FINAL

Mitigated Negative Declaration
and
Initial Study/Environmental Checklist
Hauck Mesa Storage Reservoir Project

SCH# 2015111037

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
A70	Limited Agriculture
APN	Assessor's Parcel Number
BMP	best management practice
BTR	biological resources technical report
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CO	carbon monoxide
dBA	A-weighted decibels
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FRS	flow regulatory storage
GHG	greenhouse gas
HCP	Habitat Conservation Plan
I-15	Interstate 15
IS	Initial Study
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MT CO_2E	metric tons of carbon dioxide equivalent
NCCP	Natural Community Conservation Plan
NOI	Notice of Intent
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PPV	peak particle velocity
PSF	Pre-Activity Survey Form
QSD	Qualified Stormwater Pollution Prevention Plan Developer
QSP	Qualified Stormwater Pollution Prevention Plan Practitioner
RCNM	Roadway Construction Noise Model
SANDAG	San Diego Association of Governments
SDAPCD	San Diego Air Pollution Control District
SR-4	Semi-Rural Residential
SWPPP	Stormwater Pollution Prevention Plan
VCMWD	Valley Center Municipal Water District

Acronym/Abbreviation	Definition
VOC	volatile organic compound
Water Authority	San Diego County Water Authority
WPCP	Water Pollution Control Plan

1 INTRODUCTION

1.1 Project Needs and Objectives

The San Diego County Water Authority (Water Authority) plans to construct and operate a new flow regulatory storage (FRS) reservoir and associated control facility in the Valley Center area to improve aqueduct system operations. Further, a new FRS reservoir would provide service reliability to portions of the Valley Center Municipal Water District (VCMWD), Vallecitos Water District, Vista Irrigation District, and the Rincon del Diablo Municipal Water District against outage events that could impede daily operation of the Valley Center Pump Station.

A central part of the overall water infrastructure system in the project vicinity is the Valley Center Pipeline, a treated-water, east–west-oriented conveyance pipeline connecting the First Aqueduct to the east with the Second Aqueduct to the west. Water flows by gravity from the First Aqueduct to the Second Aqueduct, but flows from the Second Aqueduct to the First Aqueduct must be lifted using the Valley Center Pump Station. Operation of the pump station creates the potential for adverse hydraulic transient (surge) effects at the high point of the Valley Center Pipeline at the Hauck Mesa site, east of the pump station. The proposed FRS reservoir would improve surge protection along with the service reliability and efficiency of the Valley Center Pipeline and Valley Center Pump Station by providing flow regulatory water storage and associated control. This would result in a storage reserve to safeguard service reliability during a pump station power outage, or other trip-out/shutdown event. Specifically, the storage reserve would allow operators to maintain scheduled deliveries to member agencies until a flow change from a back-up supply system provided by the Metropolitan Water District of Southern California in the north could be implemented and reach the affected First Aqueduct member agency connections.

Aqueduct flow regulatory system storage would also provide operational flexibility to help balance system flows. The FRS reservoir would employ passive (non-mechanical) surge control protection as opposed to an active, mechanical valve surge protection system. In addition to the proposed project improvements, additional system reliability and surge protection projects, including the installation of an active, mechanically controlled-venting air-vacuum release valves on the Valley Center Pipeline immediately south of the existing Hauck Mesa water storage tank, are currently being implemented.

1.2 Project Location and Surrounding Land Uses

Project Location

The proposed project site is located in unincorporated northern San Diego County in the community of Valley Center, approximately 2.5 miles east of Interstate 15 (I-15), 0.7 mile east of the Valley Center Pump Station, and directly north of the Valley Center Pipeline and associated right-of-way (see Figures 1 and 2). Currently owned by the VCMWD, the project site is approximately 0.44 acre and consists of Assessor's Parcel Number (APN) 129-200-09-00. The ground elevation on the site is approximately 1,152 feet above mean sea level at the northern boundary and slopes to the south to an elevation of approximately 1,150 feet above mean sea level. The site is secured by chain-link fencing and currently supports a VCMWD aboveground water storage tank and several screening trees.

Access

Regional access to the site is provided by I-15 and locally via Old Highway 395, West Lilac Road, and Lavender Point Lane (see Figure 3). From Lavender Point Lane, the site is accessible by way of a VCMWD access-controlled driveway located on private property. VCMWD holds an easement over the partially paved driveway. Lastly, a secure VCMWD gate is located at the eastern terminus of the partially paved driveway and provides access to a steep dirt road and the Hauck Mesa FRS reservoir site.

