Gas Reduction Strategy is demonstrated by completion of the Compliance Checklist for Greenhouse Gas Analysis.

In summary, the two applicable GHG reduction plans—the AB 32 Scoping Plan and the City's Greenhouse Gas Reduction Strategy—are intended to reduce GHG emissions below current levels. Given that the City's local GHG reduction targets are more aggressive than the state's 2020 GHG reduction targets, and consistent with the long-term 2050 reduction targets, the City's Greenhouse Gas Reduction Strategy is consistent with the goals of AB 32. Therefore, proposed projects that are

¹⁵² Roggenkamp, J., 2010. October 28, 2010, letter from Jean Roggenkamp, BAAQMD to Bill Wycko, City of San Francisco Planning Department, regarding Draft GHG Reduction Strategy. Available online at: http://www.sf-planning.org/ftp/files/MEA/GHG-Reduction_Letter.pdf.

consistent with the City's Greenhouse Gas Reduction Strategy would be consistent with the goals of AB 32; would not conflict with either plan; and would therefore not exceed San Francisco's applicable GHG threshold of significance. Furthermore, a locally compliant project would not result in a substantial increase in GHGs.

The following analysis of the proposed project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Given that the analysis is in a cumulative context, this section does not include an individual project-specific impact statement.

Impact C-GG: The project would not generate GHG emissions at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions. (Less than Significant)

The most common GHGs resulting from human activity are CO₂, CH₄, and N₂O.¹⁵³ The project could temporarily contribute directly to these GHG emissions during construction as a result of emissions from construction equipment and haul trucks delivering materials and transporting wastes offsite (natural gas combustion). Indirect emissions would result from electricity providers; energy required to pump, treat, and convey water; and emissions associated with landfill operations. The project would not result in a substantial increase in GHG emissions once construction is completed, because there would be little change to baseline conditions relative to operation of the Sunol Yard, including the addition of the Watershed Center, given that the Administration Building at the Sunol Yard and the Watershed Center would be designed and constructed to conform to California Title 24 energy use standards and would aim to secure LEED Gold certification to reduce environmental effects and enhance energy efficiency (see **Section A.5.1, Facilities**, above).

The proposed project would be subject to and required to comply with several regulations adopted to reduce GHG emissions, as identified in the City's Greenhouse Gas Reduction Strategy. The regulations that are applicable to the proposed project include the Clean Construction Ordinance, Resource Efficiency and Green Building Ordinance, Resource Conservation Ordinance, Mandatory Recycling and Composting Ordinance, and the Stormwater Management Ordinance and Construction Pollution Prevention Ordinance. As discussed above,

¹⁵³ OPR, 2008. Technical Advisory—CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. June 19. Available online at: <http://opr.ca.gov/docs/june08-ceqa.pdf>. Accessed August 8, 2013.

and consistent with the state CEQA Guidelines and BAAQMD recommendations for analyzing GHG emissions under CEQA, projects that are consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions* would result in a less-than-significant GHG impact. Based on an assessment of the project's compliance with San Francisco's *Strategies to Address Greenhouse Gas Emissions*, the project was determined to be consistent with San Francisco's GHG Reduction Strategy.¹⁵⁴

Given that: 1) San Francisco has implemented regulations to reduce GHG emissions specific to new construction and renovations of private developments and municipal projects; 2) San Francisco's sustainable policies have resulted in the measured reduction of annual GHG emissions; 3) San Francisco has met and exceeds AB 32 GHG reduction goals for the year 2020, and is on track towards meeting long-term GHG reduction goals; 4) current and probable future state and local GHG reduction measures will continue to reduce a project's contribution to climate change; and 5) San Francisco's *Strategies to Address Greenhouse Gas Emissions* meet the CEQA and BAAQMD requirements for a Greenhouse Gas Reduction Strategy, projects that are consistent with San Francisco's regulations would not contribute significantly to global climate change. The proposed project would be required to comply with the requirements listed above, and was determined to be consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions*. Therefore, the proposed project would result in a *Less-than-Significant Impact* with respect to GHG emissions.

¹⁵⁴ San Francisco Planning Department, 2014. *Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects*. March 3.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.9 WIND AND SHADOW—Would the project:					
a) Alter wind in a manner that substantially affects public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Existing public areas on the project site include the Sunol Water Temple Agricultural Park, Sunol Water Temple, and a picnic area. The project would construct improvements at the Sunol Yard, a new Watershed Center, and improvements to the existing picnic area. Improvements at the Sunol Yard would result in some increase in the number and size of buildings on the site, but none of these buildings would be of a tall or wide enough to result in a change to wind on the site, and they would not affect wind at the public areas on the site.

The existing outdoor picnic area is in the project area, southwest of the proposed Watershed Center. The one-story Watershed Center would not be tall or wide enough to result in a change in wind at the existing picnic facilities.

Additionally, neither the improvements at the Sunol Yard nor the one-story Watershed Center would be tall enough to create any shadow that substantially affects outdoor recreation areas or facilities. For these reasons, the project would have *No Impact* on wind and shadow.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.10 RECREATION – Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Physically degrade existing recreational resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact RE-1: The project would not increase the use of existing neighborhood and regional parks or other recreational facilities to the extent that substantial physical deterioration of the facilities would occur or be accelerated. (Less than Significant)

The project does not propose the construction of housing or other features that would result in an increase in the use of existing recreational facilities. However, the project would result in the construction of the new Watershed Center, and improvements to—and the re-opening of—the existing picnic area. The new Watershed Center and picnic area improvements would likely result in an increase in visitation to the existing Sunol Water Temple Agricultural Park and the currently closed onsite picnic area. The Sunol Water Temple Agricultural Park is a facility designed for visitor use and public education. The Agricultural Park accommodates tours and educational programs by appointment for visitors of all ages. Improvements to the picnic area would include an ADA-compliant access path and stairs, new picnic tables, and a play structure for children. However, it can be reasonably assumed that these facilities would be likely be subject to ongoing monitoring and maintenance such that they would not substantially deteriorate due to the proposed increase in use. The Sunol Water Temple would be closed to visitors during the construction period (approximately 24 months). Between 20 and 50 people visit the Sunol Water Temple each day, according to the SFPUC.¹⁵⁵ It is reasonable to assume that some percentage of these visitors would travel to alternate recreational facilities (e.g., East Bay

¹⁵⁵ SFPUC, 2013. *SFPUC Responses to URS Request for Information (RFI dated 10/1/2013)*. Sunol Long Term Improvements Project. October.

Regional Park lands such as the Pleasanton Ridge Regional Park to the north and Sunol Regional Wilderness to the south), thereby increasing their use during this period. However, the additional use of these facilities would be relatively minor, given the small number of increased visitors, over approximately 24 months, and therefore, it can be reasonably assumed that they would not cause substantial physical deterioration of these facilities. As a result, this impact would be *Less than Significant*.

Impact RE-2: The project would include recreational facilities, the construction of which could have an adverse physical effect on the environment. (Less than Significant with Mitigation Incorporated)

The project proposes the re-opening of the existing onsite picnic area, and the construction and operation of a new Watershed Center and a new “Discovery Trail.” As stated above, improvements to the existing onsite picnic area would include an ADA-compliant access path and stairs, new picnic tables, and a play structure for children. The existing abandoned restroom facilities would be removed, and new restrooms provided at the Watershed Center. The existing barbed-wire-topped fence at the picnic area would be replaced with a low-height perimeter fence and gate consistent with recreational uses. The picnic area is south of the Sunol Water Temple, and consists primarily of landscaped vegetation adjacent to Alameda Creek (see **Figure 14**, below). Provision of new picnic tables and a children’s play structure would involve little to no ground disturbance.

As described in the Project Description, the SFPUC has established Standard Construction Measures to be included in all construction contracts. The Standard Construction Measures stipulate that all construction contractors must implement construction stormwater BMPs. At a minimum, construction contractors would be required to undertake the following measures, as applicable, to minimize adverse effects of construction activities on water quality: erosion and sedimentation controls tailored to the site and project; installation of silt fences, use of wind erosion control (e.g., geotextile or plastic covers on stockpiled soil); and stabilization of site ingress/egress locations to minimize erosion. These measures would avoid or reduce impacts on existing resources.

Also, the project would disturb more than 1 acre of soil, and would therefore be subject to the provisions and requirements of the Construction General Permit, as detailed in **Section A.7, Required Actions and Approvals**. Construction activities subject to this permit include, but are not limited to, clearing, grading, stockpiling, and excavation. Among other provisions, the

Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would include and specify BMPs designed to prevent pollutants from contacting stormwater, and keep all products of erosion from moving off site into receiving waters.

Construction of the Watershed Center would require grading, excavation, and the building of structures, which have the potential to result in environmental impacts. These activities would result in impacts that would be *Less than Significant with Mitigation Incorporated* to Cultural Resources and Biological Resources. Discussions of these impacts and mitigation measures are presented in **Sections E.4 and E.13**, respectively. Implementation of **Mitigation Measure M-CP-1a, Historic Resources Protection Plan; Mitigation Measure M-CP-1b, Preconstruction Surveys and Vibration Monitoring; Mitigation Measure M-CP-2a, Treatment of Known Archaeological Resources; Mitigation Measure M-CP-2b, Archaeological Monitoring and Accidental (Post-review) Discovery of Archaeological Resources; Mitigation Measure M-CP-4, Accidental Discovery of Human Remains; Mitigation Measure M-BI-1a, Nesting Bird Survey Protection; and Mitigation Measure M-BI-1b, Preconstruction Survey for San Francisco Dusky-Footed Woodrat** would reduce these impacts to less than significant (*Less than Significant with Mitigation Incorporated*).

Impact RE-3: The project would not physically degrade existing recreational resources. (No Impact)

The project proposes improvements to, and the re-opening of, the existing onsite picnic area. Improvements to the existing onsite picnic area would include an ADA-compliant access path and stairs, new picnic tables, and a play structure for children. The existing abandoned restroom facilities would be removed, and new restrooms provided at the Watershed Center. The existing barbed-wire-topped fence at the picnic area would be replaced with a low-height perimeter fence and gate consistent with recreational uses. These components would improve these facilities, which were in need of repair. In addition, construction of the new Watershed Center would integrate the picnic facilities into an additional public use area, creating an improved security connection for the facilities. Therefore, the proposed project would improve rather than physically degrade existing recreational resources. As a result, there would be *No Impact*.

Impact C-RE: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulative impact on recreation. (No Impact)

The geographic scope of potential recreation impacts includes the project site, immediate vicinity, and other recreational facilities in the area. Cumulative impacts on the environment could occur if the development of additional recreation facilities were required as a result of the cumulative projects identified in **Table 9** or if increased use of existing facilities could result in their degradation or deterioration due to implementation of these identified cumulative projects.

The project and other identified planned or proposed cumulative projects (see **Table 9**, above) do not include increases in housing or other aspects that would result in substantial increases in potential recreationists using recreation resources in the project vicinity. Given the wide variety and quantity of nearby public open space and recreational opportunities, the proposed project would not increase the use of these public facilities such that substantial physical deterioration of existing facilities would occur or be accelerated. Further, the proposed project would provide an improved recreational experience at the Sunol Water Temple by adding the Watershed Center and updating and reopening the adjacent picnic area. For these reasons, the project, in combination with other past, present, and reasonably foreseeable future projects, would not result in a cumulative impact on recreation (*No Impact*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.11 UTILITIES AND SERVICE SYSTEMS—					
Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact UT-1: The project would not require or result in the construction of new or the need for expansion of existing wastewater treatment or water supply facilities, the construction of which could cause significant environmental effects, or require new or expanded water supply entitlements to serve the project. (Less than Significant)

The project would result in the demolition of buildings on site, and construction of new facilities. A staff residence and guest house would be demolished and not replaced. Proposed facilities at the Sunol Yard include new shops, a replacement administration building, several covered storage structures, and associated outbuildings and structures. Two replacement wastewater holding tanks would be installed at the Sunol Yard, and existing underground fuel tanks would be replaced with new above-ground fuel tanks at the relocated fueling station. The project would also complete minor improvements for the Carrefour, Temple Road, and the existing picnic area,

as well as construct a new Watershed Center, including installation of an underground wastewater holding tank and subsurface electrical power and water connections (see **Section A.4.1, Sunol Corporation Yard Improvements**; and **Section A.5.1, Facilities**, above).

Sunol Yard administrative staff is office-based, and manages and supports the overall function of various SFPUC departments based in Sunol. There would be little change in the operation and maintenance of improved project facilities at the Sunol Yard. No additional staffing would be needed to operate and maintain the proposed facilities; although it is planned that additional office staff will use the Sunol Yard following project completion. Currently, approximately 47 staff use the Sunol Yard, an estimated 31 of whom work full time in the field. Approximately 61 staff are expected to use Sunol Yard following completion.

The Watershed Center would be staffed with approximately four employees. The site would be open to the general public, and for project planning and design purposes, the SFPUC estimates that the completed project could attract up to 100 visitors each day that it is open. An existing restroom at the picnic area would be demolished, existing portable restrooms at the Sunol Water Temple would be removed, and the replacement restrooms would be located at the proposed Watershed Center. The new restrooms at the Watershed Center would require a new connection to existing water service, and an underground holding tank would be installed to contain the wastewater. Wastewater would be pumped from the tank and transported to a wastewater treatment facility.

Wastewater from the Sunol vicinity is treated at the San Jose-Santa Clara Regional Wastewater Facility which treats an average of 110 million gallons of wastewater per day, and has the capacity to clean up to 167 million gallons per day.¹⁵⁶ Water is supplied to the project site by the SFPUC. According to the 2010 Urban Water Management Plan, sufficient water supplies are available to serve the overall water demand of its Sunol service area. As of 2010, the current sustainable water supply was 265 million gallons per day (mgd). This amount is expected to remain relatively constant through 2035. SFPUC's normal water year demand is expected to increase from 149.5 mgd in 2010 to 198.5 mgd in 2035.¹⁵⁷

¹⁵⁶ San José-Santa Clara Regional Wastewater Facility, About the Facility. Available online at: <http://sanjoseca.gov/index.aspx?nid=1663>, Accessed August 6, 2014.

¹⁵⁷ SFPUC, 2011. *2010 Urban Water Management Plan*. July.

Improvements at Sunol Yard would result in a small increase in the number of staff on site (an additional 14 staff at the Sunol Yard). Also, as noted above, for project planning and design purposes, the SFPUC estimates that there could be up to 100 visitors to the Watershed Center and picnic area each day that it is open. As part of the SFPUC's goal for LEED Gold Certification, high-efficiency toilets (1.28 gallons per flush) and water faucets (flow rate of 0.6 gallon per minute) would be installed.¹⁵⁸ It is assumed for purposes of this analysis that up to 75 percent of the visitors to the Watershed Center would use the restrooms. With an additional 18 staff and 75 visitors potentially requiring restroom use per weekday, that would equal 93 additional persons using water at Sunol Yard and Watershed Center combined each weekday, using an average of 1.88 gallons per day. This equates to approximately 175 additional gallons of water per weekday being used, and an equal amount of wastewater generated per weekday due to the proposed project. This increase would not create a substantial new demand for water, nor would it generate substantial additional wastewater requiring treatment, given that the estimated increase in water use and wastewater generation is so low compared to the region's existing water supply and wastewater capacity.

During construction, water would be supplied by water trucks, if necessary, and sanitary needs would be provided by portable sanitary equipment serviced by an outside contractor. Project operation and maintenance activities would involve periodic cleaning, maintenance of equipment, and testing of backup generators. Periodic cleaning of the buildings on the site would be similar to what currently exists, and would require only minimal amounts of water, which would be provided from the existing water service. Therefore, potential impacts relative to significance criteria 11a, 11b, 11d, and 11e regarding the need for treatment of wastewater, the need for new or expanded wastewater treatment facilities, or the need for expanded water supply entitlements would be *Less than Significant*.

Impact UT-2: The project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would not cause significant environmental effects. (Less than Significant)

New stormwater management features would be constructed at both sites. Landscaped areas would be incorporated into the parking lot and road designs to facilitate rainwater infiltration.

¹⁵⁸ Natural Resources Defense Council and Pacific Institute, 2014. *Urban Water Conservation and Efficiency Potential in California*. June.

The new storm drainage system would include infiltration trenches, catch basins, and swales (see **Section A.4.1, Sunol Corporation Yard Improvements**, above). In support of securing LEED Gold Certification, the stormwater management features for the Administration Building and the Watershed Center would be designed to achieve the LEED SS6.2 credit, as required by the green building requirements for the construction of CCSF municipal buildings.¹⁵⁹ This credit deals with the prevention of polluted runoff during and after construction, and uses total suspended solids (TSS) as the indicator of level of pollution. Projects can use biological or mechanical treatment methods for smaller and more frequent storms for credit compliance. To earn the credit, the project must be able to show that the stormwater treatment system is effective at treating all rainstorms for any year up to 90 percent of the average annual rainfall. In addition, as part of the LEED Gold certification, the project must develop and implement construction activity pollution prevention and stormwater management controls adopted by the SFPUC, and comply with the Construction General Permit (LEED prerequisite SSp1). Therefore, the impact on the environment from the construction of the proposed new stormwater drainage facilities would be *Less than Significant*.

Impact UT-3: The project would be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

The project would result in the demolition of buildings on the site, and construction of new buildings. Construction of the project would have limited solid waste disposal needs because it would not require the disposal of substantial quantities of excavated soil or other construction debris. Approximately 4,000 cubic yards of excavated soil and approximately 2,000 cubic yards of building demolition waste would require recycling or disposal. Construction-related solid waste such as construction material packaging and debris and spent fuel or water tanks would require recycling or disposal, as applicable, in accordance with state and local solid waste regulations. Where offsite disposal of soil is required, a local disposal facility would be identified.

Several regional disposal facilities are available to serve the project's waste disposal needs, including Vasco Road Sanitary Landfill (Alameda County) and Altamont Landfill (Alameda County). The Vasco Road Sanitary Landfill has a remaining capacity of 9.8 million cubic yards,

¹⁵⁹ CCSF, 2011. San Francisco Environment Code, Chapter 7, Green Building Requirements for City Buildings.

with an estimated closure date of 2019.¹⁶⁰ The Altamont Landfill has a remaining capacity of 45.7 million cubic yards, with an estimated closure date of 2025.¹⁶¹

Collectively, these landfills have well over 56 million cubic yards of remaining capacity; accept all the types of waste likely to be generated by the project; and will remain open during project construction. During operation and maintenance, waste would be generated. However, because the number of workers on site at the Sunol Yard would only increase by approximately 14 workers—and because the operations at the Watershed Center, by their nature, would not generate a significant amount of waste—it is not anticipated that the project would result in a substantial increase in the amount of waste generated. For these reasons, the impact of construction, operation, and maintenance of the project on existing landfill capacity would be *Less than Significant*.

Impact UT-4: The project would comply with federal, state, and local statutes and regulations related to solid waste. (No Impact)

As described above under Impact UT-3, the project would require the disposal of up to 2,000 cubic yards of demolition- and construction-related waste, and 4,000 cubic yards of excavated material. Project operation and maintenance activities would generate a minor amount of solid wastes requiring offsite disposal. AB 939, known as the California Integrated Waste Management Act of 1989, required each city and/or county to reduce the amount of waste being disposed to landfills to 50 percent by 2000. As of 2006, the California Integrated Waste Management Board estimated a diversion rate of 69 percent for unincorporated Alameda County.¹⁶²

¹⁶⁰ CalRecycle, 2014. Facility/Site Summary Details: Vasco Road Sanitary Landfill (01-AA-0010). Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0010/Detail/>. Accessed May 7, 2014.

¹⁶¹ CalRecycle, 2014. Facility/Site Summary Details: Altamont Landfill & Resource Recovery (01-AA-0009). Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>. Accessed May 7, 2014.

¹⁶² CalRecycle, 2014. Disposal Reporting System (DRS) Jurisdiction Diversion Rate Percentage Trend (1995-2006). Available online at: <http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=JurisdictionID%3d5%26ReportName%3dDiversionRateGraphPre2006%26ShowParameters%3dfalse%26AllowNullParameters%3dFalse>. Accessed May 7, 2014.

The project is subject to San Francisco Environment Code, Chapter 7, Section 708, Construction and Demolition Debris Management. This requirement applies to all construction and/or demolition projects at City-owned facilities and city leaseholds, regardless of size of the project, in the nine counties surrounding San Francisco Bay. It requires that all City departments ensure that each construction and/or demolition project subject to this section shall meet the following requirements:

1. The contractor shall employ the following hierarchy of highest and best use for handling construction and demolition debris, as follows:
 - a. Implement reduced material usage or reuse of materials before any recycling;
 - b. Implement recycling of source-separated material before any recycling of mixed construction and demolition debris material; and
 - c. Implement recycling of mixed construction and demolition debris before all other forms of disposal.
2. The contractor shall manage all project construction and demolition debris materials to meet a minimum diversion rate of 75 percent.

As discussed in **Section E.16, Hazards and Hazardous Materials**, excavated soil could be classified as a hazardous waste. To determine the appropriate disposal facility for excavated materials, excavated soils would be stockpiled, sampled, and analyzed for hazardous materials in accordance with landfill criteria. Accordingly, the project would also be required to follow state and federal regulations for the disposal of hazardous wastes at a permitted disposal or recycling facility.

Therefore, because the project would comply with all applicable local, state, and federal laws and regulations pertaining to solid waste, there would be *No Impact*.

Impact C-UT: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulative impact on utilities and service systems. (Less than Significant)

The geographic scope for potential cumulative utilities and service systems impacts consists of the project area, its immediate vicinity, and the service areas of regional service/utility providers. Wastewater in the project vicinity is treated by the San Jose-Santa Clara Regional Wastewater Facility. Several regional disposal facilities are available to serve the proposed project and cumulative projects listed in **Table 9**, including Vasco Road Sanitary Landfill (Alameda County) and Altamont Landfill (Alameda County). Water is supplied to the project vicinity by the SFPUC.

All of the project listed in **Table 9** could generate wastewater either during construction or operation. The San Jose-Santa Clara Regional Wastewater Facility cleans an average of 110 million gallons of wastewater per day, and has the capacity to clean up to 167 million gallons per day.¹⁶³ The proposed project would generate up to an additional 175 gallons of wastewater requiring treatment per day. Given that the wastewater treatment facility that serves the project vicinity has an excess daily capacity of 57 million gallons per day, the proposed project in combination with the cumulative project would not have a significant cumulative impact on wastewater treatment facilities.

All of the projects listed in **Table 9** would generate solid waste either during construction or operation. As discussed under Impact UT-4, AB 939, known as the California Integrated Waste Management Act of 1989, required each city and/or county to reduce the amount of waste being disposed to landfills to 50 percent by 2000. As of 2006, the California Integrated Waste Management Board (CIWMB) estimated a diversion rate of 69 percent for unincorporated Alameda County.¹⁶⁴ Also, the project is subject to San Francisco Environment Code, Chapter 7, Section 708, Construction and Demolition Debris Management which requires that all City departments ensure that each construction and/or demolition project subject to this Section shall manage all project construction and demolition debris materials to meet a minimum diversion rate of 75 percent. The Vasco Road Sanitary Landfill has a remaining capacity of 9.8 million cubic yards, with an estimated closure date of 2019.¹⁶⁵ The Altamont Landfill has a remaining capacity of 45.7 million cubic yards, with an estimated closure date of 2025.¹⁶⁶ Collectively, these landfills

¹⁶³ San José-Santa Clara Regional Wastewater Facility, About the Facility, <http://sanjoseca.gov/index.aspx?nid=1663>. Accessed August 6, 2014.

¹⁶⁴ CalRecycle, 2014. Disposal Reporting System (DRS) Jurisdiction Diversion Rate Percentage Trend (1995-2006). Available online at: <http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=JurisdictionID%3d5%26ReportName%3dDiversionRateGraphPre2006%26ShowParameters%3dfalse%26AllowNullParameters%3dFalse>. Accessed May 7, 2014.

¹⁶⁵ CalRecycle, 2014. Facility/Site Summary Details: Vasco Road Sanitary Landfill (01-AA-0010). Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0010/Detail/>. Accessed May 7, 2014.

¹⁶⁶ CalRecycle, 2014. Facility/Site Summary Details: Altamont Landfill & Resource Recovery (01-AA-0009). Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>. Accessed May 7, 2014.

have well over 56 million cubic yards of remaining capacity. The proposed project in combination with the cumulative project would not have a significant cumulative impact on landfills.

The proposed project would obtain its potable water supply from SFPUC. According to the 2010 Urban Water Management Plan, sufficient water supplies are available to serve the overall water demand of its Sunol service area. As of 2010, the current sustainable water supply was 265 million gallons per day (mgd). This amount is expected to remain relatively constant through 2035. SFPUC's normal water year demand is expected to increase from 149.5 mgd in 2010 to 198.5 mgd in 2035.¹⁶⁷ The proposed project in combination with the cumulative project would not have a significant cumulative impact on water supply.

The proposed project would not be connected to any storm water drainage facilities.

Based on the discussion above, the proposed project in combination with the identified cumulative projects would not have a significant cumulative impact on utilities (*Less than Significant*).

¹⁶⁷ SFPUC, 2011. *2010 Urban Water Management Plan*. July.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.12 PUBLIC SERVICES— Would the project:

- | | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Result in substantial adverse physical impacts associated with the provision of, or the 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 public services such as fire protection, police protection, schools, parks, or other services? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

The project does not propose the construction of housing or other features that would result in an increase in population that would require the need for physically altered governmental facilities. However, the project would result in the construction of the new Watershed Center; and improvements to, and the re-opening of, the existing picnic area. The new Watershed Center and picnic area improvements would likely result in an increase in visitation to Sunol Water Temple Agricultural Park and the existing onsite picnic area. However, police and fire protection to these facilities would be provided in the same manner as they currently are, and it is not anticipated that visits to these facilities would increase to an extent that would require increasing fire protection, police protection, schools, parks, or other services. Furthermore, newly constructed Sunol Yard facilities would be improved to satisfy current building and fire codes. Therefore, impacts relative to the potential need for new or expanded public services, the construction of which could cause significant impacts on the environment, would be *Less than Significant*.