Land Uses

Surrounding land uses include a combination of rural residential property, vacant land, agricultural uses, and open space. An abandoned single-family structure is located approximately 50 feet south of the site and undeveloped open space is located to the east and south of the abandoned home. The adjacent home did not pass final inspection to authorize legal occupancy in October 1991, and the property owners have not attempted to reinitiate final inspection with the County of San Diego building division (Barr, pers. comm. 2015). Because the structure was unable to pass final inspection and property owners have not attempted to reinitiate final inspection with the County of San Diego, there is no certificate of occupancy. As a result, the structure is not legally habitable and sits abandoned.

The terrain to the east of the site slopes downwards to a southerly flowing tributary of Keys Canyon Creek. Undeveloped, chaparral-covered open space is located to the north, east, and briefly to the west of the project. Orchards, groves, commercial nurseries, large and single-family rural residences are located to the west along Lavender Point Lane and further to the north and south

beyond undeveloped open space in the immediate vicinity. Additional orchards, groves, and single-family rural residences are located to the east along North Berry Road.

Habitat

While the entire project site has been previously disturbed for installation of the existing aboveground water storage tank, appurtenant structures, and associated gravel-surfaced work/vehicle area, small pockets of chaparral vegetation have re-established in the northern and western portions of the site. Off-site areas to the east and west have been previously disturbed for installation of the Valley Center Pipeline and have been subsequently revegetated to restore native upland vegetation. In addition to developed lands, native upland vegetation communities are located north, east, and south of the project site and include coastal sage scrub and southern mixed chaparral.

Sensitive Species

No sensitive species were observed during biological resource surveys conducted in 2014 by Dudek for the First_Addendum to the San Diego County Water Authority Pipeline 2A and Pump Station Final Environmental Impact Report (Dudek 2014) (the Water Authority now refers to Pipeline 2A as the Valley Center Pipeline). No California gnatcatchers (*Polioptila californica*) were found within parcels owned by the Water Authority or the VCMWD, nor were they noted in adjacent off-site parcels during any of the three survey visits. No other Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP)-covered plant or wildlife species were observed on site, and due to the extent of disturbed vegetation and hard compacted soils present, none are likely to occur in the impact footprint. Based on the disturbed nature of the site, rosy boa (*Lichanura trivirgata roseofusca*) is not likely to occur in the impact footprint. In addition, potential burrows were not detected in the impact footprint and due to the extent of disturbed vegetation and hard compacted soils present, Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) would not occur in the impact footprint.

1.3 Project Description

Background

The Water Authority currently operates the Valley Center Pump Station, which connects to the Valley Center Pipeline within the community of Valley Center in northeastern San Diego County. In addressing operational issues and to enhance service reliability to the Water Authority's member agencies, the Water Authority is planning to increase the capacity of the Valley Center Pump Station from 20 to 41 cubic feet per second. In the process of increasing the

pumping capacity, the Water Authority will also upgrade the facility's functional survivability, such as its ability to withstand seismic events. The Water Authority has pursued a number of upgrades to the pump station and overall water delivery system to ensure emergency water delivery to the First Aqueduct is implemented as a planned component of a recent Emergency Storage Project, which would aid in the service area expansion of the Twin Oaks Valley Water Treatment Plant. Improvements associated with the proposed project, as analyzed in this document, are part of a long-term effort to ensure overall system reliability and functionality.

Previous Water Authority planning studies have identified, at a conceptual level, the potential merits of providing flow regulatory storage in the vicinity of Valley Center.

- **2013 Water Facilities Optimization and Master Plan Update:** The Water Authority's 2013 Water Facilities Master Plan (March 2014) recommends the addition of flow regulatory storage in this vicinity, under the project category of System Storage. As described in the Master Plan Update, the project would support the operations of the First Aqueduct, Valley Center Pipeline, and Valley Center Pump Station, enhancing the Water Authority's ability to provide reliable and efficient deliveries of treated water to its member agencies (Water Authority 2014a).
- **Twin Oaks Valley Water Treatment Plant Service Area Expansion Project:** The Alternatives Evaluation Technical Memorandum (March 2014) for this project examines the expansion of the Valley Center Pump Station as a means of expanding the service area of the Water Authority's Twin Oaks Valley Water Treatment Plant. As described in the memorandum, the surge-control measures for the expanded pump station will consist of an active, mechanically controlled-venting air-vacuum release valves sited along the Valley Center Pipeline at its high point at Hauck Mesa, east of the pump station. Although the Water Authority determined the use of mechanical valves was acceptable for this project as an interim measure, the memorandum notes the Water Authority's preference for passive (non-mechanical) surge-control protection whenever practicable. The memorandum also notes that a flow regulatory storage reservoir, if sited at Hauck Mesa, would provide such protection (Water Authority 2014b).

Several other approved Water Authority environmental documents are relevant to the proposed project improvements at the Hauck Mesa site. Relevant documents include the 2003 Regional Water Facilities Master Plan Final Program Environmental Impact Report (Water Authority 2003), the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (Water Authority 2010, Volume I), the

NCCP/HCP (Water Authority 2010, Volume II), the Final 2013 Regional Water Facilities Optimization and Master Plan Update and Climate Action Plan (Water Authority 2014c), the Final Supplemental Program EIR for the 2013 Regional Water Facilities Optimization and Master Plan Update and Climate Action Plan and the 2014 Addendum to the Pipeline 2A and Pump Station Final EIR (Water Authority 2014d).

The 2003 Regional Water Facilities Master Plan Final Program EIR and 2013 Master Plan Update evaluated the ability of the Water Authority to continue to meet its mission based on plans for water supply and facility improvements, and recommended new facilities or improvements to existing facilities needed to meet the Water Authority's mission through the 2035 planning horizon. In addition, the 2003 Master Plan and the 2013 Master Plan Update provided valuable guidance and direction regarding the characterization of potential growth-inducing impacts associated with the development of regional and local water supply and facilities.

Project Components

The existing water storage tank at the Hauck Mesa site is approximately 40 feet in diameter and 70 feet in height above the ground. Construction of a new FRS reservoir at the site would include demolishing the existing tank and re-grading the site to situate a new, larger tank. All improvements would occur within the existing site and easement (see Figure 4). See Figure 4 for location of the existing tank and footprint of the proposed reservoir.

The proposed FRS reservoir would be 80 feet in diameter, approximately 55 feet in height above ground surface, and have a volume of 1.1 million gallons. A 20-foot-high concrete ring wall would support the tank. A 20-foot access road would encircle the tank. Section views of the site illustrating the existing tank and proposed FRS reservoir are shown in Figure 5.

The proposed FRS reservoir would connect to the Valley Center Pipeline using a 42-inch inlet steel pipe and 42-inch outlet steel pipe. A 42-inch isolation valve would be provided at the inlet pipe. The outlet pipe would contain a flow control system that consists of flow control valve and flow meter. The new isolation valve installed in the Valley Center Pipeline, between the 42-inch inlet and outlet pipe to the Hauck Mesa FRS reservoir, would allow flow to be diverted to the Hauck Mesa FRS reservoir during pumping operations. Under gravity flow from the First Aqueduct to the Second Aqueduct, the isolation valve would be placed in the open position, and the valves in the inlet and outlet pipes to the Hauck Mesa FRS reservoir would be placed in the closed position. Valves would operate using electric actuators.

Instrumentation would transmit level, temperature, and chemical residual information to the supervisory control and data acquisition center at the Twin Oaks Valley Water Treatment Plant and allow operators to adjust flow at the Valley Center Pump Station.

A process schematic for FRS reservoir operations and equipment is provided in Figure 6.

Construction

Construction of the proposed project is anticipated to last approximately 18 months, beginning in the summer of 2019. All construction activities would occur Mondays through Saturdays, between the hours of 7 a.m. and 7 p.m.

Construction would start with the demolition of the existing tank and would occur over 3 months. This activity would require a crew of six and use of a loader, crane, industrial saws, and 20-ton haul trucks.

The second phase of construction would consist of site preparation, clearing, and grading, which would begin once demolition activities have been completed. Site preparation activity would require a crew of six and use of an excavator/loaders/backhoes, graders, and 20-ton haul trucks. Although the site has been previously cleared and graded to accommodate the existing steel tank, re-grading of the entire site would be required, including the surrounding side slopes, and would result in approximately 5,000 cubic yards of export transported off site. All exported soil would be disposed of at the closest available disposal area. All grading would occur within the fenced boundary of the site and no grading or other modifications to the access road to the site would be required.

The third construction phase would entail construction of the proposed tank. This phase would take approximately 12 months and would begin once site preparation activities have been completed. Construction would necessitate a crew of six and would involve the use of a crane, graders, excavators, concrete trucks, and transport trucks for FRS reservoir and piping materials.