Impact C-PS: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulative impact on public services. (Less than Significant)

As the proposed project would not require an increase in fire protection, police protection, schools, parks, or other services, it would not contribute to a cumulative impact relative to the potential need for new or expanded public services, the construction of which could cause significant impacts on the environment (*Less than Significant*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.13 BIOLOGICAL RESOURCES—					
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Approach to Analysis

Potential biological resource impacts are evaluated based on the following information:

1) special-status species lists from the California Natural Diversity Database (CNDDDB), USFWS, the CDFW, and the California Native Plant Society (CNPS); and 2) results of field surveys of the project area to characterize the existing conditions and evaluate the potential for special-status species and wetlands to be present in the project area. A detailed assessment of potential

biological resource considerations for the proposed project is presented in the project Biological Resources Survey Report.¹⁶⁸

Special-Status Species Lists

Special-status species lists were derived from the CNDDDB, USFWS, CDFW, and CNPS for the Niles, La Costa Valley, Dublin, and Livermore 7.5-minute U.S. Geological Survey quadrangles.

The primary sources of data referenced for this study include:

- Federal Endangered and Threatened Species that May be Affected by Projects in the Niles, La Costa Valley, Dublin, and Livermore, California 7.5-minute topographic quadrangles;
- CNPS, Online Inventory of Rare and Endangered Plants;
- CNDDDB records for the Niles, La Costa Valley, Dublin, and Livermore, California 7.5-minute topographic quadrangles;¹⁶⁹
- CDFW Threatened and Endangered Animals List;¹⁷⁰
- CDFW Threatened and Endangered Plants List;¹⁷¹ and
- Ecological Subregions of California.

The findings of these database searches and species lists were used to compile the list of special-status species that may occur in the project area (**Appendix C**).

Field Surveys

Special-status plants surveys were conducted on April 20, 2012, by a BioMaAS botanist, and were timed to coincide with the blooming period for species that could potentially occur in the study area. The purpose of the surveys was to assess the potential for available habitats to support

¹⁶⁸ URS, 2014. *Biological Resources Survey Report*. San Francisco Public Utilities Commission, Sunol Yard Improvement Project. Prepared for San Francisco Planning Department, Environmental Planning and San Francisco Public Utilities Commission. January.

¹⁶⁹ CDFG, 2012. *CNDDDB RareFind 3*. Occurrences of special-status plant species within the Niles, La Costa Valley, Dublin and Livermore USGS 7.5 minute quadrangles. California Natural Heritage Division, CDFG, Sacramento, CA.

¹⁷⁰ CDFW, 2014. *CNDDDB State and Federally Listed Endangered and Threatened Animals of California, March 2014*. CDFW, Sacramento, CA. Available online at: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>. Accessed on August 13, 2014.

¹⁷¹ CDFW, 2014. *CNDDDB Endangered, Threatened and Rare Plants of California, July 2014*. CDFW, Sacramento, CA. Available online at: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>. Accessed on August 13, 2014.

special-status plant species; and to determine whether sensitive vegetation communities are present. Several late-flowering special-status annual plant species were considered for their potential to occur on site, but were rejected based on an absence of suitable habitats. URS conducted a subsequent site visit on March 28, 2013, to refine habitat mapping and the evaluation of habitat suitability for special-status species.

All vascular plants encountered during the botanical surveys were identified in the field where possible, and recorded. Plants not readily identifiable in the field were collected and identified subsequently in the lab. References used to aid in plant identification included *The Jepson Manual: Vascular Plants of California*, Second Edition.¹⁷² An inventory of all vascular plants detected in the study area is included in **Appendix C**.

A BioMaAS biologist conducted reconnaissance-level surveys on April 20, 2012, to characterize habitats and evaluate the potential for special-status wildlife species to occur in the project area. Habitats in the project area were evaluated to determine whether they could potentially be occupied by the special-status wildlife species identified in **Appendix C**. Species with the potential to occur in the project area are identified in **Appendix C** using a four-tier scale: “high,” “moderate,” “low,” and “no potential.”

The potential for the presence of wetlands or other aquatic features potentially regulated by federal or state agencies was assessed during the field surveys. The initial assessment was based on the presence or absence of field characteristics of wetland hydrology and/or hydrophytic vegetation.

Environmental Setting

The project area is in the Sunol Valley, near the confluence of Alameda Creek and Arroyo de la Laguna. The Sunol Valley is generally oriented in a north-south direction along the Calaveras Fault. Alameda Creek is one of the longest drainages in the Alameda Creek watershed, which occupies approximately 688 square miles.

The project area is primarily developed or landscaped with non-native species. The remaining areas consist of ruderal vegetation (including annual grassland), an abandoned walnut orchard,

¹⁷² Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors, 2012. *The Jepson Manual: Vascular Plants of California*, second edition. University of California Press, Berkeley.

cultivated fields, and limited areas of natural communities, including coyote brush scrub and mixed riparian woodland/Central coast live oak forest (see **Figure 14**). One of these vegetation communities, mixed riparian woodland, is considered a sensitive natural community by CDFW.¹⁷³ Sycamore alluvial woodland is a sensitive natural community that occurs in the vicinity of the study area. However, sycamore trees (*Platanus racemosa*) in the mixed riparian woodland in the study area are part of the mixed riparian woodland that includes California bay laurel (*Umbellularia californica*) and valley oak (*Quercus lobata*). Each of these vegetation communities and wildlife habitats is briefly described below.

Developed. Developed areas include the Sunol Yard, roads, and paved or gravel areas that lack vegetation. Developed areas also include portions of the storage area in the eastern portion of the study area.

Landscaped. The landscaped habitat type includes the picnic area immediately south of the Sunol Water Temple and other areas where the predominant vegetation, usually trees and shrubs, have been planted and persist, with or without maintenance such as irrigation. In addition to the picnic area, there is a landscaped area in the current Sunol Yard. This area includes lawn and native trees such as valley oak, California bay laurel, sycamore, redwood (*Sequoia sempervirens*) and non-native trees and shrubs such as catalpa (*Catalpa* sp.), rosemary (*Rosmarinus officinalis*), and juniper (*Juniperus* sp.). This vegetation community is not recognized as a natural community by CDFW.¹⁷⁴

Ruderal. Ruderal plant communities are assemblages of plants that thrive in disturbed areas such as abandoned lots, roadsides, and similar sites in urban areas and along rural roadways. Heavily compacted soils found on roadsides, parking lots, and footpaths typically support ruderal

¹⁷³ Griffith, G.E., Omernik, J.M., Smith, D.W., Cook, T.D., Tallyn, E., Moseley, K., and Johnson, C.B. 2011. *Ecoregions of California* (color poster with map, descriptive text, and photographs): Menlo Park, California, U.S. Geological Survey (map scale 1:1,100,000).

¹⁷⁴ CDFG, 2010. *Hierarchical List of Natural Communities with Holland Types*. September. Available online at: dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp. Accessed September 23, 2011.

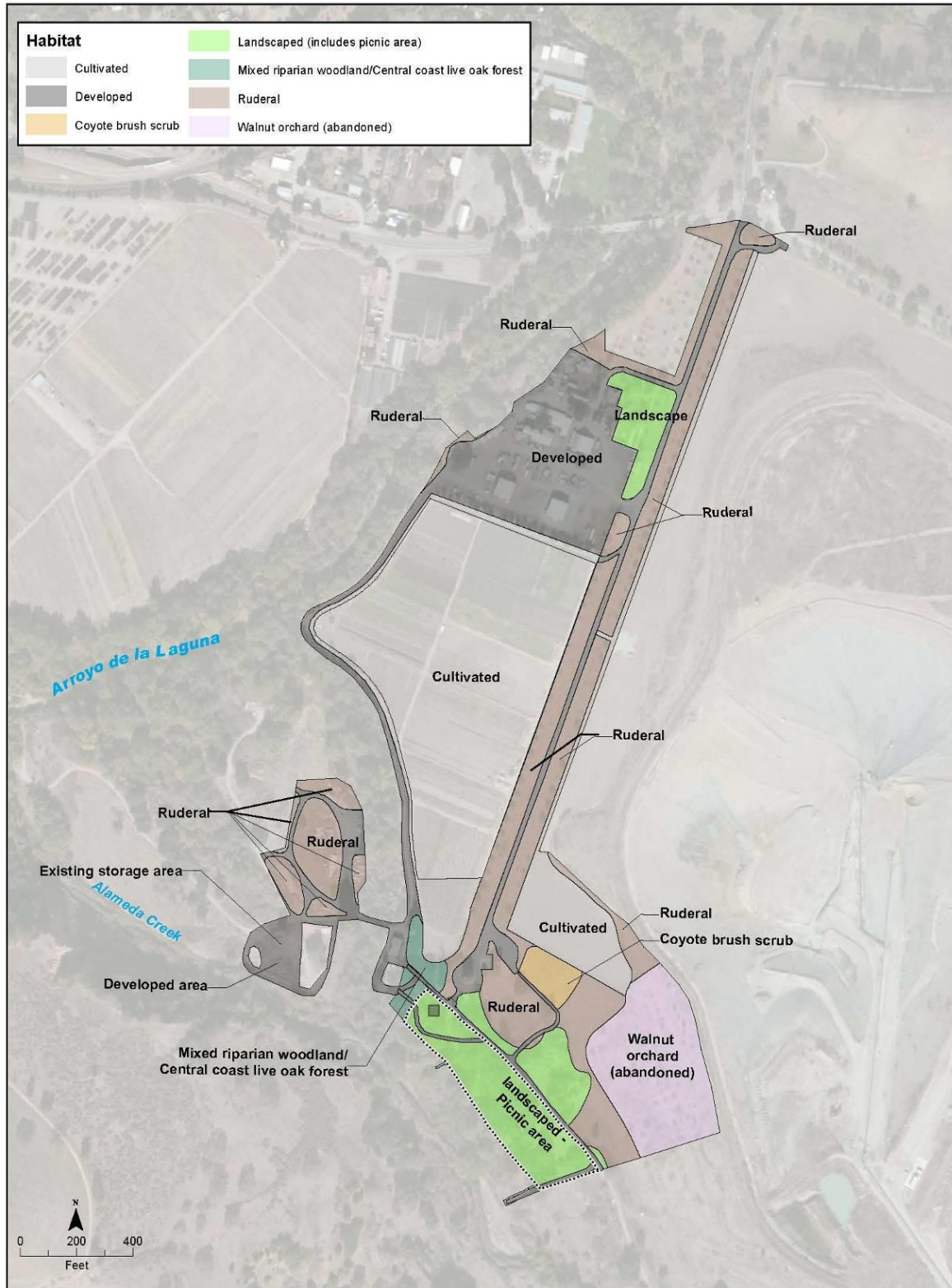


Figure 14
Vegetation Communities and Wildlife Habitats

communities. In the study area, locations mapped as ruderal occur primarily along the entrance road (Temple Road) and in highly disturbed areas (see **Figure 14**).

The ruderal community is essentially an annual grassland community, consisting of a dense to sparse cover of non-native annual grasses and forbs. This is not a sensitive community type. The dominant non-native species in the survey area include the grasses ripgut brome (*Bromus diandrus*), soft brome (*B. hordeaceus*), wild oats (*Avena fatua*, *A. barbata*), Italian ryegrass (*Lolium multiflorum*), rattail fescue (*Vulpia myuros*), and rough and smooth cat's-ear (*Hypochaeris glabra*, *H. radicata*). In less-disturbed areas, nonnative grassland also supports a considerable variety of native grasses and forbs. Typical native herb species in nonnative grassland include California poppy (*Eschscholzia californica*), sky lupine (*Lupinus nanus*), and miniature lupine (*L. bicolor*). The ruderal areas also support some very persistent invasive non-native herbs, such as shortpod mustard (*Hirschfeldia incana*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), mallow (*Malva* spp.), bur clover (*Medicago polymorpha*), fennel (*Foeniculum vulgare*), Bermuda buttercup (*Oxalis pes-caprae*), English plantain (*Plantago lanceolata*), bristly ox-tongue (*Helminthotheca echioides*), pineapple weed (*Matricaria discoidea*), storksbill or filarees (*Erodium* spp.), mustards (*Brassica* spp.), and annual grasses.

Walnut Orchard (Abandoned). There is a small stand of walnut trees southeast of the Sunol Water Temple. Based on a review of historic aerial photos, this stand is a remnant of a former walnut (*Juglans* sp.) orchard that is no longer in production. The understory of the walnut orchard consists of ruderal, annual grassland species. This vegetation community is not recognized as a natural community by CDFW.¹⁷⁵

Cultivated Agriculture. The cultivated agricultural habitat type includes areas that are typically planted with crops including wheat, barley, and vegetables. This vegetation community is not recognized as a natural community by CDFW.¹⁷⁶ The two primary areas of this habitat type are in the areas north of the Sunol Water Temple and northeast of the Sunol Water Temple adjacent to the gravel quarry. Some of the cultivated area adjacent to the Sunol Water Temple is currently fallow, and dominated by weeds.

¹⁷⁵ CDFG, 2010. *Hierarchical List of Natural Communities with Holland Types*. September. Available online at: dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp. Accessed September 23, 2011.

¹⁷⁶ Ibid.

Coyote Brush Scrub. Coyote brush scrub is a low, dense shrub community with scattered grassy openings. Coyote brush scrub is not a sensitive natural community.¹⁷⁷ This natural community is dominated by annual grassland with dispersed coyote brush (*Baccharis pilularis*) throughout. In the study area, coyote brush scrub is associated with a ruderal or annual grassland understory, and occupies a small area adjacent to an agricultural field, parking lot, and an abandoned walnut orchard.

Mixed Riparian Woodland. Mixed riparian woodland habitat occupies slightly mesic upland sites associated with ephemeral streams or the floodplains of larger streams in otherwise dry, grass-dominated landscapes. The closest equivalent to mixed riparian woodland in CNDDDB classification is Central Coast Live Oak Riparian Forest, which is a sensitive natural community.¹⁷⁸ It typically is a low to moderately tall forest dominated—sometimes exclusively—by coast live oak (*Quercus agrifolia*), with valley oak, California bay laurel, sycamore, and California buckeye (*Aesculus californica*); with an open understory consisting of blue wildrye (*Elymus glaucus* ssp. *glaucus*), coyote brush, California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), common elderberry (*Sambucus nigra* ssp. *canadensis*), California beeplant (*Scrophularia californica*), and poison oak (*Toxicodendron diversilobum*). Native species dominate the understory in areas outside the existing picnic area that have not been mowed.

In the project area, mixed riparian woodland is found in the upper floodplain of Alameda Creek along the southern portion of the study area. Part of this area is maintained as a picnic area, with similar tree species, but without the understory vegetation typical of mixed riparian woodland. The picnic area is identified separately as part of the landscaped habitat type described above. Mixed riparian woodland habitat in the study area transitions to ruderal, annual grassland and disturbed habitats at higher elevations above Alameda Creek.

¹⁷⁷ Ibid.

¹⁷⁸ CDFG, 2010. *Hierarchical List of Natural Communities with Holland Types*. September. Available online at: dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp. Accessed September 23, 2011.

In the new Second Edition of *A Manual of California Vegetation*,¹⁷⁹ coast live oak riparian forest would correspond to *Quercus agrifolia* Woodland Alliance or coast live oak woodland, and this vegetation community is given an S4 ranking.¹⁸⁰

Special-Status Species

Special-status species are plants and animals that are legally protected under the federal and state Endangered Species Acts, or other regulations; and species that are considered sufficiently rare or threatened to qualify for such listing. A list of special-status plant and animal species that have the potential to occur in the vicinity of the project area was compiled based on data described above in Approach to Analysis. **Appendix C** lists special-status plants and animals, their preferred habitats, and their potential to occur in the project area, based on the results of the reconnaissance survey; as well as an analysis of existing literature and databases described above.

Only species with the potential to occur in the project area are listed in **Appendix C**, and are further discussed in this section. Species unlikely to occur in the project area due to lack of suitable habitat or range are not included in the discussion. No special-status plant species were observed during the botanical surveys. Because all project activities will take place in the project footprint, and are not anticipated to affect any bodies of water, no impacts to special-status fish would occur. Therefore, special-status fish species are not included in **Appendix C**, and they are eliminated from further discussion.

The following special-status wildlife species were determined to have a moderate or high potential to occur in or adjacent to the project area:

- White-tailed kite (*Elanus leucurus*);
- American peregrine falcon (*Falco peregrinus anatum*);
- Loggerhead shrike (*Lanius ludovicianus*); and
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*).

¹⁷⁹ Sawyer, J., T. Keeler-Wolf, and J. Evens, 2008. *A Manual of California Vegetation* (Second edition), CNPS Sacramento. 1,300 pp.

¹⁸⁰ State ranking of S4 indicates that the plant community is “apparently secure within California... but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.”

Wetlands and Other Waters

No wetlands or other waters of the United States regulated by the U.S. Army Corps of Engineers, or waters of the state regulated by the RWQCB or the CDFW, are in the project area.

Impact BI-1: The project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. (Less than Significant with Mitigation Incorporated)

During construction, the project could have potentially significant adverse impacts to three special-status species that have a moderate or high potential to occur in or adjacent to the project area: white-tailed kite, loggerhead shrike, and San Francisco dusky-footed woodrat. Project construction and operation would not significantly impact American peregrine falcon, because no nesting habitat for this species is present in the project area, and the loss of foraging habitat would be minimal compared to abundant foraging habitat available in the region.

Although the species listed above have not been observed in the project area during the site reconnaissance surveys, habitat that may support the presence of white-tailed kite, loggerhead shrike, and San Francisco dusky-footed woodrat species occurs adjacent to or in the project area. White-tailed kites and woodrat stick houses were observed in the immediate vicinity of the project area during the reconnaissance surveys; therefore, there is a moderate to high potential for these species to occur in or adjacent to the project area during construction. Project activities have the potential to adversely affect these species and their associated habitats through habitat modification or disruption of nesting efforts; this would be a potentially significant impact.

White-tailed kite and loggerhead shrike. White-tailed kite (California Fully Protected species) typically nest in riparian habitat, oak woodlands, or other elevated sites. This species may also nest in rows of trees used for windbreaks. Typical foraging habitat for this species includes woodland edges, open fields, grasslands, and open waters such as lakes or reservoirs. Portions of the project area, including the landscaped areas near the Sunol Water Temple, are potentially suitable for nesting white-tailed kites. Foraging habitat in the project area is very limited because most of it is developed, landscaped, or dominated by ruderal vegetation. Adjacent annual grassland habitat may provide some foraging habitat for white-tailed kite.

The loggerhead shrike is a CDFW Species of Special Concern, and is also protected under the Migratory Bird Treaty Act. The loggerhead shrike inhabits open lowlands and foothills. The

coyote brush scrub and riparian corridors along Alameda Creek and along Arroyo de la Laguna are potentially suitable nesting habitats for loggerhead shrike.

No known nesting habitat is proposed to be modified or eliminated by the project. No suitable nesting trees would be removed, and raptor nests were not observed in or immediately adjacent to the project area during reconnaissance-level surveys. Construction activities, especially those that involve ground disturbance and the use of heavy machinery, could adversely affect nesting white-tailed kites or loggerhead shrikes in the project vicinity during the nesting season (March 1 through August 31). Due to noise attenuation and screening by other trees, potential effects on active nests of white-tailed kites would be minimal beyond 500 feet from the project area, and effects on active nests of loggerhead shrike would be minimal beyond 150 feet of the project area. Adverse effects such as noise and visual disturbance could affect nesting efforts, resulting in potentially significant impacts on special-status raptors and other bird species. To avoid potential disturbance of nesting habitat, as well as impacts to future active nest sites, the following mitigation measure is required. With implementation of **Mitigation Measure M-BI-1a, Nesting Bird Survey Protection**, potential impacts to special-status bird species would be *Less than Significant with Mitigation Incorporated* by requiring surveys to be conducted prior to the initiation of construction to identify active nests and, if present, take appropriate measures to avoid impacts to those nests as described below.

Mitigation Measure M-BI-1a: Nesting Bird Survey Protection

To protect nesting birds and their nests, the SFPUC shall retain a qualified wildlife biologist to conduct pre-construction surveys for nesting raptors and migratory birds prior to the commencement of construction activities that occur between March 1 and August 31 of any given year. The surveys shall be conducted a maximum of 14 days prior to the start of construction during the nesting season. The project area plus a 500-foot survey area surrounding the project area shall be surveyed for nesting raptors; a 150-foot survey area in addition to the project area shall be surveyed for other nesting birds. A nest is defined to be active for raptors and migratory birds if there is a pair of birds displaying reproductive behavior (i.e., courting) at the nest and/or if the nest contains eggs or chicks. If no active nests are detected, no additional mitigation measures will be required.

If active nests are located during the preconstruction bird nesting survey, the wildlife biologist shall evaluate whether the schedule of construction activities could affect the active nest, and the following measures shall be implemented based on their determination:

- If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect, and may revise their determination at any time during the nesting season. In this case, the following measure would apply.
- If construction may affect the active nest, the biologist shall establish a no-disturbance buffer. The biologist shall determine the appropriate buffer, taking into account the species involved, and whether the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e., adjacent to a road or active trail). No-disturbance buffers for passerines typically vary from 25 feet to 250 feet, and for raptors from 300 feet to 0.25 mile. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, or species of special concern), an SFPUC representative, supported by the wildlife biologist, shall consult with the USFWS and/or CDFW regarding appropriate nest buffers.
- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.
- Removing or relocating active nests shall be coordinated by the SFPUC representative with the USFWS and/or CDFW, as appropriate, given the nests that are found on the site.
- Any birds that begin nesting in the project area and survey buffers during construction are assumed to be habituated to construction-related or similar noise and disturbance levels, and no work exclusion zones shall be required.

San Francisco dusky-footed woodrat. The San Francisco dusky-footed woodrat (CDFW Species of Special Concern) typically occupy woodlands and riparian forest dominated by live oaks and

other thick-leaved trees and shrubs.¹⁸¹ Woodrat stick houses were observed in the project vicinity. Although no woodrat stick houses were observed in the area that is proposed to be developed or disturbed by the project, stick houses could become established in the project area prior to the start of construction. Construction activities, especially those that involve ground disturbance and the use of heavy machinery, could adversely affect woodrats if stick houses are within 15 feet of the disturbance, resulting in potentially significant impacts on this species of special concern. To avoid potential disturbance of woodrat stick houses, the following mitigation measure is required. With implementation of **Mitigation Measure M-BI-1b, Preconstruction Survey for San Francisco Dusky-Footed Woodrat**, potential impacts to San Francisco dusky-footed woodrat would be *Less than Significant with Mitigation Incorporated* by requiring surveys to be conducted prior to construction to identify active nests and if present, take appropriate measures to avoid impacts to those nests as described below.

Mitigation Measure M-BI-1b: Preconstruction Survey for San Francisco Dusky-Footed Woodrat

The SFPUC shall ensure that a qualified biologist conducts a survey for woodrat middens (i.e., nests) within all limits of construction prior to the initiation of clearing or grading in any given location. When feasible, surveys for woodrat nests shall start 1 month prior to site clearing so that any middens requiring removal can be addressed before construction.

- If no middens are found in such areas, no further action is required.
- If middens are found and can be avoided, the biologist shall direct the contractor in placing orange barrier fencing at least 2 feet but not more than 15 feet from the midden to avoid indirect disturbance to the midden.
- If the minimum fencing distance cannot be achieved and the middens cannot be protected and/or avoided, a qualified biologist shall disassemble middens; or, if adjacent habitat is not suitable, trap and relocate woodrats out of the construction area (using live-traps) prior to the start of construction. In addition, the biologists shall attempt to relocate the disassembled midden to the same area where the woodrats are released. If young are present during disassembling,

¹⁸¹ Williams, D.F., J. Verner, H.F. Sakai, and J.R. Waters, 1992. *General biology of major prey species of the California spotted owl*. USDA Forest Service Gen. Tech. Rep., PSW-GTR-133:207-221.

discontinue disassembling and inspect every 48 hours until young have relocated. The midden may not be fully disassembled until the young have left.

Impact BI-2: The project would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. (No Impact)

The project does not involve activities that would encroach on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

Impact BI-3: The project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act. (No Impact)

The project construction activities would not encroach on wetlands or other waters of the United States. No removal, filling, hydrological interruption, or other direct impacts to federal or state-regulated wetlands or other waters are anticipated.

Impact BI-4: The project would not 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. (No Impact)

The project construction would be located in developed, landscaped, and ruderal areas that do not provide substantial movement or migration opportunities for resident or migratory wildlife in the region. Although the project area borders woodlands associated with Alameda Creek and Arroyo de la Laguna, the project area would not encroach into these habitats, and would not substantially change existing noise or lighting that could adversely affect the movement of wildlife.

Impact BI-5: The project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (No Impact)

No local policies or ordinances are established that protect biological resources in the project area. Therefore, the project would not conflict with local policies or ordinances relevant to biological resources.

Impact BI-6: The project does not 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)

There are no approved Habitat Conservation Plans or Natural Community Conservation Plans for the region that includes the proposed project area.

Impact C-BI: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project area, could result in significant cumulative impacts on biological resources. (Less than Significant with Mitigation Incorporated)

The geographic scope of cumulative biological resources impacts encompasses the proposed project site and nearby vicinities which contain the same types of biological resources. Other projects in the Sunol Valley considered in the cumulative analysis, such as the SABPL Project, the NIT Project, the San Antonio Pump Station Upgrade, Calaveras Dam Replacement Project, and the Geary Road Bridge Replacement Project (described in **Table 9**) affect similar biological resources as the proposed project and occur within the general vicinity of the proposed project. These projects have the potential to disturb nesting bird species and dusky-footed woodrat stick houses similar to those affected by the proposed project. Together, the proposed project and other cumulative projects in the vicinity could have a significant cumulative impact on these special-status species.

The contribution of the proposed project to cumulative biological resources impacts could be cumulatively considerable, given its potential to also result in significant impacts on these special-status species. However, implementation of **Mitigation Measures M-BI-1a, Nesting Bird Survey Protection and M-BI-1b, Preconstruction Survey for San Francisco Dusky-Footed Woodrat**, would avoid or substantially minimize the proposed project's effect on special-status species. As a result, these measures would reduce the project's contribution to cumulative impacts on biological resources to a *less-than-cumulatively considerable* level with the above listed mitigations incorporated into the project (*Less than Significant with Mitigation Incorporated*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.14 GEOLOGY AND SOILS—					
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Change substantially the topography or any unique geologic or physical features of the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no unique geologic or physical features at the project sites, and project grading would not substantially change the existing topography. For these reasons, significance criterion 14f is considered not applicable to the project, and is not discussed further.