The final phase of construction would involve connection of the FRS reservoir to the Valley Center Pipeline. This phase would take approximately 15 days and during this timeframe, the Valley Center Pipeline would be taken out of service. However, due to the 15-day duration of interconnection activities, construction would occur within the timeframe permitted by County of San Diego Noise Ordinance. The final phase of construction would necessitate a construction crew of three, and involve the use of an excavator/loader and transport trucks for materials.

Operation

Following construction of the proposed project, operation and maintenance activities would consist of routine inspection, repair, and maintenance of the facility. Operations and maintenance activities would include site inspections conducted quarterly by Water Authority staff for routine equipment monitoring, testing, and preventative maintenance. Routine inspections would help ensure system and service efficiency and reliability. Repairs at the site would be conducted on an as-needed basis.

Permits and Approvals

The Water Authority or contractor would obtain all applicable permits/approvals prior to the initiation of construction activities. The land sale of the Hauck Mesa site from VCMWD to the Water Authority may require approval from the Water Authority Board of Directors and the VCMWD Board of Directors. Because the land sale would require discretionary approval, the VCMWD is considered a responsible agency pursuant to Section 15381 of the California Environmental Quality Act (CEQA) statue and guidelines. Water Authority construction specifications for the Hauck Mesa Storage Reservoir Project will require contractors to obtain applicable permits from the Occupational Safety and Health Administration (OSHA) prior to the initiation of construction activities. A state Excavation and Bracing Trenches Permit from OSHA would ~~also~~ be required to ensure worker safety during construction.

NCCP/HCP Compliance

The Water Authority's Subregional NCCP/HCP (October 2010) was developed in an effort to estimate the long-range potential environment impacts of Water Authority development activities and provide for comprehensive conservation and management of sensitive species that could be impacted by those activities. The NCCP/HCP provides the Water Authority a permitting vehicle for "take" of these select sensitive species (referred to as "Covered Species" in the NCCP/HCP), or their habitat(s), for capital improvement program projects, operations and maintenance activities and preserve area management, monitoring, and adaptive management. The activities covered by the NCCP/HCP are referred to as "Covered Activities." During preparation of the NCCP/HCP, the Water Authority, together with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, designated a "Probable Impact Zone" in which most of the planned and future development impacts are expected to occur. The Probable Impact Zone is roughly 1,000 feet on either side of linear facilities and 1,000 feet around other structures, such as existing air-vac valves and vent structures. Because some future projects may require work outside of the Probable Impact Zone, a second zone referred to as the "Survey Area" was also analyzed and identified a 1-mile area on each side of rights-of-way and facilities where take of

species or their habitat(s) could potentially occur. Covered Activities within the Probable Impact Zone and Survey Area may use the NCCP/HCP for incidental take of Covered Species provided that general and species-specific conditions for coverage are implemented during construction.

The project has been designed to avoid potential direct impacts to NCCP/HCP covered species (including narrow endemic species) and their critical habitat.

1.4 Water Authority Specifications/Project Design Features

The Water Authority requires contractors to follow several standard conditions contained in the construction project specifications that avoid or minimize significant environmental impacts. In addition, design features specific to the proposed project that could minimize or avoid environmental effects would be incorporated into the project, as appropriate. Applicable design features for this action are listed below by issue area. The design features presented herein are not exhaustive. Other specification requirements or design features may be developed during the proposed project that are as effective as those listed below.

Aesthetics/Visual Quality

1. In accordance with Code of Federal Regulations, Title 29, Part 1926, Subpart D, Standard 1926.56, Illumination, any lighting used will be of the lowest illumination necessary to ensure safety of all construction personnel and security of the site, and will be shielded and directed away from adjacent habitat areas.

Air Quality

1. All clearing and grading will be carried out with dust control measures adequate to prevent creation of a nuisance to persons or property.
2. Points of public street access will be cleaned daily of any "track-out" materials.
3. All paved access roads, parking areas, and staging areas at construction sites will be swept daily.
4. All unpaved access roads, parking areas, and staging areas at construction sites will be watered three times daily or treated with non-toxic soil stabilizers.
5. Gravel will be applied to all unpaved access roads prior to initiating construction activities.
6. Dirt storage piles will be stabilized by tarps, fencing, or other erosion control measures.

7. Soil stabilizers will be applied to inactive construction areas (disturbed areas inactive for 10 days or more).
8. Traffic speeds on unpaved roads will be limited to 15 miles per hour.
9. All trucks hauling soil, sand, and other loose materials will be covered or required to maintain at least 2 feet of freeboard.