Impact GE-1: The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. (Less than Significant)

Fault Rupture

The major active faults in the area are the Calaveras, Hayward, and San Andreas faults. Historically, ground-surface ruptures closely follow the trace of geologically young faults. Although the Calaveras fault is within 1 mile of the site, the site is not in an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act of 1972, and no known active or potentially active faults exist on the site. Therefore, the risk of fault offset at the site from a known active fault is very low and the impact from the rupture of a known earthquake fault would be *Less than Significant*.

Ground Shaking

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the project site. The intensity of the earthquake ground motion at the site will depend on the characteristics of the generating fault, distance to the earthquake epicenter, magnitude and duration of the earthquake, and specific site geologic conditions. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction and lateral spreading. In most earthquakes, only weaker masonry buildings would be damaged.

The SFPUC seismic reliability standards set forth consistent criteria for the seismic design and retrofit of all facilities and components of the regional water system.¹⁸² In accordance with these design requirements, every project must have project-specific design criteria based on the seismic environment and importance of the facility in achieving water service delivery goals in the event of a major earthquake. The design criteria are generally based on the referenced codes, standards, and industry publications; however, in some cases, design criteria may exceed these requirements for facilities, such as the project sites that are in a severe seismic environment and that are needed to achieve water service delivery goals. Site-specific geotechnical investigations

¹⁸² SFPUC, 2014. *General Seismic Requirements for Design of New Facilities and Upgrade of Existing Facilities*. Revision 3, DOC No. WSIP/CSP 001 R2R3. June.

were performed for both the Sunol Yard and the proposed Watershed Center.^{183,184} Specific seismic design criteria were recommended based on these investigations.

Because the project would be evaluated and designed according to the SFPUC seismic reliability standards to avoid unacceptable system failure, the impact of strong seismic ground shaking would be *Less than Significant*.

Ground Failure and Liquefaction

Liquefaction is a phenomenon whereby soil deposits temporarily lose shear strength and collapse. The soil type most susceptible to liquefaction is loose, cohesionless, granular soil below the water table and within about 50 feet of the ground surface. Liquefaction can result in a loss of foundation support and settlement of overlying structures, ground subsidence, and translation due to lateral spreading, lurch cracking, and differential settlement of affected deposits. Lateral spreading occurs when a soil layer liquefies at depth and causes horizontal movement or displacement of the overlying mass on sloping ground or towards a free face such as a stream bank or excavation.

The proposed Watershed Center would be constructed on Holocene stream terrace deposits, which are classified by Bott and Knudsen¹⁸⁵ as having very low, low, medium, or high liquefaction susceptibility, depending on the depth of the water table. Based on the site-specific information from the current investigation, the potential liquefiable material generally lies at depths shallower than 18 feet. The water table is estimated to be between 20 and 30 feet bgs, although it may be shallower during winter months. Therefore, the liquefaction potential is generally low at the site.

Because the risk of liquefaction at the site is considered to be low, the risk to the proposed structures from lateral spreading at the site is also low. However, the risk from lateral spreading

¹⁸³ San Francisco Department of Public Works Bureau of Engineering, 2011. *Geotechnical Report for Sunol Maintenance Yard and Water Temple*. Prepared for the San Francisco Public Utilities Commission. July.

¹⁸⁴ URS, 2012. *Geotechnical Investigation Report for the Proposed Watershed Interpretative Center, Sunol, California*. Prepared for San Francisco Public Utilities Commission. December.

¹⁸⁵ Bott, J.D.J., and K.L. Knudsen, 2004. *Liquefaction Zones of required investigation in the Niles 7.5-minute Quadrangle, Alameda County, California*. Seismic hazard zone report for the Niles 7.5-minute quadrangle, Alameda County, California, California Geological Survey Seismic Hazard Zone Report 098.

can be expected to be higher closer to the scarp that marks the northeastern bank of Alameda Creek.

Because the project would be evaluated and designed according to the SFPUC seismic reliability standards, as discussed above under criterion a)ii), the impact of seismic-related ground failure, including liquefaction, would also be *Less than Significant*.

Landslides

The project site is in an area of low landslide hazard, due to the lack of steep slopes in or adjacent to the project site. The California Geological Survey¹⁸⁶ has developed a map depicting the relative likelihood of deep landsliding based on regional estimates of rock strength and steepness of slopes. The Sunol Valley is not considered susceptible to landslides due to the flatness of the valley floor.¹⁸⁷ Therefore, due to the lack of slopes susceptible to landslides, there would be *No Impact* with respect to landslides at these project sites.

Impact GE-2: The project would not result in substantial soil erosion or the loss of topsoil. (Less than Significant)

Project construction activities have the potential to result in increased soil erosion or loss of topsoil due to ground disturbance associated with excavation, minor grading, and material staging areas. The SFPUC has standard measures it includes in construction contracts that require the implementation of erosion and sedimentation controls tailored to the site and the project, to minimize impacts associated with wind and water erosion.¹⁸⁸ Given the erosion control measures that would be implemented during construction as part of the project, impacts associated with soil erosion would be *Less than Significant*. Sites would be restored following construction, and no ground-disturbing activities would be associated with project operation, so no soil erosion is expected to occur during project operation and maintenance. For these reasons, the impact of construction, operation, and maintenance of the project on accelerated soil erosion would be *Less than Significant*.

¹⁸⁶ California Geological Survey, 2011. *Susceptibility to Deep-Seated Landslides in California*. Prepared by C.J. Wills, F.G. Perez, and C.I. Gutierrez. California Geological Survey Map Sheet 58.

¹⁸⁷ Ibid.

¹⁸⁸ SFPUC, 2007. *Standard Measures to be Included in Construction Contracts and Project Implementation*. February 7.

Impact GE-3: The project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and could result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. (Less than Significant)

As discussed under Impact GE-1, the project site is in an area not prone to landslides, on Holocene stream terrace deposits, which are classified by Bott and Knudsen as having very low, low, medium, or high liquefaction susceptibility depending on the depth of the water table.¹⁸⁹ Based on the site-specific information, the potential liquefiable material generally lies at depths shallower than 18 feet. The water table is estimated to be between 20 and 30 feet bgs, although it may be shallower during winter months. Therefore, the liquefaction potential is generally low at the site. Because the risk of liquefaction at the site is low, the risk to the proposed structures from lateral spreading at the site is also low. However, the risk from lateral spreading can be expected to be higher closer to the scarp that marks the northeastern bank of Alameda Creek.

Structures at the project site would be designed according to basic guidelines of the California Building Code (CBC), and the SFPUC seismic reliability standards, which are equivalent to or more stringent than the seismic design requirements of the CBC. In addition, the SFPUC includes standard measures in construction contracts to incorporate review of existing information, and if necessary, new engineering investigations to provide relevant geotechnical information about the particular site and project, including a characterization of the soils at the site, and the potential for subsidence and other ground failure. As a result, the construction contractor would be required to address any recommendations by such geotechnical reports to ensure seismic stability and reliability of the proposed project. All SFPUC projects must be designed for seismic reliability and minimum potential property damage. Therefore, the impact of construction, operation, and maintenance of the project would be *Less than Significant*.

Impact GE-4: Project structures could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property. (Less than Significant)

Expansive soils are those that shrink or swell significantly with changes in moisture content. The clay content and porosity of the soil also influence its volume change characteristics, and higher plasticity index correlates to higher expansion potential. The shrinking and swelling caused by

¹⁸⁹ Bott, J.D.J., and K.L. Knudsen, 2004. *Liquefaction Zones of required investigation in the Niles 7.5-minute Quadrangle, Alameda County, California*. Seismic hazard zone report for the Niles 7.5-minute quadrangle, Alameda County, California, California Geological Survey Seismic Hazard Zone Report 098.

expansive clay-rich soils often results in damage to overlying structures. The site is generally underlain by low -plasticity silty sand. Therefore, the potential for expansive soil to impact the proposed improvements would be low, and this impact would therefore be *Less than Significant*.

Impact GE-5: The project site could have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (Less than Significant)

Consistent with baseline conditions at the site, the project would include installation of underground wastewater holding tanks. These tanks would be pumped, and waste would be transported for treatment at an offsite wastewater treatment plant. Therefore, no infiltration of wastewater would occur to the surrounding soils. As a result, the project impact regarding soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would be *Less than Significant*.

Impact C-GE: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact on geology and soils. (Less than Significant)

The geographic scope for the analysis of potential cumulative impacts relative to geology, soils, and seismicity is limited to the project site because the potential for hazards related to seismically induced ground failure, erosion or loss of topsoil, soil subsidence, collapsible soils, and expansive soils are based on local site-specific soil and geologic conditions.

Therefore, because none of the other identified cumulative projects in **Table 9** would be developed at the same site as the proposed project, cumulative geologic and soils impacts would be *Less than Significant*.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.15 HYDROLOGY AND WATER QUALITY –					
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project does not involve the construction of any housing; therefore, significance criterion g) does not apply.

Impact HY-1: The project would not violate any water quality standards or waste discharge requirements. (Less than Significant)

Construction

Potential impacts to water quality resulting from the project would occur primarily as a result of ground-disturbing activities during construction at each of the project sites. The project is adjacent to Arroyo de la Laguna and Alameda Creek (see **Figure 2**). Site preparation, demolition, clearing, grading, excavation, soil stockpiling, backfilling, compacting, site restoration, and landscaping activities would occur for each project site, as shown in **Tables 3 and 4**. The project would use concrete and concrete washout water, which if released into waterways, would be toxic to fish and aquatic organisms due to its high pH and metal constituents. These construction activities have the potential to adversely affect the quality of nearby surface waters if stormwater runoff or groundwater dewatering discharges from the sites contain elevated levels of suspended sediment, turbidity, toxins, or other chemicals (e.g., due to presence of exposed soils, soil stockpiles, material staging areas, fuels, or chemicals associated with vehicles and construction equipment).

Stormwater Discharges Associated with Construction

Construction activities at each project site would disturb more than 1 acre of ground surface. For the Sunol Yard, ground-disturbing activities would occur in the 8-acre northern portion of the project site. For the Watershed Center, ground-disturbing activities would occur over most of the 8-acre site. Activities scheduled to be constructed during the rainy season (October through April), as shown in **Tables 2 and 3**, would have a greater potential to contribute to water quality impacts than those constructed during the dry season.

The extension of water, natural gas, and communication utilities from the Sunol Yard to the new Watershed Center would be buried in shallow trenches along the eastern side of Temple Road. The electrical transmission line would be placed underground between the Sunol Pump Station and the Watershed Center.

In addition, a supplementary construction staging area currently used as a materials storage area would be used for the project. Equipment and materials that would be stored include construction vehicles, construction materials, stockpiled soil, and small quantities of fuels and

lubricants. As stated in **Section A.5.4 Construction Staging Areas**, above, once the staging area is no longer needed, it would be restored to its general previous, preconstruction condition.

There would be no construction activities in Alameda Creek or Arroyo de la Laguna. As recommended by the RWQCB,¹⁹⁰ construction stockpiles and material storage areas would be a minimum distance of 100 feet away from the creeks, wherever possible. The buffer width needed to maintain water quality generally ranges from approximately 15 to 100 feet.^{191,192} For a discussion related to the filter galleries that capture subsurface water near Alameda Creek and return it to the water supply system, see Impact HY-2, below. In addition to the required setbacks, BMPs would be developed pursuant to the Construction General Permit requirements and would be implemented to prevent the discharge of pollutants into the creeks. Typical construction water quality BMPs, such as the SFPUC Standard Construction Measures and industry standard measures, as described in **Section A.5.8, Standard Construction Measures**, are proposed as part of the project. Implementation of these BMPs would control and reduce discharges of sediments and pollutants associated with construction stormwater runoff that could discharge to creeks, and thereby minimize the potential for temporary construction-related water quality impacts.

The project would disturb more than 1 acre; therefore, the SFPUC would be required to obtain coverage under the State Water Resources Control Board's (SWRCB's) Construction General Permit, as detailed in **Section A.7, Required Actions and Approvals**. Construction activities subject to this permit include, but are not limited to, clearing, grading, stockpiling, and excavation. Among other provisions, the Construction General Permit requires the development and implementation of a SWPPP, which would include and specify BMPs designed to prevent pollutants from contacting stormwater, and keep all products of erosion from moving off site into receiving waters. The SFPUC or its contractor would submit permit registration documents to the San Francisco RWQCB, which would include a Notice of Intent, a risk assessment, a site map, a SWPPP, an annual fee, and a signed certification statement. The risk assessment would determine

¹⁹⁰ RWQCB, 2012. Comments on Initial Study for the Geary Road Bridge Replacement Project SCH No. 2008.0386E.

¹⁹¹ Caltrans, 2003. Storm Water Quality Handbooks: Construction Site Best Management Practices (BMPs) Manual.

¹⁹² CASQA, 2009. Stormwater Best Management Practice Handbook Portal: Construction.

which provisions of the Construction General Permit (e.g., numeric action levels and effluent limitations for pH and turbidity, rain event action plans, and monitoring and reporting requirements) would apply, based on a combination of sediment risk and receiving water risk at each site. The SWPPP would include a list of BMPs necessary to prevent stormwater runoff from the construction site from adversely affecting nearby water bodies, and would include the information necessary to support the conclusions, selections, use, and maintenance of BMPs.

As part of the LEED Gold certification requirement for municipal construction projects (San Francisco Environment Code, Chapter 7), the LEED Project Administrator must submit documentation verifying that construction of City-owned buildings greater than 5,000 square feet achieve the LEED SS6.2 credit.¹⁹³ This credit addresses the prevention of polluted runoff during and after construction, and uses TSS as the indicator of level of pollution. Projects can use biological or mechanical treatment methods for smaller and more frequent storms for credit compliance. To earn the credit, the project must be able to show that the stormwater treatment system is effective at treating all rainstorms for any year up to 90 percent of the average annual rainfall. In addition, as part of the LEED Gold certification, the project must develop and implement construction activity pollution prevention and stormwater management controls adopted by the SFPUC, and comply with the Construction General Permit (LEED prerequisite SSp1).

Compliance with the Construction General Permit (which satisfies LEED prerequisite SSp1), preparation of a SWPPP, and implementation of BMPs would reduce potential construction impacts related to erosion, runoff, and water quality degradation to *Less than Significant* levels.

Temporary Dewatering Discharges

Excavations for building foundations, wastewater holding tanks, and ancillary components such as water, natural gas, and communication utilities could require temporary dewatering if groundwater or stormwater were to accumulate in the excavated pits during the construction phase.

¹⁹³ CCSF, 2011. San Francisco Environment Code, Chapter 7, Green Building Requirements for City Buildings.

The depth of excavation for removal of existing wastewater holding and fuel storage tanks, the building foundations, and installation of wastewater holding tanks would range between 5 feet and 15 feet bgs. Excavation for the utility corridors would be shallow, typically less than 6 feet.

Based on a previous subsurface investigation conducted at the project site in June 2012, groundwater is expected to be encountered at a depth of approximately 20 to 30 feet bgs.¹⁹⁴ Groundwater was not encountered in any of the borings drilled to a maximum depth of 36.5 feet, but the water table was inferred from field examination of the soil in the borings. The depth to groundwater is also expected to vary seasonally, and depend on the flow level in the adjacent creeks.¹⁹⁵

Based on the approximate elevation and depth of groundwater estimated during previous nearby geotechnical investigations and the anticipated excavation depths, substantial quantities of groundwater requiring dewatering would not be anticipated for most of the project facilities, because the expected maximum depth of excavation is less than the estimated depth to groundwater. Excavation for the wastewater holding tank is most likely to encounter groundwater. However, actual groundwater elevations at the sites are not well known, and may fluctuate depending on the flows in the adjacent creeks, time of the year (e.g., summer versus winter), and type of year (e.g., dry versus wet), as well as site-specific conditions. Groundwater extracted during construction of the project, if any, would be temporary and localized, and any effects from the lowering of groundwater levels or depletion of groundwater resources would be temporary, because once construction was completed, dewatering would cease.

Because the sites are in close proximity to surface water bodies, it is possible that dewatering discharges, if uncontrolled, could eventually reach nearby surface waters.

The Construction General Permit (discussed above) allows for non-stormwater discharges, including uncontaminated groundwater from dewatering, provided that BMPs are implemented to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment; the discharge does not cause or contribute to a violation of any water quality

¹⁹⁴ URS, 2012. *Geotechnical Investigation Report, Sunol Yard Improvement Project – Watershed Interpretive Center*. Prepared for San Francisco Public Utilities Commission. December.

¹⁹⁵ Alameda County Planning, 2012. *SMP-30 Revised Use Permit Sunol Valley Aggregate Quarry Project Draft Environmental Impact Report*. SCH No. 2011102051. Prepared by Lamphier-Gregory. April.

standard; the discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants; and the discharge is monitored and meets the applicable Numeric Action Levels for pH and turbidity.

With implementation of BMPs in compliance with the Construction General Permit, potential water quality impacts related to groundwater dewatering discharges, if needed, would be *Less than Significant*.

Operation

The proposed project would increase the overall amount of impervious surface by more than 32,000 square feet (i.e., due to new structures, new access roads, and new parking areas), thereby increasing runoff from most of the site. Following construction of the proposed project, the water quality of stormwater runoff would be expected to decline because more potential pollutants could be generated by human activities (e.g., vehicle washing, material handling and storage, fuel storage, waste storage) and could come into contact with stormwater or be discharged to groundwater or the nearby creeks. Due to the proposed increase in impervious surfaces, pollutants would tend to be flushed from impervious surfaces where they accumulate (e.g., paving and roofs) into stormwater management conveyances. Stormwater runoff from roads and the parking areas would be expected to contain oils, grease, and debris. New stormwater management facilities would be installed, and would include infiltration trenches, catch basins, and swales. As stated in **Section A.4.1, Sunol Corporation Yard Improvements** and **Section A.4.2, Development of Alameda Creek Watershed Center**, landscaped areas would be incorporated into the parking lot and road designs to facilitate rainwater infiltration. As discussed in **Section A.5.1, Facilities**, the stormwater system would be designed to achieve the LEED SS6.2 credit. The goal of the proposed project is to integrate BMPs throughout the project development to provide source control and water quality treatment of runoff from paved and other developed areas prior to discharge into the swales and infiltration trenches that percolate flows to groundwater and discharge into Alameda Creek and Arroyo de la Laguna (see **Section A.4.1, Sunol Corporation Yard Improvements** and **Section A.5.8, Standard Construction Measures**, above).

Operation and maintenance of the project could result in long-term impacts to water quality due to increased impervious surfaces (buildings and pavement) and pollutants (cleaning agents, fuel, wastewater holding tanks) that could come into contact with stormwater or be discharged to

groundwater or nearby creeks. However, as required by the Construction General Permit, the project would comply with post-construction stormwater requirements. Stormwater drainage improvements would provide a benefit over existing conditions. Covered parking and storage for SFPUC equipment and vehicles would replace current open-air storage. Removal and replacement of certain facilities, such as abandonment of existing restroom facilities in the picnic area adjacent to Alameda Creek, removal of existing portable bathrooms at the Sunol Water Temple, and installation of new underground wastewater holding tanks, would also provide benefits with respect to water quality, given that the existing bathrooms are within the floodplain.

The San Francisco Bay Municipal Regional Stormwater Permit (MRP) (RWQCB Order R2-2009-0074; NPDES Permit No. CAS612008), which covers Alameda County, incorporates updated state and federal requirements related to the quantity and quality of post-construction stormwater discharges from development projects. Specifically, Provision C.3 sets forth appropriate source control, site design, and stormwater treatment measures for new development and redevelopment projects that create and/or replace 10,000 square feet or more of impervious surface area. Stormwater runoff from the project site discharges directly into Alameda Creek and Arroyo de la Laguna. Neither of these creeks is designated as a Clean Water Act Section 303(d)-listed water body.

In general, the types of operational activities that would result from the proposed project would be approximately the same as existing conditions. At the Sunol Yard, operation and maintenance activities include, and would continue to include, carpentry, plumbing, welding, painting and electrical work, automotive repair, vehicle fueling, and washing. Potential pollutants at the Sunol Yard could include cleaning agents, paint, fuel, hydraulic fluid, and oil. It is reasonable to assume that these materials would be properly used and stored to prevent spills and discharge to stormwater. The vehicle wash-down area would include a drainage trench and hose bibs. The existing vehicle fuel station would be relocated, and the existing underground fuel tanks would be replaced with new above-ground fuel tanks (see **Section A.4.1, Sunol Corporation Yard Improvements**, above). The project would implement BMPs—described above and in **Section A.5.8, Standard Construction Measures**—during operations, to prevent the discharge of pollutants into stormwater.

As previously stated in **Section A.4.1, Sunol Corporation Yard Improvements** and **Section A.4.2, Development of Alameda Creek Watershed Center** above, the improvements at the Sunol Yard

and Watershed Center would include low-flow technology and fixtures to conserve water. The abandoned toilet facilities in the picnic area near Alameda Creek would be demolished and removed, along with existing portable bathrooms at the Sunol Water Temple. The new sanitary waste collection system would consist of new underground wastewater holding tanks. The wastewater holding tanks would be designed in accordance with all applicable codes and regulations, including required setbacks from the creeks.

As stated in **Section A.4.1, Sunol Corporation Yard Improvements** above, the project would include installation of underground wastewater holding tanks. However, these tanks would be pumped, and the wastewater would be transported for treatment at an offsite wastewater treatment plant. Therefore, no infiltration of wastewater would occur to the groundwater in the area.

Alameda WMP Policy WA1 prohibits the use of septic systems on SFPUC lands, while Policy WA7 states that construction of new waste disposal systems on SFPUC lands should be limited to those that are essential. Currently, there is no connection to a municipal sanitary system; therefore, the proposed project must construct an onsite wastewater disposal system. Because the wastewater holding tanks would be pumped, and the wastewater transported to an offsite wastewater treatment plant, the project would be consistent with Policies WA1J and WA7. Additionally, the project would be constructed at an existing SFPUC facility that is managed in accordance with the Alameda WMP. Therefore, the project would be managed in a similar fashion and would not conflict with the Alameda WMP.

As discussed in **Section A.4.1, Sunol Corporation Yard Improvements** and **Section A.4.2, Development of Alameda Creek Watershed Center**, the project would include improvements to prevent the discharge of pollutants into stormwater and the creeks. With these improvements, compliance with stormwater requirements of the SWRCB Construction General Permit, and the project's goal to achieve LEED Gold Certification, operation-related impacts to water quality would be *Less than Significant*.

Impact HY-2: The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge to the extent that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

The existing Sunol Water Temple is adjacent to the lower infiltration gallery of the Sunol Filter Galleries. The filter galleries capture subsurface groundwater near Alameda Creek in a system of

pipes and tunnels built into the surrounding gravels prior to use in the SFPUC Regional Water System.

The new Watershed Center would be constructed immediately north of the lower infiltration gallery as shown on **Figure 5 in Section A, Project Description**. During construction, the project would implement BMPs to ensure that pollutants are not introduced into the aquifer and galleries (see **Section A.5.8, Standard Construction Measures**). The new Watershed Center would be approximately 150 feet north from the galleries, and therefore, would not impede the collection of flow from Alameda Creek (see **Figure 5**). The area between the new Watershed Center and the galleries would be maintained as an open meadow-type area that would facilitate infiltration of stormwater runoff and recharge of groundwater. The proposed riparian pond near the Watershed Center (see **Figure 5**) would be lined; therefore, there would be no percolation to groundwater or to the filter gallery. The project also would include vegetated swales and infiltration basins to facilitate percolation to groundwater (see **Section A.4.1, Sunol Corporation Yard Improvements**). As a result, the proposed project would not interfere substantially with groundwater recharge to the extent that there would be a net deficit in aquifer volume, or a lowering of the local groundwater table level.

Furthermore, the project would not construct any wells, nor would it pump or extract groundwater in any way. As a result, the proposed project would not substantially deplete groundwater supplies to the extent that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

By designing the project to avoid the Sunol Filter Galleries and implementing BMPs, the proposed project would not have any adverse effects on groundwater supplies, quality, or recharge; therefore, impacts with respect to the supply of ground water resources would be *Less than Significant*.

Impact HY-3: The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite. (Less than Significant)

The project would not result in a substantial alteration of topography or alteration of drainage patterns. Site preparation would involve minor leveling and grading at the Sunol Yard and Watershed Center sites, where necessary. There would be no construction in creeks or in undeveloped areas adjacent to creeks. As discussed in **Section A.5.8, Standard Construction**

Measures, the project would implement BMPs during construction to minimize erosion, and prevent the discharge of sediment offsite. Therefore, any impacts related to drainage causing erosion or siltation would be *Less than Significant*.

Impact HY-4: The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite. (Less than Significant)

As discussed under Impact HY-3, the project would not result in substantial alteration of topography or alteration of drainage patterns. In accordance with the Construction General Permit's post-construction runoff reduction requirements, the project would be required by regulation to incorporate a variety of means to capture, control, detain, and ultimately release stormwater in an amount and at a rate no greater than the amounts and rates of stormwater runoff in the project site's existing condition. For these reasons, any resulting potential impacts for flooding effects from altered drainage patterns would be *Less than Significant*.

Impact HY-5: The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, cause flooding on and off site, or provide substantial additional sources of polluted runoff. (Less than Significant)

The project site is not served by a stormwater drainage system; therefore, this element of the impact criterion is not applicable to the project.

As discussed in **Section A.4.1, Sunol Corporation Yard Improvements** and **Section A.4.2, Development of Alameda Creek Watershed Center**, the project would install a new stormwater drainage system would be designed to facilitate infiltration and reduce the potential increase in stormwater runoff that could cause flooding on or off site. As stated in **Section A.7, Required Actions and Approvals** above, the project would be required to comply with State Water Resources Control Board (SWRCB): National Pollutant Discharge Elimination System (NPDES) Order 2009-0009-DWQ, "General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities" (Construction General Permit). Also, as discussed under Impact HY-1, the project would implement BMPs to prevent the discharge of pollutants. For all of these reasons, impacts relative to stormwater drainage capacity and to causing additional sources of polluted runoff would be *Less than Significant*.

Impact HY-6: The project would not otherwise substantially degrade water quality. (No Impact)

Besides the potential water quality impacts discussed in Impacts HY-1 and HY-3, the project would not otherwise substantially degrade water quality. Therefore, there would be *No Impact* related to this criterion.

Impact HY-7: The project would not place a structure within a 100-year flood hazard area that would impede or redirect flood flows. (Less than Significant)

The SFPUC intends to construct all proposed buildings at the Sunol Yard outside of the FEMA-estimated floodway associated with inundation caused by the 1-Percent Annual Chance Flood, and above the floodplain associated with the 1-Percent Annual Chance Flood. The Watershed Center is proposed to be located outside of the FEMA-estimated floodway and above the floodplain subject to inundation by the 1-Percent Annual Chance Flood.

The current flood insurance rate map (FIRM) (Map Number 06001C0460G, with an effective date of August 3, 2009) prepared by FEMA shows the special flood hazard areas subject to inundation by the 1-percent annual flood in the vicinity of the Sunol Yard and the Watershed Center. Most of the Sunol Yard is in the 100-year floodplain (Zone AE), with a base-flood elevation determined to be at Elevation 238 feet NAVD (see **Figure 15**).¹⁹⁶ The floodway runs along the western edge of the Sunol Yard, and represents the creek channel plus some portion of the adjacent floodplain area (i.e., a portion of Zone AE) that must be kept free from encroachment so that the 1-Percent Annual Chance Flood can be conveyed without a substantial increase (less than 1 foot) in the water surface elevation. A portion of the site is also in Zone X, which is the area subject to inundation by the 0.2-percent annual flood (also referred to as 500-year flood event). No new buildings are proposed in the floodway portion of the Sunol Yard. The ground elevation at the Sunol Yard ranges from approximately 239 feet to 244 feet; therefore, the ground-floor elevations for all new buildings would be above the base-flood elevation. The ground-floor elevation of the new administration building (which would have a higher level of occupancy than the other shop-type buildings) would be at Elevation 244.5 feet, which would be 6.5 feet above the base-flood elevation of 238 feet.

¹⁹⁶ FEMA, 2009. Flood Insurance Rate Map, Alameda County, CA and Incorporated Areas, Map Number 06001C0460G. Available online at: <https://msc.fema.gov/portal/search?AddressQuery=sunol%20california>.

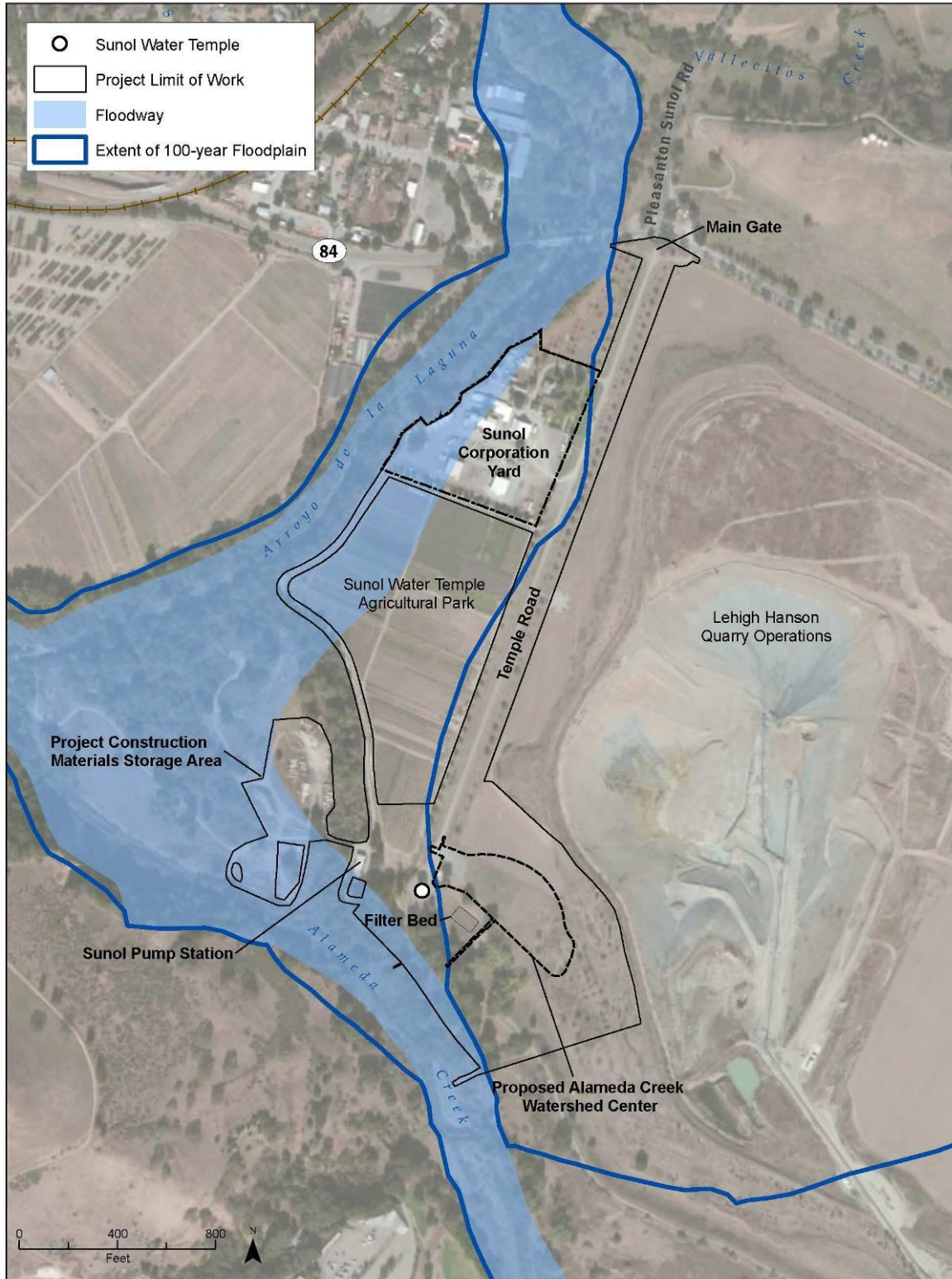


Figure 15
FEMA Flood Hazard Area Map

Comparing the site plan to FEMA's FIRM described above, the Watershed Center's structure would not be in the 100-year floodplain or floodway (see **Figure 15**). Furthermore, the ground-floor elevation would be at Elevation 243 feet, which would be 5 feet above the base-flood elevation of 238 feet. CCSF's Floodplain Management Program Ordinance (Ordinance Number 56-10) provides requirements for designating floodplains and for construction and development in floodplains. This ordinance also applies to construction on City-owned property outside the City of San Francisco boundaries that are in areas designated by FEMA as flood-prone.

The San Francisco Floodplain Management Ordinance (Ordinance Number 56-10), amended and approved by San Francisco's mayor and Board of Supervisors on March 25, 2010, as Chapter 2A, Article XX, Sections 2A.280-2A.285 of the City's Administrative Code, requires that new or substantially improved buildings in special flood hazard areas defined as the 100-year floodplains be protected against flood damage, and prohibits uses that would increase flood risks. In general, the ordinance requires that the first floor of buildings in flood zones be constructed above the floodplain or be flood-proofed, and be consistent with applicable federal and state floodplain management regulations. As described above, the Sunol Yard improvements and Watershed Center would comply with these requirements by either locating new structures outside the designated floodplain or by constructing the ground-floor elevation of new structures above the base-flood elevation.¹⁹⁷

Because the construction of buildings under the project would be in accordance with the requirements of the San Francisco Floodplain Management Ordinance, and because no new buildings would be constructed in FEMA-identified floodway, the potential impact of the project to impede or redirect flows would be *Less than Significant*.

Impact HY-8: The project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (No Impact)

As discussed under Impact HY-7, the project would conform to the San Francisco Floodplain Management Ordinance, which requires new buildings constructed in the 100-year floodplain to be protected from flood damage. The ground-floor elevation of the new administration building

¹⁹⁷ CCSF, 2010. *San Francisco Floodplain Management Program Fact Sheet*. CCSF Office of the City Administrator. Revised January 29.

at the Sunol Yard would be above the base-flood elevation. The new Watershed Center building would not be in the 100-year floodplain.

However, the project site is approximately 8 miles downstream of Calaveras Dam. Due to seismic safety concerns identified in 2001, the water level in Calaveras Reservoir has been lowered, and the water storage has been reduced to 40 percent of full capacity. As determined by the Department of Safety of Dams, the reduced storage in the reservoir is currently protecting downstream structures and people from potential impacts due to a failure of Calaveras Dam. SFPUC is currently replacing Calaveras Dam with a new dam that will restore the original storage capacity of the reservoir, and be capable of withstanding a maximum credible earthquake on the Calaveras Fault. The replacement dam will meet applicable seismic safety criteria, and thereby prevent a failure of the dam. Construction of the new dam began in summer 2011, and is expected to be complete in 2017.¹⁹⁸

The current reduced storage at Calaveras Dam and the construction of a replacement dam will continue to protect the project site, as determined in the Calaveras Dam EIR.¹⁹⁹ On completion of Calaveras Dam, the reservoir will have increased capacity, and rainfall from large storm events will be able to be safely retained. Therefore, in the future, risks associated with damaging floods in Alameda Creek downstream of the dam due to dam failure will be reduced. As a result, the risk of loss, injury, or death due to flooding as a result of a dam failure would not change due to the project, and there would be *No Impact*.

Impact HY-9: The project will not be inundated by, or result in any inundation by a seiche, tsunami or mudflow. (No Impact)

The proposed project is not near the coast or any lake shore, so it is not susceptible to inundation by a tsunami or seiche (see **Figure 1**). As discussed in the **Section E.14, Geology and Soils**, the slope angles and geologic materials are not conducive to the formation of mudflows. Therefore, there would be *No Impact* to the project as a result of inundation by a seiche, tsunami, or mudflow.

¹⁹⁸ CCSF, 2011. *Calaveras Dam Replacement Project Final Environmental Impact Report*. San Francisco Planning Department File No, 2005.016E. January 27.

¹⁹⁹ *Ibid*.

Impact C-HY: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact on hydrology and water quality. (Less than Significant)

The geographic context for the cumulative impacts associated with surface water hydrology and water quality is the watershed area contributing to the same receiving waters as the proposed project. Projects in the cumulative scenario include improvements to various existing SFPUC facilities that would entail ground-disturbing activities.

The proposed project, in addition to all of the projects listed in **Table 9**, could contribute to a cumulative impact on hydrology and water quality. The primary cumulative effect of these projects would be to significantly alter the natural hydrology of the Alameda Creek and Arroyo de la Laguna watersheds through increases in the area covered by impervious surfaces and through increases in the potential for the release of non-point source pollutants (i.e., motor fuels, trash, and sediment). This would be a significant cumulative impact on hydrology and water quality.

However, the proposed project, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality regulations. The proposed project, along with all other projects over 1 acre in size (which includes most of the projects in the cumulative scenario), would be required to obtain coverage under the NPDES Construction General Permit, which requires that each project proponent identify and/or implement water quality stormwater BMPs (such as required by the SFPUC Standard Construction Measures) that effectively control erosion and sedimentation and other construction-related pollutants. Further, for those projects identified in the cumulative scenario in Alameda County that would meet the definition of “new development and redevelopment projects” under the San Francisco Bay Municipal Regional Stormwater Permit, they would be required to implement site design, source control and, in some cases, treatment control BMPs necessary to control the volume, rate, and water quality of stormwater runoff from the project during long-term operations.

The proposed project’s contribution to cumulative hydrology and water quality impacts would not be cumulatively considerable for a number of reasons: the project would not violate water quality standards or waste discharge requirements (see the analyses of Impact HY-1 and Impact HY-2, above); the project would not substantially alter existing drainage patterns (Impacts HY-3 & 4, above); the project would not contribute runoff that would exceed drainage capacities

(Impact HY-5, above); and project construction would be of short duration, and comply with construction water quality BMPs required under the Construction General Permit (Impact HY-1, above).

Therefore, the project's contribution to any cumulative impact on hydrology and water quality would not be cumulatively considerable (*Less than Significant*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.16 HAZARDS AND HAZARDOUS MATERIALS—					
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is not within 2 miles of a public airport, and there are no private airstrips within 2 miles of the project site; therefore, significance criteria 16 e) and f) are not applicable to the project, and are not discussed further in this section.

The term “hazardous materials” refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such, or if it is toxic (causes adverse human health effects),

ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). The term “hazardous material” is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment if released into the workplace or the environment.²⁰⁰

Land use in the vicinity of project site is primarily agricultural, with open space, and commercial and residential areas to the north in the town of Sunol. A search of the SWRCB’s GeoTracker²⁰¹ and the California Department of Toxic Substances Control (DTSC)’s EnviroStor²⁰² online databases was conducted to identify hazardous materials sites within ¼ mile of the project site. GeoTracker includes the following types of environmental cases: leaking underground storage tank (LUST) sites; land disposal sites; military sites; DTSC cleanup sites; other cleanup sites; permitted UST facilities; and permitted hazardous waste generators. EnviroStor includes federal Superfund sites, state response sites, voluntary cleanup sites, school cleanup sites, corrective action sites, and tiered permit sites. The following sites were listed as hazardous material sites:

SFPUC Sunol Yard and Sunol Pump Station. The Sunol Yard is a listed LUST case, and consists of three areas on the property:

- **Sunol Pump Station.** Three USTs, consisting of one 10,000-gallon diesel UST and two 400-gallon USTs were removed from the Pump Station in November 1993. Total petroleum hydrocarbons as diesel (TPH-d), oils and grease, and semi-volatile organic compounds were detected in soil samples collected from the tank excavations.
- **Sunol Yard.** Three USTs, consisting of one 550-gallon regular gasoline UST, one 1,000-gallon unleaded gasoline UST, and one 550-gallon diesel UST were removed from the southern portion of the Sunol Yard in May 1990. Total petroleum hydrocarbons as gasoline, TPH-d, and benzene, toluene, ethylbenzene, and xylene were detected in soil samples collected from the tank excavations.

²⁰⁰ California Health and Safety Code, Chapter 6.95, Section 25501(p).

²⁰¹ SWRCB, 2014. GeoTracker Database. Available online at: <http://geotracker.swrcb.ca.gov/>. Accessed May 2014.

²⁰² DTSC, 2014. EnviroStor Database. Available online at: <http://www.envirostor.dtsc.ca.gov/public/>. Accessed May 2014.

- **Sunol Yard.** An unlined sump near the southeastern corner of a storage shed in the Sunol Yard was reportedly used for disposal of waste oil and other liquids. The storage shed was approximately 50 feet southwest of the three USTs in the Sunol Yard (described above). Total recoverable hydrocarbons, oil and grease, and volatile organic compounds were detected in soil samples collected from the immediate vicinity of the sump.

The Sunol Yard has been operated by the SFPUC and its predecessor, the Spring Valley Water Company, since the early 20th century. Site investigations and excavation activities were conducted at various times until 2003. Investigations indicated that contaminants were not migrating off site, and a recommendation was made to close the case.²⁰³

In February 2012, the Alameda County Health Care Services issued a Remedial Action Completion Certification, closing the LUST case for the site.²⁰⁴ Oil and grease still remains in soil near a storage shed, and TPH-d remains in groundwater at the pump station; therefore, the case was closed with Site Management Requirements that limit future use of the site to the current municipal corporation yard and pump station.

Other Sites. Two other LUST cases were identified in the vicinity in the GeoTracker database. These were the Louthan Property and Chevron. Both cases are closed, and are on Main Street in Sunol, nearly ¼ mile from the project site. These cases would not affect or be affected by the proposed project, given the distance involved and due to the nature of the proposed project. No other hazardous materials sites were identified near the project site.

Impact HZ-1: The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant with Mitigation Incorporated)

Project construction would require the transport and use of fuels, lubricants, and solvents for construction vehicles and equipment. Small quantities of these materials could be stored at the site during project construction. It is reasonable to assume, for the purposes of this analysis, that any hazardous materials needed for construction would be stored and used in accordance with

²⁰³ Kennedy/Jenks Consultants, 2011. Site Summary Report – SFPUC Sunol Yard, 505 Paloma Way, Sunol, California, K/J 1165008*00. May.

²⁰⁴ Wickham, Jeremy, 2011. Letter from Jeremy Wickham, Alameda County Environmental Health Department, to Casey Sondgeroth, San Francisco Public Utilities Commission. November.

the applicable regulations that specify hazardous materials storage and handling requirements, such as proper container types, spill containment, and usage methods for minimizing the potential for releases and harmful exposures. Regulatory requirements addressing the proper storage, use, and transportation of hazardous materials are found in the California Fire Code, California Health and Safety Code Hazardous Materials Business Plan regulations, and Caltrans regulations.

Earth-moving activities such as excavation and grading can generate fugitive dust, which may contain naturally occurring asbestos. Naturally occurring asbestos is associated with serpentine bedrock. The project site is situated on deep alluvial sediments originating from Alameda Creek and other nearby drainages. Surficial soils are mapped as Yolo Loam.²⁰⁵ Given the geomorphic setting of the project site, there is very little potential for encountering natural serpentine soils, which form in upland geomorphic positions on shallow and exposed serpentine bedrock. Therefore, there is little potential for the proposed project to excavate deep enough to encounter serpentine bedrock that may exist under the study area.

Structures that would be demolished are likely to contain lead-based paint (LBP) and asbestos-containing materials (ACM), given their age. Buildings constructed prior to the 1980s often used these materials. The Sunol Cottage was sampled in 2006 for LBP and ACM.²⁰⁶ Analytical results indicated that loose and peeling paint in the cottage contained lead and several types of building materials (e.g., heating, ventilation, and air conditioning ductwork insulation; roofing materials; and some joint compounds and adhesives) were positive for asbestos. Removal of these materials requires special handling and disposal procedures.²⁰⁷ Other buildings at Sunol Yard that would be demolished as part of the proposed project have not been sampled for LBP and ACM. Removal of LBP and ACM may present a health risk to workers, which would be a significant impact. However, implementation of **Mitigation Measure M-HZ-1, Hazardous Materials Building Survey**, would reduce risk to workers to less-than-significant levels by requiring sampling of previously unsurveyed structures to determine if LBP and/or ACM are present, so

²⁰⁵ Natural Resources Conservation Service, United States Department of Agriculture, 2011. Web Soil Survey. Available online at: <http://websoilsurvey.nrcs.usda.gov>. Accessed December 12, 2011.

²⁰⁶ North Tower Environmental, 2006. Lead and asbestos sampling memorandum. Prepared for San Francisco Department of Public Works. July 27.

²⁰⁷ CCR Title 8 Sections 1529 and 1532.1.

that appropriate state and federal regulations regarding abatement and handling of these materials, as well as worker safety, are implemented.

As discussed in **Section E.15, Hydrology and Water Quality**, above, water quality BMPs required by the SFPUC's construction contract specifications and/or by compliance with the requirements of the Construction General Permit, would include BMPs designed to prevent pollutants from contacting stormwater and moving off site into receiving waters. Examples of hazardous materials BMPs to protect surface and groundwater from possible sources of contamination include conducting routine inspections for leaks, placing drip pans underneath parked vehicles, protecting the ground surface with tarps in equipment and materials storage areas, storing incompatible hazardous materials separately, using secondary containment for hazardous materials storage, keeping spill clean-up kits available on site, designating appropriate sites in the construction area as refueling stations for construction vehicles, and maintaining compliance records. Implementation of standard BMPs through adherence to regulations and implementation the SFPUC's Standard Construction Measures, in addition to **Mitigation Measure M-HZ-1, Hazardous Materials Building Survey**, and then implementing applicable regulatory requirements as a result of the survey results, would serve to further reduce impacts due to the routine transport, use, or disposal of hazardous materials, to *Less than Significant with Mitigation Incorporated*.

Operations at the Sunol Yard would not change substantially from current operations. Hazardous materials stored and used at Sunol Yard include various petroleum products (oils, grease, and fuel), paints, solvents, fertilizers, pesticides, and other materials as listed in the Hazardous Materials Business Plan for the site.²⁰⁸ The site also contains existing USTs for gasoline and diesel fuels. However, because project operation would not change substantially, ongoing compliance with existing hazardous materials laws and regulations would ensure that the project would have *No Impact*, due to the routine transport, use, or disposal of hazardous materials, above existing baseline conditions.

²⁰⁸ AEW Engineering, Inc., 2013. Hazardous Materials Business Plan – Sunol Maintenance Yard. Sunol, California. Prepared for San Francisco Public Utilities Commission and San Francisco Department of Public Works.

Mitigation Measure M-HZ-1: Hazardous Materials Building Survey

For structures that have not been previously surveyed, and if the structure is known or suspected to have been constructed prior to the 1980s, a hazardous building materials survey shall be performed. The survey shall be conducted by a qualified environmental professional, and the results shall be submitted to the SFPUC prior to removing the structures at the Sunol Yard. If ACM are determined to be present, the materials shall be abated by a certified asbestos abatement contractor in accordance with the regulations and notification requirements of the BAAQMD, and in accordance with applicable worker safety regulations. If LBP is identified, then loose or peeling paint will be removed by a qualified lead abatement contractor, and disposed of in accordance with existing hazardous waste and worker safety regulations.

Impact HZ-2: The project would not 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)

No project-related processes or operations would create reasonably foreseeable upset and accident conditions involving the release of large amounts of hazardous materials into the environment. Hazardous materials used during construction, such as fuel for construction equipment and vehicles, would be managed in accordance with applicable laws and regulations as described under Impact HZ-1, including having spill containment and cleanup kits available on site. Because project construction would involve relatively minor quantities of hazardous materials, with mandatory compliance with existing hazardous materials laws and regulations, the potential hazard of a release of hazardous materials resulting from an upset or accident would be *Less than Significant*. As discussed above, project operation, relative to the use and/or transport of hazardous materials, would not change substantially from existing conditions.

Impact HZ-3: The project would not emit hazardous emissions, but would handle limited amounts of hazardous materials within ¼ mile of an existing school. (Less than Significant)

The Sunol Glen Elementary School is approximately 825 feet northwest of the project site. Project construction would not involve processes that would create hazardous emissions or use materials in quantities that if spilled would create a hazard at the school. Dust emissions from the site during construction would be controlled with construction BMPs, as discussed in **Section E.7, Air Quality**, above.

Hazardous materials handling during construction would be limited to minimal amounts of fuels and lubricants for construction vehicles and equipment; and paints, solvents, or other materials used in the construction of new facilities. These materials are not considered acutely or extremely hazardous as defined by the California Code of Regulations.²⁰⁹ In addition, it is reasonable to assume that the handling of hazardous materials during project construction would be in compliance with existing hazardous materials laws and regulations. Also, there would be no substantial change in operations, relative to the use and/or transport of hazardous materials. Therefore, the potential impact of hazardous materials use on individuals at the nearby Sunol Glen Elementary School would be *Less than Significant*.

Impact HZ-4: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; however, the project would not create a hazard to the public or the environment. (Less than Significant with Mitigation Incorporated)

The Sunol Pump Station and Sunol Yard is itself identified on regulatory agency lists compiled pursuant to Government Code Section 65962.5. As described above, the site contained LUSTs. The site has been remediated, and the case was closed as of February 15, 2012, with Site Management Requirements that, due to the assumed continued presence of petroleum hydrocarbons in site soils and groundwater, limit future use of the site to the current municipal corporation yard and pump station.²¹⁰

The project would involve excavations, typically not more than 5 feet below the existing ground surface, but up to 15 feet deep to remove the existing USTs and for installation of the wastewater holding tanks (see **Section A.4.1, Sunol Corporation Yard Improvements**). Because residual soil and groundwater contamination exists at the former site in Sunol Yard, contaminated soils or groundwater could be encountered; the project does not propose excavation work at the Sunol Pump Station. As described in **Section E.15, Hydrology and Water Quality**, groundwater is generally at greater depths than the planned excavations. Implementation of **Mitigation Measure M-HZ-4, Contingency Plan for Potential Encounters with Contaminated Soils or Groundwater during Construction**, would reduce the impact related to the project's location on

²⁰⁹ CCR Title 22, Division 4.5, Chapter 11, Appendix X - List of Extremely Hazardous Wastes.

²¹⁰ SWRCB, 2014. GeoTracker Database. Available online at: <http://geotracker.waterboards.ca.gov>. Accessed August 2014.

a listed hazardous materials site to *Less than Significant with Mitigation Incorporated*, by requiring specific procedures to be followed if contaminated soils or groundwater are encountered.

Mitigation Measure M-HZ-4: Contingency Plan for Potential Encounters with Contaminated Soils or Groundwater during Construction

For all ground-disturbing construction work at the Sunol Yard, the SFPUC shall require the Contractor to prepare and implement a contaminated soils and groundwater contingency plan that prescribes activities for workers to follow when the presence of soil or groundwater contamination is suspected, based on prior onsite investigations or on visual observation or smell. The plan shall include but is not limited to provisions for daily briefings of construction staff prior to grading, trenching, or other ground-disturbing construction work, regarding what to look for; a list of contact persons in case of a possible encounter with contaminated soils or groundwater; provisions for immediate notification of the SFPUC resident engineer; notification of the applicable local enforcement agency, as well as consultation with that agency; and protocols for further action. In instances where contamination is discovered, construction activities within 30 feet of the potentially affected area (or other distance as identified by applicable local enforcement agency) would cease until it is determined, in coordination with the applicable local enforcement agency, that work can proceed without the risk of injury to persons or the environment.

The plan will outline the steps to be taken if suspected contaminated soils or groundwater or hazardous materials are discovered during excavation. The contingency plan will be site specific. The procedures outlined below provide the protocols to identify potential contamination and take appropriate action to avoid the spread of contaminants into the surrounding environment and protect workers on-site.

The plan will include information on contamination or hazardous materials indicators including but not limited to the following:

- Intact or broken drums and containers.
- Unusual odors.
- Discolored or stained water seeps or soils.
- Petroleum hydrocarbon contaminated soil and/or free product.
- Broken pipes or fragments or other buried debris.
- Unusual lack of or stressed vegetation.

The plan shall require the Contractor to actively monitor for the indicators.

In the event that an indicator is identified, the plan will identify required actions including the following:

- Stop all work within a 30 foot radius of the area where the suspect material/emission/discharge (or other distance as identified by the applicable local enforcement agency). Work shall not resume within a 30 foot radius of the area unless authorized by the SFPUC resident engineer.
- Contractor staff will immediately notify the onsite Contractor site supervisor and SFPUC resident engineer.
- The Contractor will cordon off the area as practicable with a suitable barrier (e.g., caution tape or orange high visibility fencing).
- SFPUC resident engineer will notify the applicable local enforcement agency that potential contamination has been discovered and contingency action is being implemented.
- As consistent with direction from the applicable local enforcement agency, the Contractor will characterize the potential contamination by collecting and submitting samples for laboratory analysis.
- In consultation with SFPUC resident engineer and the applicable local enforcement agency, the Contractor will implement controls to isolate the contaminated material, including prevention of migration.
- When the material characteristics have been established, the Contractor will implement appropriate disposal options in consultation with SFPUC and the local enforcement agency (e.g., removal and disposal at an appropriately licensed landfill).