Biological Resources

1. An Environmental Surveyor will conduct pre-activity surveys within suitable habitat to ensure that NCCP/HCP Covered Species are adequately addressed by impact avoidance and minimization measures. Surveys will be conducted during the appropriate field conditions for detection prior to any proposed impacts in the NCCP/HCP Plan Area.

   If a covered plant species is observed, then an appropriate buffer would be established if feasible. If establishment of a buffer is not feasible, the plants to be impacted will be salvaged and transplanted to, or an equivalent quantity of locally sourced container stock will be planted in, adjacent suitable habitat.
2. The Environmental Surveyor will prepare a Pre-Activity Survey Form (PSF) within 30 days prior to project ground disturbance. The PSF shall include a description of any significant change compared to the biological resources documented in this Initial Study/Mitigated Negative Declaration (IS/MND). Also, the PSF shall include a conclusion that Water Authority general conditions and standard specifications/project design features measures in the Mitigation Monitoring and Reporting Program (MMRP) will achieve NCCP/HCP compliance and, if not, what NCCP/HCP measures need to be added to achieve compliance.
3. All equipment used in or near drainages within an approved construction zone will be clean and free of leaks and grease. Emergency provisions to contain and clean up unintentional fuel or oil spills will be in place prior to construction.
4. Fueling of equipment will occur in designated fueling zones located at least 100 feet from drainages and wetland habitat.
5. Construction personnel will park private vehicles in clearly marked areas, outside areas supporting sensitive habitat. Drivers of construction-related vehicles on unpaved roads in native habitats will not exceed a speed of 15 miles per hour in order to avoid injury to animals and minimize dust generation.

6. During construction, a Water Pollution Control Plan (WPCP) will be implemented to prevent erosion and siltation into sensitive habitats and natural drainages outside designated disturbance limits. The WPCP will identify erosion- and sediment-control best management practices (BMPs) tailored to specific site conditions including, but not limited to, silt fences, gravel bags, detention basins, and any other appropriate and effective measures.
7. Prior to the commencement of construction, including grubbing and clearing, the boundaries of approved construction zones adjacent to sensitive habitats will be clearly delineated with temporary flagging and/or fencing, and checked by the Environmental Surveyor. The Water Authority will confirm that fencing is in place prior to initiating any construction or clearing activity. In addition, implementation of water quality/erosion control measures (as described under Geology and Soils, below) will prevent sedimentation within areas of potential ponding.
8. Initial clearing, and grubbing within or near areas with potential to support coastal California gnatcatcher and other sensitive avian species will be conducted outside the riparian breeding season (March 15 through September 15) and upland breeding season (February 15 through August 15), as applicable. Areas restricted from noisy activities will be staked or fenced under the supervision of the Environmental Surveyor.
9. A pre-construction meeting will be held wherein the Environmental Surveyor will provide information about sensitive resources. The Environmental Surveyor will brief the Water Authority Contractor on location of construction zone boundaries, the presence of sensitive species, and other required biological mitigation measures.
10. Pre- and post-construction surveys will be completed by the Environmental Surveyor to determine the actual amount of sensitive habitat impacted by construction activities. If these surveys show that additional impacts to habitat have occurred, the additional impacts will be added to mitigation requirements.
11. Monitoring by an Environmental Surveyor shall be provided by the Water Authority to ensure that avoidance and minimization measures are carried out and to ensure that inadvertent construction activities do not occur in sensitive areas outside the approved impact footprint. The Environmental Surveyor shall conduct random weekly inspections to ensure that avoidance and minimization measures are carried out.

Cultural Resources

1. Based on the extent of previous disturbance of the project area, all excavation would occur in previously excavated, backfilled materials. As a result, no significant cultural resources are anticipated within the project disturbance area and no monitoring is proposed. As standard Water Authority procedure, in the event that buried cultural resources are encountered during any phase of construction, project activities near the resources will be temporarily halted, and the Water Authority will consult a qualified archaeologist to assess the significance of the resource and to provide proper management recommendations.
2. Pursuant to California Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94, 5097.98 and 5097.99, in the event of an unexpected discovery of human remains during any phase of construction, project activities near the discovery will be temporarily halted and the San Diego County Coroner contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendent, as identified by the Native American Heritage Commission, will be contacted to determine proper treatment and disposition of the remains.