The Contractor will ensure that material hauling will be conducted in accordance with all local, state and federal laws regarding material handling and transport.

Impact HZ-5: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

Project construction could interfere with an adopted emergency response plan or emergency evacuation plan if construction activities were to involve the complete or partial closure of important roadways, interfere with identified evacuation routes, restrict access for emergency response vehicles, or restrict access to critical facilities such as hospitals or fire stations. However, construction at the project site would occur within the limits of existing SFPUC property or easements, and would not interfere with any important roadways. Worker trips and equipment deliveries would cause minimal increases in traffic on public roads. Therefore, the project impact

related to interference with an adopted emergency response plan or emergency evacuation plan would be *Less than Significant*.

Impact HZ-6: The project would not expose people or structures to a significant risk of loss, injury, or death involving fires. (Less than Significant)

As described above, project operation would not change substantially from existing conditions, and the proposed project would not represent an increased fire hazard over existing conditions. During construction, the use of vehicles and equipment—as well as the temporary onsite storage and use of small quantities of diesel fuel, gasoline, and lubricants—could pose a fire risk. Potential sources of ignition include equipment with internal combustion engines; gasoline-powered tools; and equipment or tools that produce a spark, fire, or flame. Smoking by construction personnel could also be a potential source of ignition during construction. The Sunol Yard is largely cleared of shrubs and trees, although such vegetation is present along the western boundary.

Regulations governing the use of construction equipment in fire-prone areas are designed to minimize the risk of wildland fires. Fire-prone areas include any forest-, brush-, or grass-covered land. These regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided for various types of work in fire-prone areas. The project would also be subject to the requirements of the California Fire Code. Fire code regulations (Chapter 14 of the California Fire Code) also address fire safety during construction. Construction precautions against fire must include the following: prohibitions on smoking except in approved areas; appropriate storage of materials susceptible to ignition, such as flammable and combustible liquids, and oily rags; procedures for cutting and welding; and maintenance of portable fire extinguishers and water for firefighting.

With adherence to these mandatory requirements, impacts related to fires from project construction would be *Less than Significant*.

Impact C-HZ: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact related to hazards and hazardous materials. (Less than Significant with Mitigation Incorporated)

Impacts could result from the project's use of hazardous materials during construction. These impacts would be primarily restricted to the project area and immediate vicinity; therefore, the geographic scope for cumulative impacts from hazards includes the project area and immediate vicinity.

The project would use common construction-related hazardous materials (fuels, lubricants, and solvents). All of the cumulative projects listed in **Table 9** that would be constructed in the vicinity of the proposed project could potentially use hazardous materials during construction. However, as discussed in Impact HZ-1, it is reasonable to assume that hazardous materials needed for construction would be stored and used in accordance with the applicable regulations that specify hazardous materials storage and handling requirements, such as proper container types, spill containment, and usage methods for minimizing the potential for releases and harmful exposures. Regulatory requirements addressing the proper storage, use, and transportation of hazardous materials are found in the California Fire Code, California Health and Safety Code Hazardous Materials Business Plan regulations, and Caltrans regulations. Structures that would be demolished are likely to contain lead based paint (LBP) and asbestos containing materials (ACM) depending on their age. **Mitigation Measure M-HZ-1, Hazardous Materials Building Survey**, would be implemented for all buildings proposed to be demolished that were constructed prior to 1980 and that have not previously been surveyed. If LBP and/or ACM are present, appropriate state and federal regulations regarding abatement and handling of these materials, as well as worker safety, would be implemented.

As discussed in **Section E.15, Hydrology and Water Quality** (above), water quality BMPs required by the SFPUC's construction contract specifications and/or by compliance with the requirements of the Construction General Permit, would include BMPs designed to prevent pollutants from contacting stormwater and moving off-site into receiving waters. Examples of hazardous materials BMPs to protect surface and groundwater from possible sources of contamination include conducting routine inspections for leaks, placing drip pans underneath parked vehicles, protecting the ground surface with tarps in equipment and material storage areas, storing incompatible hazardous materials separately, using secondary containment for hazardous materials storage, keeping spill clean-up kits available on-site, designating

appropriate sites within the construction area as refueling stations for construction vehicles, and maintaining compliance records. Implementation of standard BMPs, through adherence to regulations and implementation of the SFPUC's Standard Construction Measures, in addition to **Mitigation Measure M-HZ-1, Hazardous Materials Building Survey**, would serve to further reduce impacts due to the routine transport, use, or disposal of hazardous materials, below *less-than-significant* levels. Because the potentially cumulative projects listed in **Table 9** would be subject to these same requirements, potential cumulative impacts from use of hazardous materials during construction would be *Less than Significant*.

As discussed in Impact HZ-4, The Sunol Pump Station and Sunol Yard is itself identified on regulatory agency lists compiled pursuant to Government Code Section 65962.5. As described above, the site contained leaking underground storage tanks. The site has been remediated and the case was closed as of February 15, 2012 with Site Management Requirements that limit future use of the site to the current municipal corporation yard and pump station due to the assumed continued presence of petroleum hydrocarbons in site soils and groundwater.²¹¹

The project would involve excavations, typically not more than 5 feet below the existing ground surface, but would be deeper to remove the existing USTs and for installation of the wastewater holding tanks, up to 15 feet deep (see **Section A.4.1, Sunol Corporation Yard Improvements**). Because residual soil and groundwater contamination exists at the former site in the Sunol Yard, contaminated soils or groundwater could be encountered, which would be a significant cumulative impact. However, the project does not propose excavation work at the Sunol Pump Station. Nevertheless, as described in **Section E.15, Hydrology and Water Quality**, groundwater is generally at greater depths than the planned excavations. In addition, implementation of **Mitigation Measure M-HZ-4, Contingency Plan for Potential Encounters with Contaminated Soils or Groundwater during Construction**, would reduce the potential impact related to the project's location on a listed hazardous materials site to *Less than Cumulatively Considerable with Mitigation Incorporated* by requiring that specific regulatory procedures be followed if contaminated soil or groundwater are encountered (*Less than Significant with Mitigation Incorporated*).

²¹¹ Ibid.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.17 MINERAL AND ENERGY RESOURCES—					
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact MER-1: 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. (No Impact)

A portion of the SFPUC land where the Watershed Center would be constructed is currently leased to Mission Valley Rock Company and operated by Lehigh Hanson, an active sand and gravel mining operation in Sunol Valley. The operation comprises active excavation areas, maintenance and operations buildings, pits, silt/holding basins, processing facilities, and other outdoor equipment and materials storage areas. Although the lease would need to be modified to construct the Watershed Center at the proposed location, the area to be returned to SFPUC use lies outside of the limit of mining defined by the lease agreement, and was never intended nor planned to become part of the actively mined quarry.²¹² Furthermore, in the South San Francisco Bay Region Aggregate Study Area, the volume of permitted aggregate reserves is 404 million tons, which is 29 percent of the projected 50-year demand for the area.²¹³ Therefore, 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 (*No Impact*).

²¹² SFPUC, 2000. Quarry Lease between City and County of San Francisco and Mission Valley Rock Company. Alameda County, California. September.

²¹³ California Geological Survey, 2012. *Aggregate Sustainability in California*. Department of Conservation. Map Sheet 52.

Impact MER-2: The 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)

The project site is not designated as a locally important mineral resource recovery site in the East County Area Plan.²¹⁴ Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site (*No Impact*).

Impact MER-3: The project would not encourage activities that result in the use of large amounts of fuel, water, or energy; or use these in a wasteful manner. (Less than Significant)

Some quantities of fuel, water, and energy would be required to construct Sunol Yard improvements and the Watershed Center. Construction activities would not result in the use of large amounts of these items, or use them in a wasteful manner, because the construction contractor would have a very direct economic incentive to avoid doing so.

Three of the nine main project objectives are to:

- Reduce environmental effects and enhance energy efficiency through design and construction of buildings conforming to California Title 24 energy use standards, and secure LEED Gold certification for a replacement administration building, consistent with San Francisco green building requirements for municipal construction projects;
- Revise the layout of the Sunol Corporation Yard to be more useable and efficient; and
- Secure LEED Gold certification for the Watershed Center, in accordance with San Francisco green building requirements for municipal construction projects, and ensure project design and construction is consistent with the California Building Standards Code (2013), SFPUC seismic reliability standards, and ADA requirements (see **Section A.3, Project Purpose**, above).

As a result, operation of the Sunol Corporation Yard would require less energy after project completion, due to conforming to California Title 24 energy use standards, securing LEED Gold certification for a replacement administration building, improving the layout of Sunol Yard to be operated more efficiently. The Watershed Center would also be constructed to secure LEED Gold certification, in accordance with San Francisco green building requirements. Therefore, operation

²¹⁴ Alameda County Planning, 1994 [Revised 2000]. East County Area Plan. May 1994 [Revised November 2000].

of both the improved Sunol Yard and the Watershed Center would not result in the wasteful use of energy, and impacts would be *Less than Significant*.

Impact C-MER: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact related to mineral and energy resources. (Less than Significant)

As stated above, the project would result in no impact on mineral resources; therefore, the project would not contribute to any significant cumulative impact on mineral resources.

The geographic scope for potential cumulative impacts associated with the use of fuel, water, or energy encompasses the SFPUC water and power supply system. SFPUC supplies the city and county of San Francisco as well as others in the region with water and power. All of the cumulative projects listed in **Table 9** within the vicinity and other projects in the region would require the use of fuel, water, or energy. The proposed project and other projects in the region would be required to comply with the California Green Building Standards Code. Because this code encourages sustainable construction practices related to planning and design, energy efficiency, and water efficiency and conservation, it can be reasonably assumed that energy consumption would be reduced compared to conditions without such regulation. As a result, potential cumulative impacts related to the wasteful use of energy resources would be *Less than Significant*.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.18 AGRICULTURE AND FOREST 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. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

– Would the project

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project is not on or near any forest land or timberland. Because of this, significance criteria 18c and 18d are not applicable.

Impact AG-1: The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, 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 surrounds the Sunol Water Temple Agricultural Park (see **Figure 2**), which is land identified by the Farmland Mapping and Monitoring Program as being Farmland of

Statewide Importance.²¹⁵ There is additional Farmland of Statewide Importance across Arroyo de la Laguna to the west of the project site. Although the project site surrounds the Sunol Water Temple Agricultural Park, none of the land identified as Farmland of Statewide Importance would be impacted by the project. Access and utilities to the Sunol Water Temple Agricultural Park would not be altered. Because no land identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be converted to non-agricultural use, the project would result in *No Impact*.

Impact AG-2: The project would not conflict with existing zoning for agricultural use or a Williamson Act contract. (No Impact)

Local governments use Williamson Act contracts to help preserve agricultural lands and discourage urban development by reducing the property taxes a farmer would be required to pay if the land was not under a Williamson Act contract. None of the land in or immediately surrounding the project site is under a Williamson Act contract; therefore, *No Impact* to Williamson Act contracts would result from the project.

Impact AG-3: The project would not 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 forest land to non-forest use. (Less than Significant)

The project would remove approximately 2 acres of land that are currently cultivated as a hay/grain field in the southeastern part of the project site. This land (although not identified by the Farmland Mapping and Monitoring Program as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) is in a buffer area surrounding the adjacent quarry. The lease that the current quarry operator has with SFPUC would need to be amended to allow the Watershed Center to be constructed at the proposed location. Although 2 acres of farmland would be converted to a non-agricultural use, it would not represent a significant loss of agricultural land when compared to the approximately 250,000 acres of total agricultural land in Alameda County, representing a loss of less than one-thousandth of a percent of the county total.²¹⁶ Therefore, impacts associated with farmland conversion would be *Less than Significant*.

²¹⁵ California Department of Conservation, 2013. *Important Farmland Maps*. July.

²¹⁶ California Department of Conservation, 2013. *Farmland Mapping and Monitoring Program, Alameda County 2010-2012 Land Use Conversion*. Available online at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Alameda.aspx>. Accessed August 5, 2014.

Impact C-AG: The proposed project, in combination with past, present, and reasonable foreseeable future projects in the vicinity, would not have a significant cumulative impact related to agricultural and forest resources. (Less than Significant)

The geographic scope for potential cumulative impacts related to agricultural and forest resources encompasses the area of the project site and vicinity, which generally includes open space and park lands, Farmland of Statewide Importance, quarry operations adjoining the project site to the east, and the Town of Sunol to the north. Cumulative projects listed in **Table 9** above that are located within this geographic scope include the Town of Sunol Fire Suppression Project, the SMP-32 Quarry Operations, and the Alameda County Fire Department Sunol Project.

Two of the identified cumulative projects would not convert farmland to non-agricultural use. The addition of fire hydrants and increased flows associated with the Town of Sunol Fire Suppression Project would not convert farmland to non-agricultural uses in the project vicinity, and the Alameda County Fire Department Sunol Project would develop a currently undeveloped parcel of land and would not convert farmland to non-agricultural uses. However, the SMP-32 Quarry has converted approximately 85 acres of previously cultivated lands to non-agricultural uses since operations began in early 2006. As discussed above under Impact AG-3, approximately 2 acres of cultivated farmland would be converted to a non-agricultural use, but no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be impacted by the SLTI project. Together, the proposed project and the SMP-32 quarry operations could have a significant cumulative impact on agricultural land in the geographic scope. However, the project's conversion of 2 acres of land to a non-agricultural use would not be a considerable contribution to the cumulative impact (*Less than Significant*).

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than-Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.19 MANDATORY FINDINGS OF SIGNIFICANCE—Would the project:					
a) Have the potential to 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact MF-1: The project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species. (Less than Significant with Mitigation Incorporated)

The discussion in **Section E, Evaluation of Environmental Effects**, identifies potentially significant impacts on the environment related to cultural resources, recreation, biological resources, and hazards/hazardous materials. However, mitigation measures have been provided to address these potentially significant project-level impacts. Implementation of the mitigation measures would reduce the impacts to a less-than-significant level.

As discussed in Impact BI-1 in **Section E.13, Biological Resources**, project impacts on three special-status species that have a moderate or high potential to occur in or adjacent to the project site—white-tailed kite, loggerhead shrike, and San Francisco dusky-footed woodrat—would be less than significant with implementation of the following mitigation measures: **Mitigation Measure M-BI-1a: Nesting Bird Survey Protection; and Mitigation Measure M-BI-1b: Preconstruction Survey for San Francisco Dusky-Footed Woodrat** (*Less than Significant with Mitigation Incorporated*).

Impact MF-2: The project could cause a substantial adverse change in the significance of a historical resource (Less than Significant with Mitigation Incorporated)

As discussed in Impacts CP-1, CP-2, and CP-4, implementation of the proposed project could result in a substantial adverse change in the significance of a historical resource, an archaeological resource, a paleontological resource, or human remains. These impacts would be less than significant with implementation of **Mitigation Measure M-CP-1a: Historic Resources Protection Plan; Mitigation Measure M-CP-1b: Preconstruction Surveys and Vibration Monitoring; Mitigation Measure M-CP-1c: Secretary of the Interior’s Standards for Treatment of Historic Properties; Mitigation Measure M-CP-2a: Treatment of Known Archaeological Resources; Mitigation Measure M-CP-2b: Archaeological Monitoring and Accidental (Post-review) Discovery of Archaeological Resources; and Mitigation Measure M-CP-4: Accidental Discovery of Human Remains.**

Therefore, impacts related to elimination of important examples of California history or prehistory are *Less than Significant with Mitigation Incorporated*.

Impact MF-3: The proposed project could have impacts that would be individually limited, but cumulatively considerable. (Less than Significant with Mitigation Incorporated)

Section 15130 of the state CEQA Guidelines requires a reasonable analysis of the significant cumulative impacts of a proposed project. *Cumulative impact* refers to “two or more individual effects that, when considered together, are considerable or able to compound or increase other environmental impacts.” The individual effects may be changes resulting from a single project or an increase in the number of environmental impacts. The cumulative impact is the change in the environment that results when the incremental impact of the project is added to closely related past, present, or reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects that take place over a period of time (CEQA Guidelines Section 15355 [a][b]).

Recently approved and reasonably foreseeable projects and planning efforts in the vicinity of the project site are presented in **Table 9**, Cumulative Projects in the Sunol Long Term Improvements Project Vicinity.

This initial study determined that the proposed project would have no impact or the criteria are not applicable for population and housing, and wind and shadow. Therefore, the proposed project would not contribute to cumulative impacts related to these issue areas.

The assessment of potential cumulative impacts for the remaining environmental issue areas is provided in the relevant subsections of **Section E, Evaluation of Environmental Effects**. However, for the reasons described in **Sections E.1 through E.19**, with implementation of mitigation measures to address potentially significant project-level impacts, the proposed project's contribution to all cumulative impacts on the environment would not be cumulatively considerable (*Less than Significant with Mitigation Incorporated*).

Impact MF-4: The proposed project could have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. (Less than Significant with Mitigation Incorporated)

The discussion in **Section E, Evaluation of Environmental Effects**, identifies potentially significant impacts related to cultural resources, recreation, biological resources, and hazards/hazardous materials. Of these, impacts related to recreation and hazards/hazardous materials could adversely affect human beings. Mitigation measures have been provided in this initial study to reduce these potentially significant project-level impacts to a less-than-significant level. No project-level significant impacts were identified for the following environmental issue areas: land use; aesthetics; population and housing; transportation and circulation; noise; air quality; GHG emissions; wind and shadow; utilities and service systems; public services; geology and soils; hydrology and water quality; mineral and energy resources; and agricultural and forest resources. Therefore, with implementation of the mitigation measures specified in **Sections E.1 through E.18**, the proposed project would not result in substantial adverse effects, direct or indirect, on human beings (*Less than Significant with Mitigation Incorporated*).

F. MITIGATION MEASURES

The following mitigation measures have been adopted by the project sponsor, and are necessary to avoid potential significant impacts of the proposed project.

Mitigation Measure M-CP-1a: Historic Resources Protection Plan

The SFPUC shall retain a qualified engineer, in coordination with a qualified historic architect or architectural historian, to prepare a historic resources protection plan that specifies actions and methods that the contractor will undertake to reduce the likelihood of accidental collision damage to the Sunol Water Temple, Carrefour, and Sunol Valley Filter Beds when construction equipment pass in proximity to these historical resources. The plan shall require the Contractor to monitor activities to ensure use of protective measures. At a minimum, the plan shall address: 1) guidelines for the operation of construction equipment near the historical resources; 2) storage of construction materials and equipment away from the resources, as appropriate; 3) pre- and post-construction recording of the Sunol Water Temple, Carrefour, and the Sunol Valley Filter Beds to confirm post-construction condition; 4) requirements for monitoring and documenting compliance with the plan; and 5) use of exclusion fencing, and/or signs and education/training of construction workers about the protection of the historical resources. The plan shall be reviewed and approved by the SFPUC and implemented prior to use of project construction equipment in these three areas. In case accidental damage occurs during the construction of the project, the plan shall also direct the Contractor to stop the work activity that caused the damage, propose interim protection measures, and develop repair measures. The repair measures shall be reviewed and approved by the SFPUC prior to Contractor implementation, and will be monitored by the SFPUC for compliance with Secretary of the Interior's Standards for Treatment of Historic Properties.

Mitigation Measure M-CP-1b: Preconstruction Surveys and Vibration Monitoring

Prior to construction, the SFPUC shall retain the services of a California-licensed geotechnical engineer or similarly qualified expert in vibration effects on structures to 1) assess the potential for vibration effects on the Sunol Water Temple, Carrefour, and Sunol Valley Filter Beds from construction activities; 2) identify pre-construction and construction-period activities to be conducted by the contractor to monitor for and report

on potential vibration effects, including settlement and cracking; and 3) identify measures to be undertaken by the contractor if vibration effects are identified during monitoring, such as stopping adverse construction activities, contractor use of alternative construction methods that reduce the potential for vibratory impacts, and reduced vehicle speeds. The SFPUC shall also implement **Mitigation Measure M-CP-1c, Secretary of the Interior's Standards for Treatment of Historic Properties**, to repair damage to onsite historical resources caused by the project.

Mitigation Measure M-CP-1c: Secretary of the Interior's Standards for Treatment of Historic Properties

Details of the proposed repair work to the Carrefour, including but not limited to plans, drawings, and photographs of existing conditions, shall be submitted by the SFPUC to the San Francisco Planning Department prior to implementation. An architectural historian that meets the Secretary of the Interior's Professional Qualification Standards within the Planning Department will review the proposed project for compliance with the *Standards*. If necessary, the SFPUC shall pursue and implement a redesign of the proposed repair work to the Carrefour to the extent feasible, so that consistency with the *Standards* is achieved and/or a significant impact is avoided, as determined by the Planning Department.

Mitigation Measure M-CP-2a: Treatment of Known Archaeological Resources

The SFPUC shall retain the services of a qualified archaeological consultant, meeting the Secretary of Interior standards for archaeology, from the pool of qualified archaeological consultants maintained by the Planning Department Archeologist, or an alternate archaeological consultant on approval of the ERO. The archaeological consultant shall develop and undertake any archaeological monitoring, testing, and mitigation programs required in connection with this Mitigation Measure, the scope and implementation of which shall be directed and approved by the ERO or designee.²¹⁷

Archaeological site CA-ALA-565/H. In consultation with the ERO or designee, the archaeological consultant shall design and carry out an archaeological testing program at

²¹⁷ San Francisco Planning Department, 2008. *MEA WSIP Projects Archaeological Guidance*.

CA-ALA-565/H. The goal of the testing program shall be to provide an enhanced delineation of the archaeological site's structure and content in areas of planned construction. The plan shall also detail the participation of Native American cultural resource monitors during excavation and testing. The testing program shall be documented to the ERO in a preapproved format.

On the basis of the testing results and in consultation with the ERO or designee, the consultant shall prepare an Archaeological Research Design and Treatment Plan (ARDTP) for the recovery and treatment of resources determined to be potentially eligible to the California Register of Historical Resources (CRHR). The ARDTP shall identify how data recovery and other treatments, such as development of interpretive materials, will preserve the significant information of the archaeological resources to be impacted by the project. That is, the ADRTTP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ADRTTP will establish the procedures for data recovery and other treatments, describe how the investigation will address the research issues, and specify that the results will be provided in an Archaeological Data Recovery Report to the ERO or designee following implementation of the ARDTP. In general, data recovery shall be limited to the portions of the archaeological resource that could be adversely affected by the proposed project. The ARDTP shall include the elements specified in EP's Archaeological Guidance #7, including goals of the plan, description of the resource, research questions, field methods for recovering resources, laboratory methods, other treatment options (i.e., interpretive programs), and details on Native American coordination, as well as a practical work plan to carry out the program. The SFPUC shall ensure that the provisions of the ARDTP are carried out.

Archaeological site SYIP-1. The archaeological consultant shall monitor and, as necessary, direct the demolition of the Sunol Cottage and administration building to better determine the vertical and horizontal extent, and potential significance, of the

cultural deposit SYIP-1.²¹⁸ The buildings shall be deconstructed in a manner that minimizes impacts to the deposit below the crawl space; for example, by first removing all walls and roofs above the subfloor, then carefully deconstructing the subfloor. The SFPUC shall ensure that archaeological resources uncovered during this process are protected until the ERO or designee has determined appropriate treatment. The results of this phase of work shall be documented to the ERO in a letter report.

In consultation with the archaeological consultant, the ERO or designee shall determine if new discoveries made during fieldwork at SYIP-1 appear to constitute historical resources. If the ERO determines that the newly discovered archaeological resources constitute historical resources, the ERO may require treatment such as archaeological data recovery or the creation of an interpretive product. Treatment, if required, shall be presented in an ADRTP, as described above, prior to implementing data recovery. The SFPUC shall ensure that the provisions of the ARDTP are carried out.

Plan approvals and distribution. All plans and reports prepared by the consultant further to this Mitigation Measure shall be submitted first and directly to the ERO or designee for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Once approved, copies of the reports shall be distributed as follows: the California Historical Resources Information Center (NWIC) shall receive one copy; the ERO shall receive a copy of the transmittal of the reports to the NWIC. EP shall receive one bound, one unbound, and one unlocked, searchable PDF copy on CD (of archival quality) as well as copies of any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the CRHR. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

²¹⁸ URS, 2014. *Final Historic Context and Archaeological Survey Report, an Archaeological Survey of the Sunol Long Term Improvements Project Area, Alameda County, California*. Prepared for San Francisco Public Utilities Commission and San Francisco Planning Department, Environmental Planning Division.

Mitigation Measure M-CP-2b: Archaeological Monitoring and Accidental (Post-review) Discovery of Archaeological Resources

This Mitigation Measure is required to avoid and/or minimize potential adverse effects of construction-related activities on previously unknown, accidentally discovered, and potentially important resources by ensuring that they are recognized, protected, and treated appropriately.

Monitoring Plan. The SFPUC shall retain the services of an archaeological consultant meeting the Secretary of Interior standards for archaeology from the pool of qualified archaeological consultants maintained by the Planning Department archaeologist or an alternate archaeological consultant upon approval of the ERO. In consultation with the ERO or designee, the consultant shall prepare an Archaeological Monitoring Plan (AMP) in conformity to EP's Archaeological Guidance that specifies how archaeological monitoring shall be carried out on the project site, including monitoring locations, authority of the archaeological monitor, reporting, and steps to be implemented in the event of a discovery, including Native American coordination. The SFPUC shall ensure that the terms of the AMP are carried out.

ALERT Sheet and Training. The SFPUC shall ensure, prior to any soils disturbing activities, the distribution of the Planning Department's archaeological resource "ALERT" sheet to all personnel (including, machine operators, field crew, supervisory personnel, etc.) of the project prime contractor, any project subcontractor and any utilities firm involved in soils disturbing activities within the project site (including demolition, excavation, grading, foundation work, etc.). The SFPUC shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) confirming that all field personnel have received copies of the Alert Sheet. A preconstruction training shall be provided to all construction personnel by a qualified archaeologist prior to their starting work on the project. The training may be provided in person or using a video or handout prepared by the qualified archaeologist. The purpose of the training is to enable personnel to identify archaeological resources that may be encountered and to instruct them on what to do if a potential discovery occurs.

The SFPUC shall ensure that the following actions are carried out if any indication of an archaeological resource is encountered during any soils disturbing activity of the project:

1/ The project Contractor, SFPUC, or archaeological monitor shall immediately notify the

ERO or designee and the Contractor shall immediately suspend any soils disturbing activities within a minimum of 50 feet of the discovery until the ERO or designee has determined what additional measures shall be undertaken. This radius may be reduced at the discretion of the onsite archaeological monitor. 2/ The SFPUC shall immediately instruct the contractor to secure the resource in consultation with the archaeological consultant to protect it from vandalism, looting, or other damage. Each newly discovered resource shall be documented on a DPR 523 form that shall be submitted to the NWIC; the ERO shall receive a copy of the transmittal of the reports to the NWIC.

The archaeological consultant shall advise the ERO whether or not the discovery appears to constitute a historical or unique archaeological resource and, therefore, requires additional action. If the ERO or designee determines that the discovery may constitute a historical resource or unique archaeological the consultant will evaluate the resource. If confirmed as an historical or unique archaeological resource, the site shall be subject to archaeological data recovery and/or other treatment designed to minimize the effect of the project.

Plans and reports prepared by the consultant in connection with this Mitigation Measure shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.

Archaeological data recovery and treatment programs that may be required as the result of an unanticipated discovery may necessitate that construction is suspended for a maximum of 4 weeks. This suspension of construction would be restricted to areas subject to archaeological data recovery. The suspension may only be extended beyond 4 weeks if the ERO determines that additional time is needed to complete data recovery as the only feasible means to reduce potential effects on the archaeological resource to a less-than-significant level, as defined in CEQA Guidelines Section 15064.5 (a)(c). All archaeological activities carried out in connection with this Mitigation Measure shall conform to EP's Archaeological Guidance series.

Consultation with Descendant Communities. On discovery of an archaeological site associated with Native Americans, an appropriate representative of the descendant

group and the ERO shall be contacted.^{219,220} At the discretion of the ERO or designee, the Native American representative may be given the opportunity to: consult with the ERO regarding evaluation and appropriate archaeological treatment of the site; monitor archaeological field investigations of the site and/or view the materials recovered from the site and/or consult with the ERO regarding any interpretative treatment of the site. A copy of the Archaeological Data Recovery Report, if required by the ERO, shall be provided to the representative of the descendant group.

Mitigation Measure M-CP-4: Accidental Discovery of Human Remains

The following measures shall be implemented should construction activities result in the accidental discovery of human remains and associated cultural materials:

The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activities shall comply with applicable state laws. This shall include immediate notification of the coroner of the county in which the project is located, and in the event of the coroner's determination that the human remains are Native American, notification of the California NAHC, which shall appoint a MLD (PRC Section 5097.98). The archaeological consultant, SFPUC, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours for the MLD to make recommendations after access has been allowed to the remains. If the MLD and the other parties do not agree on the reburial method, the SFPUC shall follow Section 5097.98(b) of the PRC, which states that "the landowner or his or her authorized representative shall reinter the human remains and items

²¹⁹ The term "archaeological site" is intended here to minimally include any archaeological deposit, feature, burial, or evidence of burial.

²²⁰ An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the project area as maintained by the California Native American Heritage Commission.

associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.”

Mitigation Measure M-BI-1a: Nesting Bird Survey Protection

To protect nesting birds and their nests, the SFPUC shall retain a qualified wildlife biologist to conduct pre-construction surveys for nesting raptors and migratory birds prior to the commencement of construction activities that occur between March 1 and August 31 of any given year. The surveys shall be conducted a maximum of 14 days prior to the start of construction during the nesting season. The project area plus a 500-foot survey area surrounding the project area shall be surveyed for nesting raptors; a 150-foot survey area in addition to the project area shall be surveyed for other nesting birds. A nest is defined to be active for raptors and migratory birds if there is a pair of birds displaying reproductive behavior (i.e., courting) at the nest and/or if the nest contains eggs or chicks. If no active nests are detected, no additional mitigation measures will be required.

If active nests are located during the preconstruction bird nesting survey, the wildlife biologist shall evaluate whether the schedule of construction activities could affect the active nest, and the following measures shall be implemented based on their determination:

- If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect, and may revise their determination at any time during the nesting season. In this case, the following measure would apply.
- If construction may affect the active nest, the biologist shall establish a no-disturbance buffer. The biologist shall determine the appropriate buffer, taking into account the species involved, and whether the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e., adjacent to a road or active trail). No-disturbance buffers for passerines typically vary from 25 feet to 250 feet, and for raptors from 300 feet to 0.25 mile. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, or species of special concern), an SFPUC representative, supported by the wildlife

biologist, shall consult with the USFWS and/or CDFW regarding appropriate nest buffers.

- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.
- Removing or relocating active nests shall be coordinated by the SFPUC representative with the USFWS and/or CDFW, as appropriate, given the nests that are found on the site.

Any birds that begin nesting in the project area and survey buffers during construction are assumed to be habituated to construction-related or similar noise and disturbance levels, and no work exclusion zones shall be required.

Mitigation Measure M-BI-1b: Preconstruction Survey for San Francisco Dusky-Footed Woodrat

The SFPUC shall ensure that a qualified biologist conducts a survey for woodrat middens (i.e., nests) within all limits of construction prior to the initiation of clearing or grading in any given location. When feasible, surveys for woodrat nests shall start 1 month prior to site clearing so that any middens requiring removal can be addressed before construction.

- If no middens are found in such areas, no further action is required.
- If middens are found and can be avoided, the biologist shall direct the contractor in placing orange barrier fencing at least 2 feet but not more than 15 feet from the midden to avoid indirect disturbance to the midden.

If the minimum fencing distance cannot be achieved and the middens cannot be protected and/or avoided, a qualified biologist shall disassemble middens; or, if adjacent habitat is not suitable, trap and relocate woodrats out of the construction area (using live-traps) prior to the start of construction. In addition, the biologists shall attempt to relocate the disassembled midden to the same area where the woodrats are released. If young are present during disassembling, discontinue disassembling and inspect every 48 hours until young have relocated. The midden may not be fully disassembled until the young have left.

Mitigation Measure M-HZ-1: Hazardous Materials Building Survey

For structures that have not been previously surveyed, and if the structure is known or suspected to have been constructed prior to the 1980s, a hazardous building materials survey shall be performed. The survey shall be conducted by a qualified environmental professional, and the results shall be submitted to the SFPUC prior to removing the structures at the Sunol Yard. If ACM are determined to be present, the materials shall be abated by a certified asbestos abatement contractor in accordance with the regulations and notification requirements of the BAAQMD, and in accordance with applicable worker safety regulations. If LBP is identified, then loose or peeling paint will be removed by a qualified lead abatement contractor, and disposed of in accordance with existing hazardous waste and worker safety regulations.

Mitigation Measure M-HZ-4: Contingency Plan for Potential Encounters with Contaminated Soils or Groundwater during Construction

For all ground-disturbing construction work at the Sunol Yard, the SFPUC shall require the Contractor to prepare and implement a contaminated soils and groundwater contingency plan that prescribes activities for workers to follow when the presence of soil or groundwater contamination is suspected, based on prior onsite investigations or on visual observation or smell. The plan shall include but is not limited to provisions for daily briefings of construction staff prior to grading, trenching, or other ground-disturbing construction work, regarding what to look for; a list of contact persons in case of a possible encounter with contaminated soils or groundwater; provisions for immediate notification of the SFPUC resident engineer; notification of the applicable local enforcement agency, as well as consultation with that agency; and protocols for further action. In instances where contamination is discovered, construction activities within 30 feet of the potentially affected area (or other distance as identified by applicable local enforcement agency) would cease until it is determined, in coordination with the applicable local enforcement agency, that work can proceed without the risk of injury to persons or the environment.

The plan will outline the steps to be taken if suspected contaminated soils or groundwater or hazardous materials are discovered during excavation. The contingency plan will be site specific. The procedures outlined below provide the protocols to identify

potential contamination and take appropriate action to avoid the spread of contaminants into the surrounding environment and protect workers on-site.

The plan will include information on contamination or hazardous materials indicators including but not limited to the following:

- Intact or broken drums and containers.
- Unusual odors.
- Discolored or stained water seeps or soils.
- Petroleum hydrocarbon contaminated soil and/or free product.
- Broken pipes or fragments or other buried debris.
- Unusual lack of or stressed vegetation.

The plan shall require the Contractor to actively monitor for the indicators.

In the event that an indicator is identified, the plan will identify required actions including the following:

- Stop all work within a 30 foot radius of the area where the suspect material/emission/discharge (or other distance as identified by the applicable local enforcement agency). Work shall not resume within a 30 foot radius of the area unless authorized by the SFPUC resident engineer.
- Contractor staff will immediately notify the onsite Contractor site supervisor and SFPUC resident engineer.
- The Contractor will cordon off the area as practicable with a suitable barrier (e.g., caution tape or orange high visibility fencing).
- SFPUC resident engineer will notify the applicable local enforcement agency that potential contamination has been discovered and contingency action is being implemented.
- As consistent with direction from the applicable local enforcement agency, the Contractor will characterize the potential contamination by collecting and submitting samples for laboratory analysis.
- In consultation with SFPUC resident engineer and the applicable local enforcement agency, the Contractor will implement controls to isolate the contaminated material, including prevention of migration.
- When the material characteristics have been established, the Contractor will implement appropriate disposal options in consultation with SFPUC and the local enforcement agency (e.g., removal and disposal at an appropriately licensed landfill).

The Contractor will ensure that material hauling will be conducted in accordance with all local, state and federal laws regarding material handling and transport.

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G. PUBLIC NOTICE AND COMMENT

On March 20, 2014, the Planning Department circulated a Notification of Project Receiving Environmental Review (Neighborhood Notice). One agency letter was received from the EBRPD, summarized as follows:

- **EBRPD** requested the inclusion of analysis in this IS/MND of potential environmental impacts associated with a 10-foot-wide steel pedestrian bridge spanning roughly 90 to 100 feet over Alameda Creek in the vicinity of the Sunol Water Temple. However, the bridge discussed by the EBRPD is not part of the proposed project, nor is a bridge necessitated by the proposed project, and therefore its potential effects are not considered in the analysis of the potential effects that are the subject of this IS/MND. Nevertheless, the proposed project would not preclude the future development of such a facility as part of trail connections outlined in the EBRPD Master Plan, for example.

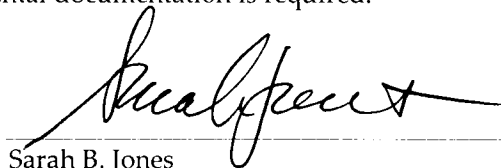
No comments were received from property owners or residents within 300 feet of the project site, media, or other interested parties.

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H. DETERMINATION

On the basis of this Initial Study:

- 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



Sarah B. Jones
Environmental Review Officer

for

John Rahaim
Director of Planning

DATE: February 11, 2015

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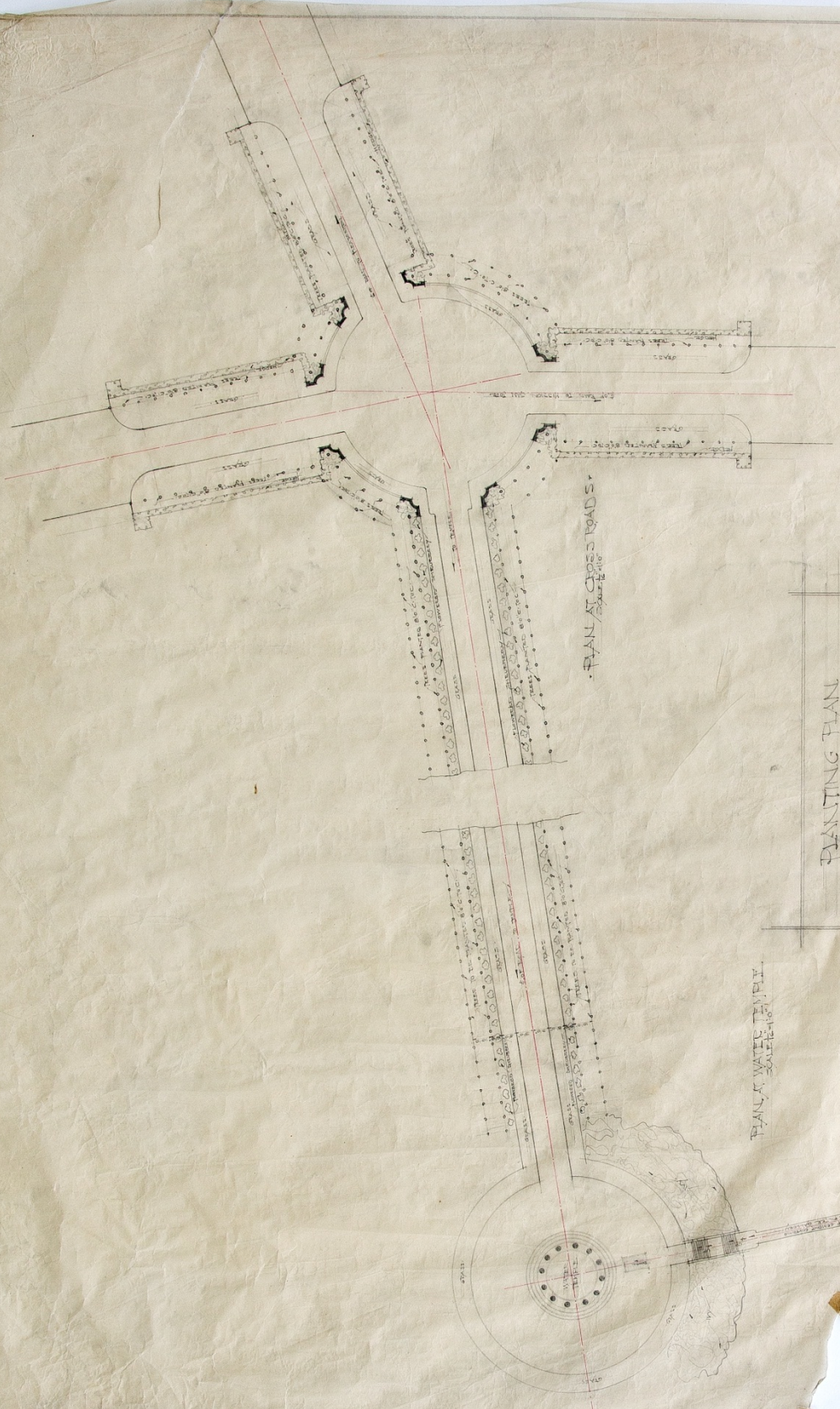
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APPENDIX A

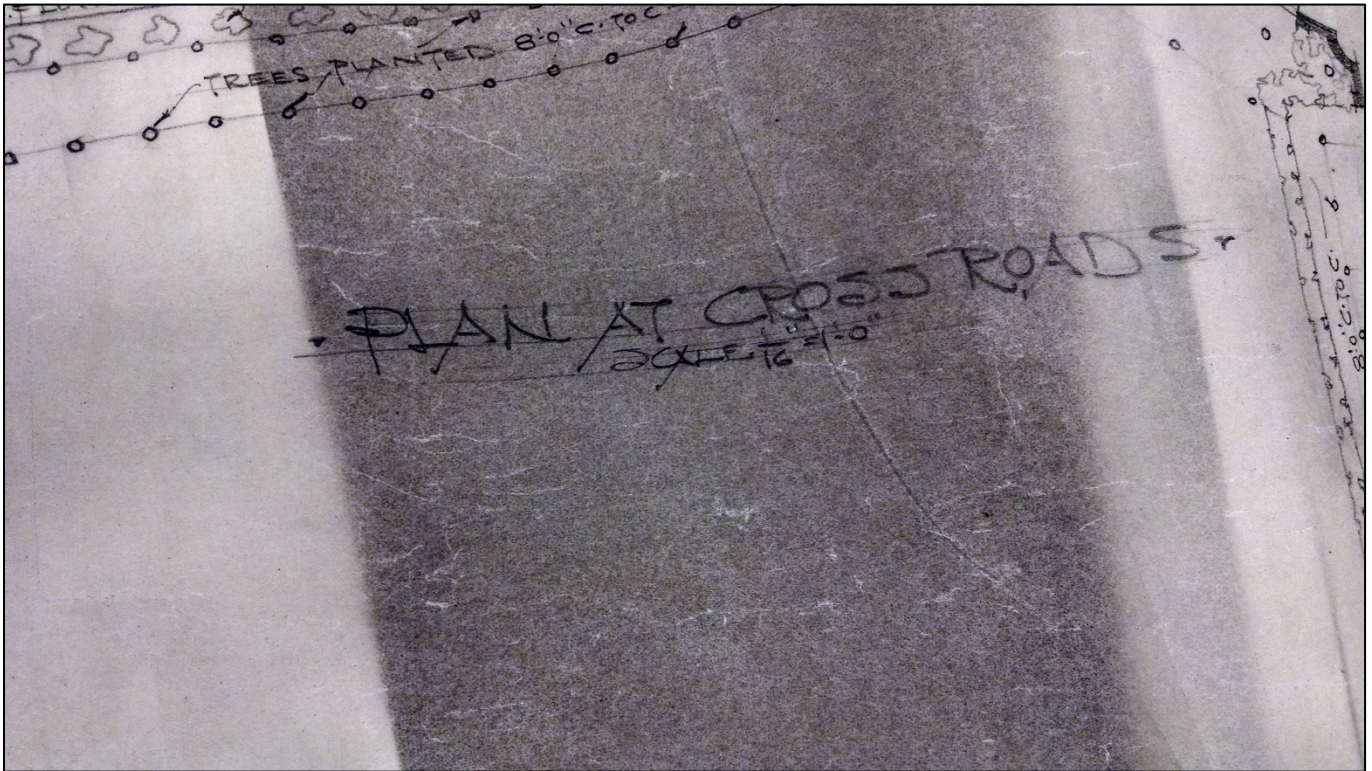
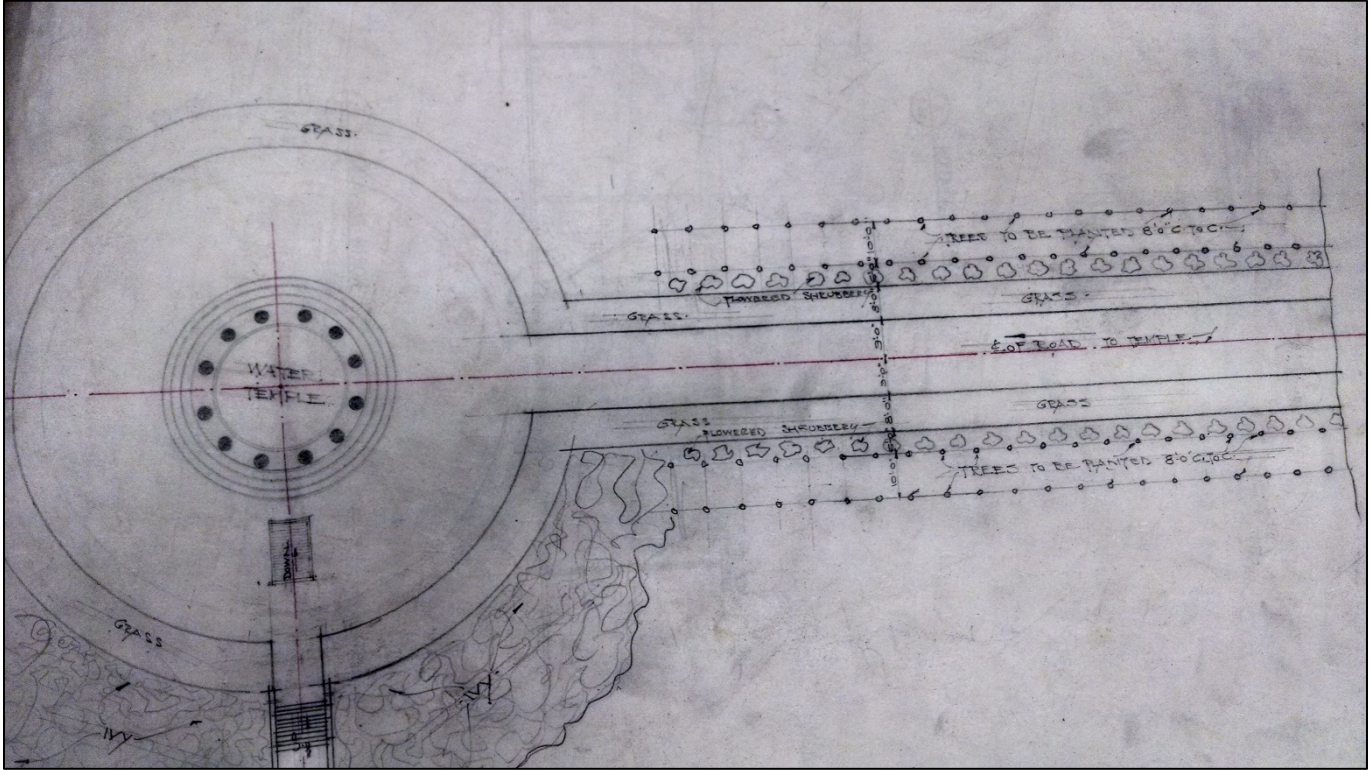
Sunol Water Temple Historic Plans and Photographs



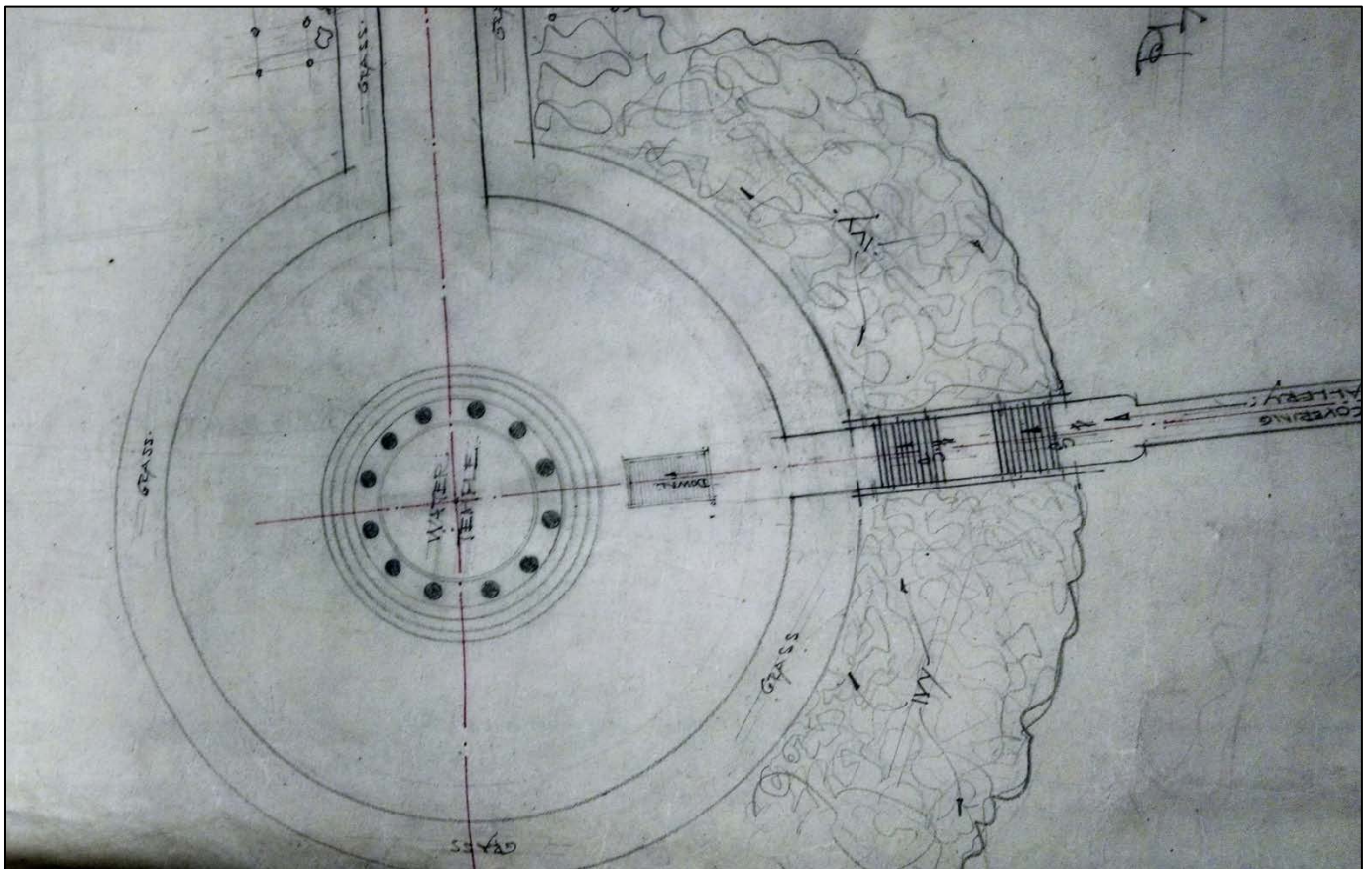
PLAN OF CROSS ROADS

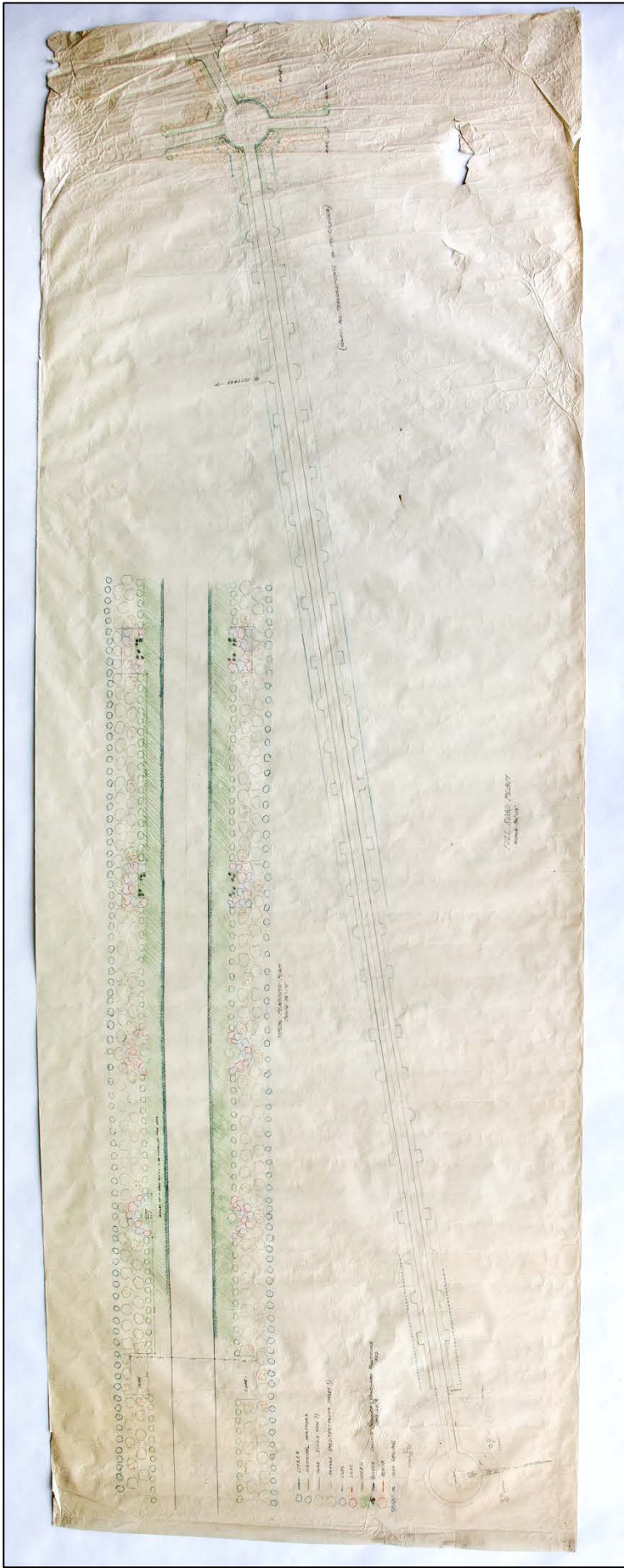
PLAN OF WATER TUNNEL

PLANNING PLAN
 OF
 APPROACH TO WATER TUNNEL
 - CONSOLIDATED WATER CO.
 WILLIAMS & CO. ARCHITECTS.
 SAN FRANCISCO CAL.



PLANTING PLAN
OF
APPROACH TO WATER TEMPLE
SONOMA - ALAMEDA CO
WILLIS POLK & CO ARCHITECTS -
SAN FRANCISCO CAL.









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Water Temple - Sunol

APPENDIX B

Construction Equipment Estimates

*CS-128A, Task Order No. 3 – Sunol Long Term Improvements Project***Estimated Equipment Usage During Construction**

PREPARED FOR: SFPUC Engineering Management Bureau
PREPARED BY: Kennedy/Jenks Consultants | Water Resources Engineering
DATE: August 14, 2012
UPDATED: August 21, 2013 (SFPUC & CCSF DPW)

Introduction**Background**

The SFPUC Sunol Long Term Improvements Project is composed of two separate elements: improvements to the existing Sunol Yard and development of a new interpretative center, the Alameda Creek Watershed Center. The Sunol Yard provides a base from which Water Supply and Treatment Division staff can manage, maintain, and control east bay operations. The Watershed Center is a new facility that will serve as an exhibit area for visitors to the Sunol Water Temple while housing historical displays of the San Francisco water system, the Sunol Valley, and the local ecology.

The Sunol Yard will be reconfigured to improve efficiency of operations. With the exception of existing pre-fabricated maintenance shops and the Town of Sunol pump station, the other buildings within the yard will be demolished and replaced by new structures. Two new shops (electrical/plumbing shop and electronic maintenance technicians [EMT]/radio shop) and several new covered storage structures will be incorporated into the yard layout. New above-ground fuel tanks will be installed at a relocated fueling station. Security fencing will be provided along the perimeter of the yard.

The Watershed Center will be constructed in the vicinity of the Sunol Temple. An accessible parking lot will serve the center. The area around the entrance gate as well as the temple road will be rehabilitated. Landscaping will be installed along the temple road and the area surrounding the Watershed Center.

A Conceptual Engineering Report (CER) was prepared by the SFPUC for the Sunol Long Term Improvements Project. The CER provides design guidelines and establishes basic requirements for each facility within the Sunol Yard and Watershed Center.

Scope

EMB requested the development of construction schedules and equipment usage estimates for the construction of the Sunol Long Term Improvements Project. The construction schedules were to include only basic construction activities, with sufficient detail to allow the estimating of equipment usage. Details on planned construction activities were provided

by EMB; these details included excavation and fill quantities, volumes of construction materials, and volumes of demolished facilities.

This Technical Memorandum (TM) presents construction schedules and estimates of equipment usage developed in consultation with EMB. Separate construction schedules are presented for the Sunol Yard and the Watershed Center, at EMB's request. Gantt Charts were prepared initially in draft form and submitted to the EMB for review; the Gantt Charts included in this TM incorporate EMB's revisions and comments. Estimates of equipment usage are presented using templates provided by EMB. Separate estimates are provided for the Sunol Yard and the Watershed Center.

Construction Schedules

Sunol Yard

The proposed layout for existing and new facilities at Sunol Yard is presented as Figure 1. A Gantt chart illustrating a hypothetical construction schedule for the work at the Sunol Yard is presented in Figure 2.

Watershed Center

The proposed layout of Alameda Creek Watershed Center is illustrated in Figure 3. A Gantt chart illustrating a hypothetical construction schedule for the Watershed Center is presented in Figure 4.



SITE FEATURES

1. ADMINISTRATION BUILDING (10,140 SF)
2. SHOP #6 (EMT AND RADIO) (3,600 SF)
3. SHOP #5 (PLUMBING AND ELECTRICAL) (3,600 SF)
4. COVERED MATERIAL STORAGE (8,000 SF)
5. LARGE EQUIPMENT COVERED STORAGE #1 (8,000 SF)
6. LARGE EQUIPMENT COVERED STORAGE #2 (8,000 SF)
7. LARGE EQUIPMENT COVERED STORAGE #3 (8,000 SF)
8. ELECTRICAL SWITCHGEAR
9. TRANSFORMER PAD
10. VEHICLE FUEL TANKS (BIO DIESEL, 2 UNLEADED GASOLINE)
11. SHADE CANOPY / ENCLOSURE FOR FUEL TANKS
12. DIESEL STANDBY POWER GENERATOR AND ABOVE GROUND FUEL TANK
13. FUEL STATION
14. EXISTING SHOP #1 (WELDING AND ROLLING) (3,600 SF)
15. EXISTING SHOP #2 (PAINT AND BLAST) (3,600 SF)
16. EXISTING SHOP #3 (AUTO) (3,600 SF)
17. EXISTING SHOP #4 (BUILDING AND GROUNDS/CARPENTER) (3,600 SF)
18. EXISTING PUMP BUILDING
19. NATURAL GAS STORAGE SYSTEM
20. NATURAL GAS REFUELING APPLIANCE
21. WASHRACK AREA

Figure 1. Layout for Proposed Sunol Yard

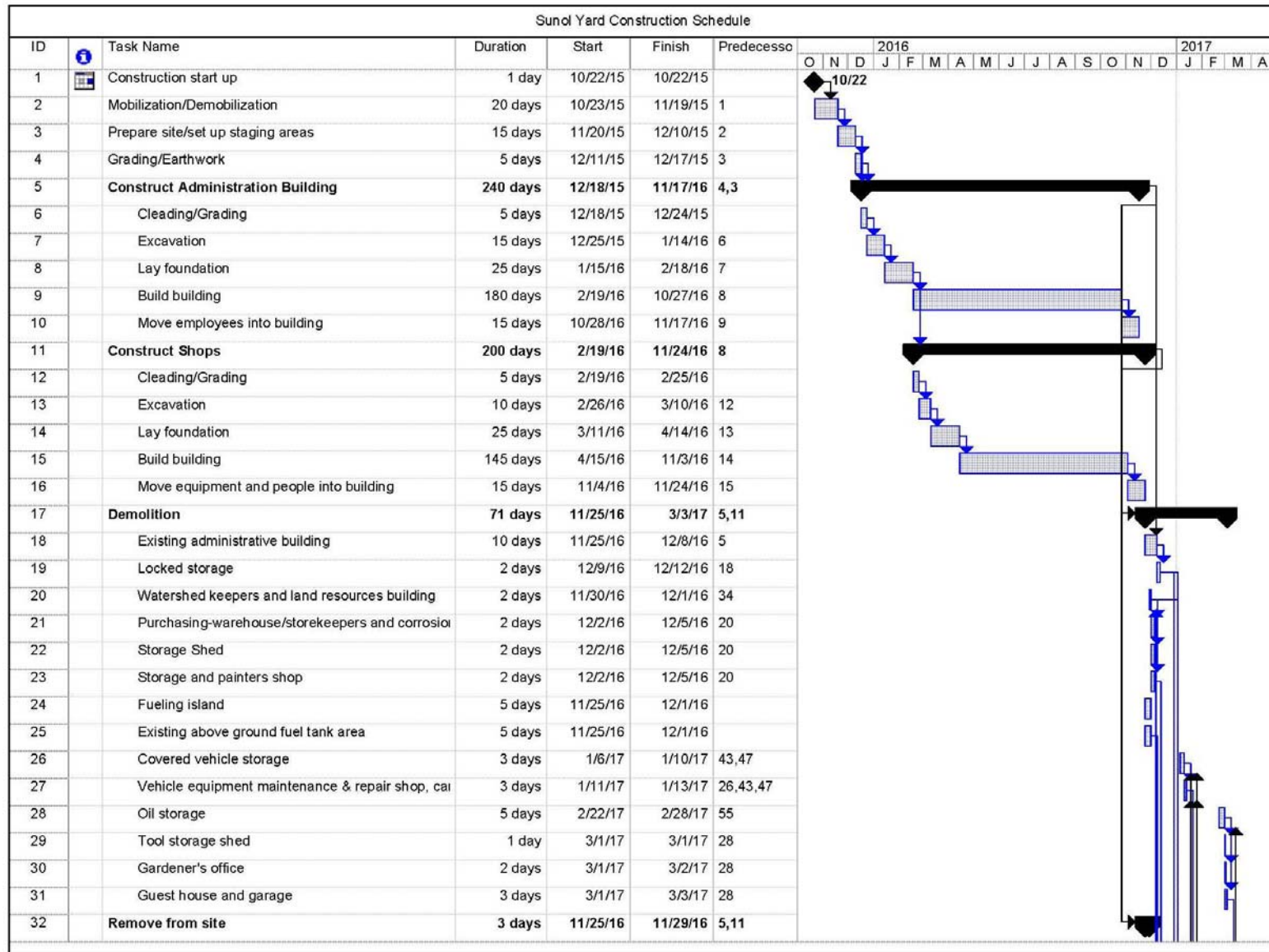


Figure 2. Approximated Construction Schedule for Sunol Yard (Page 1 of 2)

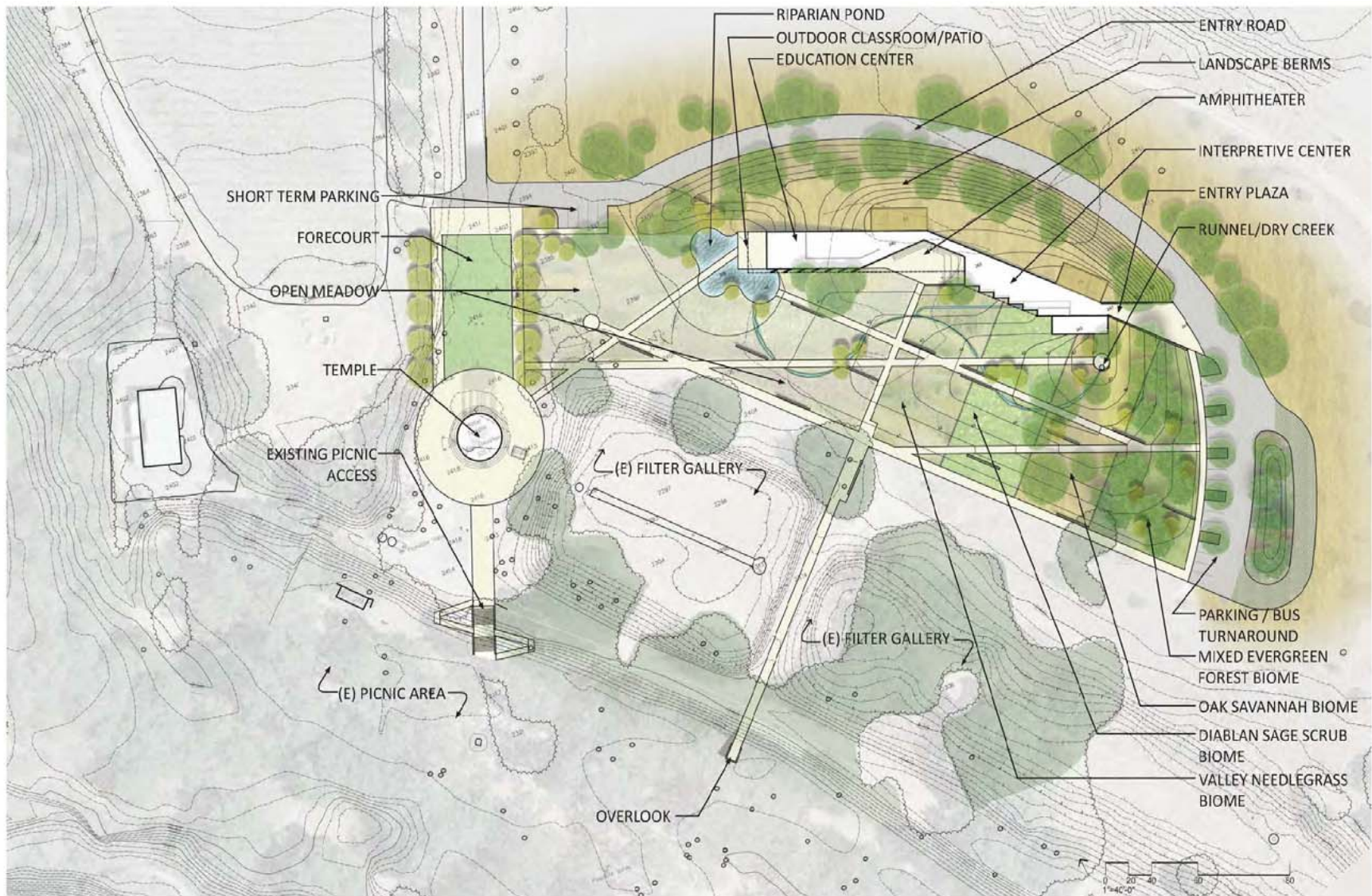


Figure 3. Layout for Proposed Alameda Creek Watershed Center

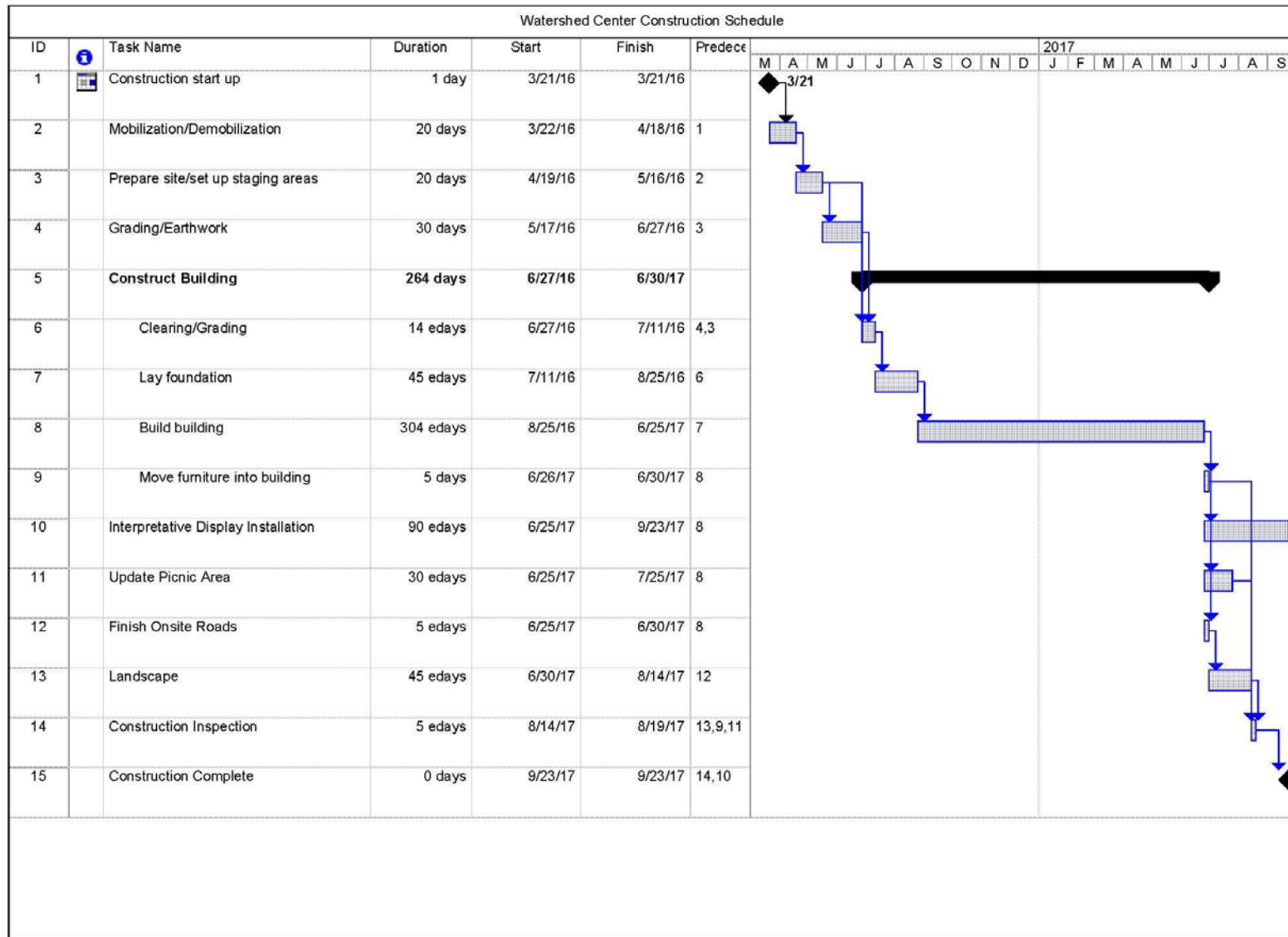


Figure 4. Approximated Construction Schedule for Alameda Creek Watershed Center

Estimated Equipment Usage

Sunol Yard

Equipment usage was estimated in conjunction with information provided by EMB. Where information was not available, assumptions were made and verified with EMB. Estimates and assumptions include the following:

- *Estimated demolition volume:* It estimated the removal of existing structures will produce approximately 2,000 cubic yards of demolished building materials.
- *Off-site material disposal and recycling sites:* It is anticipated that materials will be disposed of or recycled, consistent with applicable regulations, at appropriate facilities accessed via Interstate 680 (project vehicles assumed to use Paloma Way to I-680).
- *Hazardous materials removed during demolition:* Any hazardous materials, including asbestos, encountered during demolition will be contained, transported, and disposed of in accordance with applicable regulations.
- *Cut and fill quantities for earthwork, including necessary soil imports:*

Sunol Yard Estimated Cut and Fill Quantities

Item	Volume (cubic yards)
Imported material	7,000
Excavated material	20,000
Excavated material to be reused at Sunol Yard	6,000
Surplus excavated materials	14,000
Portion for offsite disposal (value for planning purposes only)	4,000
Excavated material to be reused at Watershed Center	10,000
	0

- *Volume of concrete:* It estimated that approximately 2,600 cubic yards of concrete will be required (for foundations, etc.).
- *Required space for staging:* An area of 3,000 square feet was estimated for staging.
- *Material storage needs:* Anticipated to be onsite (offsite storage not assumed).
- *Lead periods for material acquisition:* None anticipated at this time.

- *Average and maximum number of workers at various stages of construction:*

Estimated Number of Construction Workers at the Sunol Yard

Construction Phase	Average per Day	Maximum
Administrative building construction	12	18
Construction of shops	10	15
Demolition of existing facilities	8	14
Construction of fuel tank site	5	8
Installation of generator and transformer	5	8
Construction of storage areas	7	10
Landscaping/Paving	5	8

- *Power generation needs during construction:* It is estimated that a temporary 150 kilowatt generator will be used for intermittent peak demands during construction. Additional details are presented in Appendix A.
- *Estimated construction equipment:* Estimated equipment types are presented in Appendix A.
- *Busiest day during construction:* It is estimated that the busiest day during construction will involve 10 units of equipment operating concurrently.

For each of the primary phases of construction at Sunol Yard, a table of estimated construction equipment usage is presented in Appendix A.

Watershed Center

Equipment usage was estimated in conjunction with information provided by EMB. Where information was not available, assumptions were made and verified with EMB. Estimates and assumptions include the following:

- *Demolition volumes:* None.
- *Cut and fill quantities for earthwork, including necessary soil imports:*

Watershed Center Estimated Cut and Fill Quantities

Item	Volume (cubic yards)
Excavated material (and reused onsite)	500
Imported material (i.e., reused) from Sunol Yard	10,000

- *Volumes of concrete:* Approximately 900 cubic yards.
- *Required space for staging:* Approximately 1,500 square feet is assumed for staging.
- *Material storage needs:* Anticipated to be onsite (offsite storage not assumed).
- *Lead periods for material acquisition:* None anticipated at this time.

- *Average and maximum number of workers at various stages of construction:*

Estimated Number of Construction Workers at the Watershed Center

<u>Construction Phase</u>	<u>Average per Day</u>	<u>Maximum</u>
Construction of building	10	14
Landscaping/Paving/displays	10	14

- *Power generation needs during construction:* It is estimated that a temporary 150 kilowatt generator will be used for intermittent peak demands during construction. Additional details are presented in Appendix B.
- *Estimated construction equipment:* Estimated equipment types are presented in Appendix B.
- *Busiest day during construction:* It is estimated that the busiest day during construction will involve 8 units of equipment operating concurrently.

For each of the primary phases of construction at the Watershed Center, a table of estimated construction equipment usage is presented in Appendix B.

APPENDIX A
(Tables A-1 through A-7)

Sunol Yard - Construction

Table A-1. CONSTRUCT ADMINISTRATION BUILDING

Building size 8845 sq.ft

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	18	6	3	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	18	6	3	1	Cat 450E Backhoe Loader
Excavation	Excavator	Diesel	372 hp	2002-2012	30	6	5	1	Powerplus PP500E-IX
	Front-end loader	Diesel	80 hp	2002-2012	30	6	5	1	Cat 908H Compact Wheel Loader
Lay Foundation	Compactor/Roller	Diesel	147 hp	2002-2012	18	6	3	1	Volvo SD115 Soil Compactor
	Crane	Diesel	445 hp	2002-2012	9	3	3	1	Link Belt HTC 8690
	Water Trucks	Diesel	330 hp	2002-2012	12	3	4	1	2007 Kenworth T300
Build building	Forklift	Diesel	110	2002-2012	80	4	20	1	SKYTRAK 8042
	Crane	Diesel	445 hp	2002-2012	30	2	15	1	Link Belt HTC 8690

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Excavation	Standard Dump Truck	4	4	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Lay Foundation	Flatbed Trucks	3	4	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
	Concrete Mixer	10	20	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
Build Building	Flatbed Trucks	1	90	2	Travel from I-680 on-ramp at Calaveras Rd to worksite

Stationary Sources (for construction)

Description	Horsepower or Kilowatt rating	Estiated Year of Manufacturer	Stack Height	Stack Diameter	Exhaust Flow Rate	Diesel Particulate Filter	Exhaust Rain Cap	Total Operating Hours	Source Location (provide coordinates or location on map)	
		Year or Tier	(m)	(m)	(m ³ /min)	Y or N	Y or N?	hours	Latitude	Longitude
Generator	150 kW	2002-2012	2.00	0.098	33.7	Y	Y	216	37 ⁰ 35'27.9"N	121 ⁰ 53'03.6"W

Sunol Yard - Construction
Table A-2. CONSTRUCT SHOPS
 Building size

7200 sq.ft

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	30	6	5	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	30	6	5	1	Cat 450E Backhoe Loader
Excavation	Excavator	Diesel	372 hp	2002-2012	20	4	5	1	Powerplus PP500E-IX
	Front-end loader	Diesel	80 hp	2002-2012	24	4	6	1	Cat 908H Compact Wheel Loader
	Compactor/Roller	Diesel	147 hp	2002-2012	30	6	5	1	Volvo SD115
Lay Foundation	Crane	Diesel	445 hp	2002-2012	40	2	20	1	Link Belt HTC 8690
	Water Trucks	Diesel	330 hp	2002-2012	60	3	10	2	2007 Kenworth T300
Build building	Crane	Diesel	445 hp	2002-2012	20	1	20	1	Link Belt HTC 8690
	Forklift	Diesel	110	2002-2012	60	2	30	1	SKYTRAK 8042

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Excavation	Standard Dump Truck (Cat CT11)	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Lay Foundation	Flatbed Truck	1	2	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
	Concrete Mixer	4	2	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
Build Building	Flatbed Trucks	1	45	2	Travel from I-680 on-ramp at Calaveras Rd to worksite

Stationary Sources (for construction)

Description	Horsepower or Kilowatt rating	Estiated Year of Manufacturer	Stack Height	Stack Diameter	Exhaust Flow Rate	Exhaust Temp	Exhaust Rain Cap	Total Operating Hours
		Year or Tier	(m)	(m)	(m ³ /min)		Y or N?	hours
Generator	150 kW	2002-2012	2.00	0.098	33.7	806 F	Y	32

Sunol Yard - Construction

Table A-3. DEMOLITION

Building size Varies sq.ft

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing	Bulldozer	Diesel	232 hp	2002-2012	90	6	15	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	90	6	15	1	Cat 450E Backhoe Loader
	Crane	Diesel	445 hp	2002-2012	30	2	15	1	Link Belt HTC 8690
	Sawcutting Machine	Electric	100	2002-2012	180	6	30	1	sawcutting machines

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing	Standard Dump Truck (Cat CT11)	3	15	2	Travel from worksite to I-680 on-ramp at Calaveras Rd

Sunol Yard - Construction

Table A-4. CONSTRUCT TANK AREA #1, #2 & ABOVE GROUND FUEL TANK AREA

Off-Road Equipment

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	12	6	2	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	18	6	3	1	Cat 450E Backhoe Loader
	Compactor/Roller	Diesel	147 hp	2002-2012	18	6	3	1	Volvo SD115 Soil Compactor
	Water Trucks	Diesel	330 hp	2002-2012	9	3	3	1	2007 Kenworth T300
Lay Foundation	Crane	Diesel	445 hp	2002-2012	8	4	2	1	Link Belt HTC 8690
Install tanks	Crane	Diesel	445 hp	2002-2012	8	4	2	1	Link Belt HTC 8690

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	2	1	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Lay Foundation	Concrete Mixer	1	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Move equipment/install	Flatbed Trucks	1	4	2	Travel from I-680 on-ramp at Calaveras Rd to worksite

Sunol Yard - Construction

Table A-5. CONSTRUCT GENERATOR AND TRANSFORMER SITE

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	4	4	1	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	4	4	1	1	Cat 450E Backhoe Loader
	Compactor/Roller	Diesel	147 hp	2002-2012	5	5	1	1	Volvo SD115 Soil Compactor
	Water Trucks	Diesel	330 hp	2002-2012	8	2	4	1	2007 Kenworth T300
Install equipment	Crane	Diesel	445 hp	2002-2012	6	2	3	1	Link Belt HTC 8690

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	1	1	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Lay foundation	Flatbed Trucks	1	1	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
	Concrete Mixer	1	1	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
Equipment	Flatbed Trucks	1	4	2	Travel from I-680 on-ramp at Calaveras Rd to worksite

Sunol Yard - Construction
 Table A-6. CONSTRUCT STORAGE AREAS

Building size Varies sq.ft

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	24	6	4	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	30	6	5	1	Cat 450E Backhoe Loader
	Compactor/Roller	Diesel	345-401 hp	2002-2012	24	6	4	1	Volvo SD115 Soil Compactor
	Water Trucks	Diesel	330 hp	2002-2012	15	3	5	1	2007 Kenworth T300
Lay Foundation	Crane	Diesel	445 hp	2002-2012	6	3	2	1	Link Belt HTC 8690
	Sawcutting Machine	Electric	100	2002-2012	48	6	8	1	saw cutting machine
Build structures	Crane	Diesel	445 hp	2002-2012	30	3	10	1	Link Belt HTC 8690
	Forklift	Diesel	110 hp	2002-2012	30	3	10	1	SKYTRAK 8042

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	2	2	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
Lay Foundation	Flatbed Trucks	2	1	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
	Concrete Mixer	2	4	2	Travel from I-680 on-ramp at Calaveras Rd to worksite
Build Structures	Flatbed Trucks	1	25	2	Travel from I-680 on-ramp at Calaveras Rd to worksite

Stationary Sources (for construction)

Description	Horsepower or Kilowatt rating	Estiated Year of Manufacturer	Stack Height	Stack Diameter	Exhaust Flow Rate	Exhaust Temp	Diesel Particulate Filter	DPF Efficiency	Exhaust Rain Cap	Total Operating Hours	Source Location (provide coordinates or location on map)	
		Year or Tier	(m)	(m)	(m ³ /min)		Y or N	%	Y or N?	hours	Latitude	Longitude
Generator	150 kW	2002-2012	2.000	0.098	33.7	806 F	Y	98	Y	80	37°35'27.9"N	121°53'03.6"W

Sunol Yard - Construction
 Table A-7. FINISH ONSITE ROADS

Off-Road Equipment

Activity	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	18	6	3	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	12	6	2	1	Cat 450E Backhoe Loader
	Grader	Diesel	185-265 hp	2002-2012	6	6	1	1	John Deere 870G/GP
	Compactor/Roller	Diesel	147 hp	2002-2012	30	6	5	1	Volvo SD115 Soil Compactor
	Water Trucks	Diesel	330 hp	2002-2012	40	4	5	2	2007 Kenworth T300
Paving Roads	Asphalt Paver	Diesel	225 hp	2002-2012	30	6	5	1	Cat Model: AP1000E Paver

On-Road Equipment

Activity	Source Type	Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	2	3	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Pour Concrete	Concrete Mixer	1	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Supplies	Flatbed Trucks	1	10	2	Travel from worksite to I-680 on-ramp at Calaveras Rd

APPENDIX B
(Tables B-1 and B-2)

Watershed Center - Construction
Table B-1. CONSTRUCT BUILDING

Off-Road Equipment

Phase	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	60	6	10	1	Cat 814F Wheel Dozer
	Transfer Dump Truck	Diesel	415-505 hp	2002-2012	500	8	21	3	Mack MP8 truck
	Backhoe	Diesel	125 hp	2002-2012	30	6	5	1	Cat 450E Backhoe Loader
	Grader	Diesel	185-265 hp	2002-2012	30	6	5	1	John Deere 870G/GP
	Compactor/Roller	Diesel	147 hp	2002-2012	90	6	15	1	Volvo SD115 Soil Compactor
	Excavator	Diesel	372 hp	2002-2012	60	6	10	1	Powerplus PP500E-IX
	Front-end loader	Diesel	80 hp	2002-2012	60	6	10	1	Cat 908H Compact Wheel Loader
	Water Trucks	Diesel	330 hp	2002-2012	40	4	10	1	2007 Kenworth T300
	Crane	Diesel	445 hp	2002-2012	30	6	5	1	Link Belt HTC 8690
	Water Trucks	Diesel	330 hp	2002-2012	40	4	10	1	2007 Kenworth T300
Build Building	Crane	Diesel	445 hp	2002-2012	45	3	15	1	Link Belt HTC 8690
	Forklift	Diesel	110 hp	2002-2012	90	3	30	1	SKYTRAK 8042

On-Road Equipment

Phase	Source Type	Total Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Transfer Dump Truck				Travels onsite so noted above under Off-Road Eqmt.
Lay Foundation	Flatbed Trucks	2	5	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
	Concrete Mixer	10	10	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Build Building	Flatbed Trucks	2	60	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Move in furniture	Furniture Truck	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd

Stationary Sources Stationary Sources (for construction)

Description	Horsepower or Kilowatt rating	Estiated Year of Manufacturer	Stack Height	Stack Diameter	Exhaust Flow Rate	Exhaust Temp	Diesel Particulate Filter	DPF Efficiency	Exhaust Rain Cap	Total Operating Hours	Source Location (provide coordinates or location on map)	
		Year or Tier	(m)	(m)	(m ³ /min)		Y or N	%	Y or N?		Latitude	Longitude
Generator	150 kW	2002-2012	2.00	0.098	33.7	806 F	Y	98	Y	120	37°35'27.9"N	121°53'03.6"W

Watershed Center - Construction
 Table B-2. LANDSCAPING/PAVING/DISPLAYS

Off-Road Equipment

Phase	Equipment Type	Fuel	Horsepower	Year Manufactured	Total number of hours operated during this phase	Estimated Hours operated per day	Number of Days Equipment Used	Units	Notes
Clearing/Grading	Bulldozer	Diesel	232 hp	2002-2012	18	6	3	1	Cat 814F Wheel Dozer
	Backhoe	Diesel	125 hp	2002-2012	120	6	2	1	Cat 450E Backhoe Loader
	Grader	Diesel	185-265 hp	2002-2012	114	6	1	1	John Deere 870G/GP
	Compactor/Roller	Diesel	147 hp	2002-2012	114	6	5	1	Volvo SD115 Soil Compactor
	Water Trucks	Diesel	330 hp	2002-2012	240	4	5	1	2007 Kenworth T300
Paving Roads	Asphalt Paver	Diesel	225 hp	2002-2012	120	6	5	1	Cat Model: AP1000E Paver

On-Road Equipment

Phase	Source Type	Total Round Trips per Day	Number of Days Equipment Used	Average Round Trip Travel Distance	Assumptions
Clearing/Grading	Standard Dump Truck (Cat CT11)	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Pour Concrete	Concrete Mixer	2	2	2	Travel from worksite to I-680 on-ramp at Calaveras Rd
Supplies	Flatbed Trucks	1	5	2	Travel from worksite to I-680 on-ramp at Calaveras Rd

APPENDIX C

Biological Resources

**APPENDIX C
SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY**

Scientific Name Common Name	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Action Area
Reptiles					
<i>Emys marmorata</i> Western pond turtle	--	SC	--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Low (D). Known to occur in Alameda Creek. Potential nesting habitat present outside study area adjacent to Alameda Creek. Potential for presence in the study area is low due to human activity and habitat fragmentation.
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT	ST	--	In chaparral – northern coastal sage scrub and coastal sage. Requires open areas for sunning. Habitat for this species is highly dependent upon periodic fire.	Low (D). Unlikely to occur because core habitat is absent and grasslands and riparian vegetation in study area are generally low suitability for foraging and dispersal of Alameda whipsnakes due to the high cover and density of the understory vegetation.
<i>Phrynosoma blainvillii</i> Coast horned lizard	--	SC	--		Low (D). Potential to occur in riparian corridor along Alameda Creek but the remaining portions of the study area are generally unsuitable.
Amphibians					
<i>Ambystoma californiense</i> California tiger salamander	FT	SC	--	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges and vernal pools or other seasonal water sources.	Low (D/A). No suitable breeding habitat in study area, though breeding habitat noted 0.45 mile to south. Habitats in the study area have low potential for aestivation and dispersal due to the small number and limited area of suitable rodent burrows in the study area.
<i>Rana aurora draytonii</i> California red-legged frog	FT	SC	--	Breeds in slow moving streams with deep pools, ponds, and marshes with emergent vegetation.	Low (D/A). Known to occur in Alameda Creek upstream and downstream of the study area. Small rodent burrows in upland areas are potentially suitable for aestivation. However, the small area and number of burrows in the study area limit the opportunities for aestivation. Alameda Creek corridor is moderately suitable for dispersal due to fragmentation of riparian habitats upstream and downstream of the study area.

APPENDIX C (Continued)
SPECIAL STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA

Scientific Name Common Name	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Action Area
Birds					
<i>Athene cunicularia</i> Western burrowing owl	--	SC	--	Utilizes ground squirrel (or other mammal) burrows within open grasslands, prairies, savanna, or agricultural fields.	Low (B/F). Potential nesting and foraging habitat in annual grassland is limited by small number of rodent burrows and the high density and height of the grass cover.
<i>Elanus leucurus</i> White-tailed kite	--	SFP	--	Forages in open plains, grasslands, and prairies; typically nests in trees. Often found along tree-lined river valleys with adjacent open areas.	High (B). Potential nesting habitat present. Observed foraging in the study area during reconnaissance level survey.
<i>Lanius ludovicianus</i> Loggerhead shrike	--	SC	--	Nests in dense shrub or tree foliage, forages in scrub, open woodlands, grasslands, and croplands.	Moderate (B/F). Potential nesting and foraging habitat in grasslands and riparian vegetation is moderately suitable for loggerhead shrike due to limited area and fragmentation.
<i>Falco peregrinus anatum</i> American peregrine falcon	Delisted	SFP	--		Moderate (F). Potential nesting habitat on bluff along Alameda Creek opposite study area. Study area may provide potential foraging habitat.
Mammals					
<i>Antrozous pallidus</i> Pallid bat	--	SC	--	Prefers caves, crevices, hollow trees, or buildings in areas adjacent to open space for foraging. Utilizes caves, crevices and mines for day roosts; also found in buildings and under bark. Forages in open lowland areas. Associated with lower elevations in California.	Low (B/F). Potential breeding habitat present in the riparian vegetation in the study area but potential for presence is low due to habitat fragmentation and intensive human activities at Sunol Yard and Water Temple areas.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--	SC	--	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings of rocky areas with caves or tunnels. Roosting sites limited. Extremely sensitive to human disturbance.	Low (B/F). Roosts in caves, mines, buildings or other human-made structures. Forages in open lowland areas. Potential breeding habitat is also present in the riparian habitat in the study area.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	--	SC	--		High (B/F). Woodrat nests observed in study area.

APPENDIX C (Continued)
SPECIAL STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA

Scientific Name Common Name	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Action Area
Vascular Plants					
<i>Atriplex cordulata</i> Heartscale	--	--	1B.2	Annual herb. Chenopod scrub, meadows and seeps, valley and foothill grassland (sandy)/saline or alkaline. April – October.	None. No suitable alkaline habitat present. Not observed during April survey.
<i>Atriplex depressa</i> Brittlescale	--	--	1B.2	Annual herb. Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools, alkaline, clay. April – October.	None. No suitable alkaline habitat present. Not observed during April survey.
<i>Atriplex joaquiniana</i> San Joaquin spearscale	--	--	1B.2	Annual herb. Alkaline; chenopod scrub, meadows and seeps, playas, valley and foothill grassland. April – October.	None. No suitable alkaline habitat present. Not observed during April survey.
<i>Atriplex minuscula</i> Lesser saltscale	--	--	1B.1	Annual herb. Chenopod scrub, playas, valley and foothill grassland/alkaline, sandy. May – October.	None. No suitable alkaline habitat present.
<i>Campanula exigua</i> Chaparral harebell	--	--	1B.2	Annual herb. Chaparral (rocky, usually serpentinite). May – June.	None. No suitable habitat present. No serpentinite in project area.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	--	--	1B.2	Annual herb. Alkaline valley and foothill grassland. May – October (November).	None. No suitable alkaline habitat present.
<i>Chloropyron palmatum</i> Palmate-bracted bird's-beak	FE	SE	1B.1	Annual herb. Coastal salt marshes and swamps. June – October.	None. No suitable habitat present (no coastal salt).
<i>Clarkia concinna</i> ssp. <i>automixa</i> Santa Clara red ribbons	--	--	4.3	Annual herb. Chaparral and cismontane woodland. (April) May – June (July).	None. No suitable habitat present. Not observed during April survey.
<i>Helianthella castanea</i> Diablo helianthella	--	--	1B.2	Perennial herb. Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. March – June.	None. Marginally suitable habitat present. Not observed during appropriately timed (April) field surveys.
<i>Navarretia prostrata</i> Prostrate vernal pool navarretia	--	--	1B.1	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools/mesic. April – July.	None. No suitable habitat present. Not observed during April survey
<i>Polemonium carneum</i> Oregon polemonium	--	--	2.2	Perennial herb. Coastal prairie and scrub, lower montane coniferous forest. April – September.	None. No suitable habitat present. Not observed during April survey.
<i>Plagiobothrys glaber</i> Hairless popcorn-flower	--	--	1A	Annual herb. Meadows and seeps (alkaline), marshes and swamps (coastal salt). March – May.	None. No suitable habitat present. Not observed during April survey.

APPENDIX C (Continued)
SPECIAL STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA

Scientific Name Common Name	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Action Area
Vascular Plants (cont.)					
<i>Streptanthus albidus ssp. peramoenus</i> Most beautiful jewel-flower	--	--	1B.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. (March) April – September (October).	None. No suitable habitat present. Not observed during April survey.
<i>Stuckenia filiformis</i> Slender-leaved pondweed	--	--	2.2	Perennial rhizomatous aquatic herb. Marshes and swamps (assorted shallow freshwater). May – July.	None. No suitable habitat present.
<i>Trifolium hydrophilum</i> Saline clover	--	--	1B.2	Annual herb. Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. April – June.	None. No suitable habitat present. Not observed April survey.
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	--	--	1B.1	Annual herb. Valley and foothill grassland on alkaline hills. March – April.	None. No suitable habitat present. Not observed during April survey.

NOTES:

Potential for Occurrence:

- Low = Not likely to occur because habitat suitability is low and existing barriers limit access
- Moderate = Habitat present but limited by quality and distance from known occurrences
- High = Habitat present and known occurrences present in the study area or nearby

Type of Wildlife Utilization:

- (B) = Breeding
- (D) = Dispersal
- (A) = Aestivation
- (F) = Foraging

Species that have medium or high potential to be impacted by the proposed project are shown in boldface type.

STATUS CODES:

Federal:

- FE = Listed as “endangered” under the federal Endangered Species Act
- FT = Listed as “threatened” under the federal Endangered Species Act
- FSC = NOAA Fisheries designated “species of concern”
- FPD = Proposed delisted
- FD = Delisted

CNPS:

- List 1B = Plants rare, threatened, or endangered in California and elsewhere
- List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere
- List 3 = Plants about which we need more information--a review list
- List 4 = Plants of limited distribution--a watch list

State:

- SE = Listed as “endangered” under the California Endangered Species Act
- ST = Listed as “threatened” under the California Endangered Species Act
- SC = California Department of Fish and Wildlife designated “species of special concern”
- SFP = California Department of Fish and Wildlife designated “fully protected”

SOURCE: USFWS (2014), CDFG (2014), CNPS (2014).

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
Ginkgoaceae – Ginkgo Family	
<i>Ginkgo biloba</i> *	Ginkgo
GYMNOSPERMS	
Cupressaceae – Cypress Family	
<i>Cedrus deodara</i> *	Deodar cedar
<i>Juniperus</i> sp.*	Garden juniper
DICOTYLEDONAE	
Adoxaceae – Muskroot Family	
<i>Sambucus nigra</i> ssp. <i>canadensis</i>	Elderberry
Anacardiaceae – Sumac Family	
<i>Schinus molle</i> *	California pepper tree
<i>Toxicodendron diversilobum</i>	poison oak
Apiaceae – Parsley Family	
<i>Conium maculatum</i> *	poison hemlock
<i>Foeniculum vulgare</i> *	sweet fennel
<i>Torilis arvensis</i> *	hedge-parsley
Apocynaceae – Dogbane Family	
<i>Vinca major</i> *	periwinkle
Araliaceae – Aralia Family	
<i>Hedera helix</i> *	English ivy
Asteraceae – Sunflower Family	
<i>Artemisia douglasiana</i>	Mugwort
<i>Baccharis pilularis</i>	Coyote brush
<i>Baccharis salicifolia</i>	mulefat
<i>Brickellia californica</i>	California brickellbush
<i>Carduus pycnocephalus</i> *	Italian thistle
<i>Centaurea solstitialis</i> *	Yellow star thistle
<i>Cirsium vulgare</i> *	bull thistle
<i>Conyza canadensis</i> *	horseweed
<i>Delairea odorata</i> *	Germany ivy
<i>Dittrichia gravelolens</i> *	Stinkwort
<i>Filago gallica</i> *	narrow-leaf filago
<i>Gnaphalium luteo-album</i> *	cudweed
<i>Helenium puberulum</i>	Helenium
<i>Helmenthotheca echioides</i> *	bristly ox-tongue
<i>Hypochaeris glabra</i> *	smooth cat's-ear

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
<i>Hypochaeris radicata</i> *	rough cat's-ear
<i>Lactuca serriola</i> *	prickly lettuce
<i>Matricaria discoidea</i> *	Pineapple weed
<i>Psilocarphus brevissimus</i>	Wooly marbles
<i>Senecio vulgaris</i> *	Common groundsel
<i>Sonchus asper</i> *	prickly sow-thistle
<i>Sonchus oleraceus</i> *	common sow-thistle
<i>Taraxacum officinale</i> *	common dandelion
<i>Tragopogon porrifolius</i> *	salsify
<i>Xanthium strumarium</i> *	cocklebur
Betulaceae – Birch Family	
<i>Betula</i> sp.*	Birch
Bignoniaceae – Trumpet Vine Family	
<i>Caltalpa bignonioides</i> *	Caltalpa
Brassicaceae – Mustard Family	
<i>Brassica nigra</i> *	black mustard
<i>Brassica rapa</i> *	Field mustard
<i>Cardamine oligosperma</i> *	bitter cress
<i>Hirschfeldia incana</i> *	hoary mustard
<i>Lepidium nitidum</i>	Shining pepperweed
<i>Raphanus sativus</i> *	wild radish
Caprifoliaceae – Honeysuckle Family	
<i>Lonicera hispidula</i> var. <i>vacillans</i>	California honeysuckle
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	snowberry
Caryophyllaceae – Pink Family	
<i>Cerastium glomeratum</i> *	mouse-ear chickweed
<i>Spergula arvensis</i> ssp. <i>arvensis</i> *	Stickwort, starwort
<i>Stellaria media</i> *	common chickweed
<i>Spergularia rubra</i> *	Sand-spurrye
Crassulaceae – Stonecrop Family	
<i>Crassula connata</i>	Sand pygmyweed
Fabaceae – Pea Family	
<i>Cercis occidentalis</i>	Redbud
<i>Lotus corniculatus</i> *	bird's-foot trefoil
<i>Lotus purshianus</i> var. <i>purshianus</i>	Spanish clover
<i>Lupinus bicolor</i>	bicolor lupine

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
<i>Lupinus nanus</i>	sky lupine
<i>Medicago polymorpha</i> *	bur-clover
<i>Melilotus officinalis</i> *	Yellow sweet clover
<i>Trifolium hirtum</i> *	rose clover
<i>Trifolium subterraneum</i> *	subterranean clover
<i>Vicia americana</i>	American vetch
<i>Vicia sativa</i> ssp. <i>nigra</i> *	common vetch
<i>Vicia sativa</i> ssp. <i>sativa</i> *	common vetch
<i>Vicia villosa</i> ssp. <i>villosa</i> *	hairy vetch
Convolvulaceae – Morning-Glory Family	
<i>Convolvulus arvensis</i> *	field bindweed
Cucurbitaceae – Gourd Family	
<i>Marah fabaceus</i>	California man-root
Fagaceae – Oak Family	
<i>Quercus lobata</i>	Valley oak
<i>Quercus agrifolia</i>	coast live oak
Geraniaceae – Geranium Family	
<i>Erodium botrys</i> *	long-beaked storkbill
<i>Erodium cicutarium</i> *	Red-stemmed filaree
<i>Geranium dissectum</i> *	cranesbill
<i>Geranium molle</i> *	dovesfoot geranium
<i>Geranium purpureum</i> *	little robin
Hypericaceae – St. John’s Wort Family	
<i>Hypericum perforatum</i> ssp. <i>perforatum</i> *	Klamath weed
Juglandaceae - Walnut Family	
<i>Juglans californica</i> var. <i>hindsii</i>	California black walnut
Lamiaceae – Mint Family	
<i>Marrubium vulgare</i> *	horehound
<i>Mentha pulegium</i> *	penneyroyal
<i>Rosmarinus officinalis</i> *	rosemary
Lauraceae – Laurel Family	
<i>Umbellularia californica</i>	California bay laurel
Lythraceae – Loosestrife Family	
<i>Lythrum hyssopifolium</i> *	loosestrife
Malvaceae – Mallow Family	
<i>Malva nicaeensis</i> *	bull mallow

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
<i>Malva parviflora*</i>	cheeseweed
Montiaceae – Miner’s Lettuce Family	
<i>Calandrinia ciliata</i>	Red maids
<i>Claytonia perfoliata</i>	Miner’s lettuce
Myrsinaceae – Myrsine Family	
<i>Anagallis arvensis*</i>	Scarlet pimpernel
Myrtaceae – Myrtle Family	
<i>Eucalyptus globulus*</i>	blue gum
Onagraceae – Evening Primrose Family	
<i>Epilobium brachycarpum</i>	fireweed
Orobanchaceae – Broomrape Family	
<i>Castilleja attenuata</i>	Narrow-leaved owl’s-clover
<i>Castilleja lineariloba</i>	Pale owl’s-clover
Oxalidaceae – Oxalis Family	
<i>Oxalis micrantha*</i>	Dwarf wood sorrel
<i>Oxalis pes-caprae*</i>	Bermuda buttercup
Papaveraceae – Poppy Family	
<i>Eschscholzia californica</i>	California poppy
<i>Fumaria capriolata*</i>	Fine-leaved fumitory
Plantaginaceae – Plantain Family	
<i>Veronica persica*</i>	Persian speedwell
<i>Plantago lanceolata *</i>	English plantain
Platanaceae – Plane Tree Family	
<i>Platanus racemosa</i>	Sycamore
Polygonaceae – Buckwheat Family	
<i>Polygonum arenastrum*</i>	common knotweed
<i>Polygonum aviculare*</i>	knotweed
<i>Rumex acetosella*</i>	sheep sorrel
<i>Rumex crispus*</i>	curly dock
<i>Rumex salicifolius</i>	dock
Primulaceae – Primrose Family	
<i>Anagallis arvensis*</i>	scarlet pimpernel
Ranunculaceae – Buttercup Family	
<i>Ranunculus californicus</i>	California buttercup
Rhamnaceae – Buckthorn Family	
<i>Rhamnus californica ssp. californica</i>	California coffeeberry

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
Rosaceae – Rose Family	
<i>Acaena novae-zelandiae</i> *	Biddy-biddy
<i>Rosa californica</i>	California rose
<i>Rubus discolor</i> *	Himalayan blackberry
<i>Rubus ursinus</i>	California blackberry
Rubiaceae – Madder Family	
<i>Galium aparine</i> *	bedstraw
Salicaceae – Willow Family	
<i>Salix exigua</i>	Sandbar willow
<i>Salix lasiolepis</i>	arroyo willow
Sapindaceae – Soapberry Family	
<i>Aesculus californica</i>	Buckeye
Scrophulariaceae – Figwort Family	
<i>Scrophularia californica</i>	California bee plant
<i>Verbascum thapsus</i> *	mullein
MONOCOTYLEDONAE	
Araceae – Arum Family	
<i>Zantedeschia aethiopica</i> *	Calla lily
Cyperaceae – Sedge Family	
<i>Cyperus eragrostis</i>	Umbrella sedge
Iridaceae – Iris Family	
<i>Iris</i> sp.*	Garden iris
<i>Sisyrinchium bellum</i>	California blue-eyed grass
Juncaceae – Rush Family	
<i>Juncus bufonius</i> var. <i>bufonius</i>	toad rush
Liliaceae – Lily Family	
<i>Asparagus</i> sp.*	asparagus
Poaceae – Grass Family	
<i>Aira caryophyllea</i> *	silver European hairgrass
<i>Avena barbata</i> *	slender wild oat
<i>Avena fatua</i> *	wild oat
<i>Briza maxima</i> *	big quaking grass
<i>Briza minor</i> *	little quaking grass
<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome
<i>Bromus diandrus</i> *	ripgut brome
<i>Bromus</i> sp.*	brome

APPENDIX C (Continued)
VASCULAR PLANT SPECIES OBSERVED IN STUDY AREA

CLASS Family <i>Scientific Name</i>	Common Name
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Cynosorus echinatus</i> *	hedgehog dogtail
<i>Dactylis glomerata</i> *	orchard grass
<i>Lolium multiflorum</i> *	Italian ryegrass
<i>Phalaris aquatica</i> *	Harding grass
<i>Poa annua</i> *	annual bluegrass
<i>Polypogon monspeliensis</i> *	Rabbits foot grass
<i>Vulpia bromoides</i> *	six-weeks fescue
<i>Vulpia myuros</i> *	zorro grass
Notes: * Indicates nonnative species.	