Geology and Soils

1. Project construction activities will comply with existing regulatory requirements related to geology and soils, including applicable National Pollutant Discharge Elimination System (NPDES) requirements. The Water Authority will implement a WPCP (including associated sedimentation BMPs) for the construction activities that are specific for project type, location, and characteristics. Typical control measures that may be implemented as part of the project WPCP include:
    a. Preparation and implementation of a "weather triggered" action plan during the rainy season to provide enhanced erosion or sediment control measures prior to predicted storm events (i.e., 40% or greater chance of rain).
    b. Use of erosion control/stabilizing measures in appropriate areas (including disturbed areas and graded slopes with grades of 3:1 [horizontal to vertical] or steeper), such as geotextiles, mats, fiber rolls, soil binders, or temporary hydroseeding established prior to October 1.
    c. Use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as filtration devices (e.g., temporary inlet filters), silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street

sweeping, energy dissipaters, stabilizing construction access points (e.g., with temporary gravel or pavement) and sediment stockpiles (e.g., with silt fences and tarps), and use of properly fitted covers for sediment transport vehicles.

d. Storage of BMP materials in applicable on-site areas to provide "standby" capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.

e. Provision of training by certified personnel (i.e., either a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer [QSD] or Qualified SWPPP Practitioner [QSP]) for the personnel responsible for BMP installation and maintenance.

f. Implementation of appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.

g. Implementation of sampling/analysis, monitoring/reporting, and post-construction management programs per NPDES requirements.

h. Implementation of additional BMPs as necessary (and required by appropriate regulatory agencies) to ensure adequate erosion and sediment control.

2. Actual BMPs for the proposed project will be determined during the WPCP development process, with such measures taking priority over the typical industry standard measures listed above.

Hazards and Hazardous Materials

1. Standard BMPs will be implemented to prevent impacts to the public through the transport, use, or disposal of any hazardous materials. Standard industry measures include, but are not limited to:

   a. Hazardous materials used or stored on-site will be restricted to areas at least 50 feet from storm drains and watercourses.

   b. All hazardous materials will be covered or kept in enclosed facilities.

   c. A written inventory will be kept of all hazardous materials used or stored on-site.

   d. To prevent discharge in the event of a spill, berms, ditches, and/or impervious liners (or other applicable methods) will be provided in material storage and vehicle/equipment storage areas to provide a containment volume of 1.5 times the volume of the stored/used materials.

e. Agency telephone numbers and a summary guide of cleanup procedures will be posted in a conspicuous location at or near the job site trailer.

2. Prior to authorization to proceed, the Water Authority will prepare a Fire Prevention and Response Plan in compliance with California Codes of Regulations, Title 8, Division 1, Chapter 4, Subchapter 4, Article 36, Fire Protection and Prevention. Before the start of construction, all construction crewmembers will be trained in the requirements of the plan. Fire safety information will be disseminated to construction crews during regular project safety meetings. Fire management techniques will be applied during project construction as deemed necessary, and depending on the on-site vegetation and the vegetation of surrounding areas.

Hydrology/Water Quality

1. A WPCP will be implemented to reduce or eliminate pollutants during construction of the proposed project. The WPCP will identify all pollutant sources, including sources of sediment, that may affect the quality of storm water discharges associated with construction activity (storm water discharges from the construction site); identify non-storm water discharges; identify structural and/or treatment control BMPs that are to be implemented in accordance with a time schedule to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction; and develop a maintenance schedule for permanent or post-construction BMPs that will "to the maximum extent possible" reduce or eliminate pollutants after construction is completed. Detailed BMPs to prevent impacts to water quality will be included in the WPCP.
2. The grading/construction contractor will comply with the applicable NPDES permits for disposal of water from the existing aboveground water storage tank. While specific BMPs to address potential water quality concerns from disposal of drained water will be determined based on site-specific parameters, they will likely include the following types of standard industry measures:
   a. Use of erosion prevention and sediment control devices for applicable conditions (e.g., when water is discharged onto graded or unstabilized areas).

Noise and Vibration

1. The Contractor will comply with the noise thresholds the Water Authority has established for this project, which are based on the County of San Diego Noise Ordinance. Noise levels associated with construction activities are not to exceed an average sound level of

75 decibels over an eight-hour period, between 7 a.m. and 7 p.m., and 45 decibels over a one-hour period between 7 p.m. to 7 a.m. at or beyond the property lines on any occupied property where the noise is being received.

2. All noise-producing project equipment and vehicles using internal combustion engines will be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed package equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise control features that are readily available for that type of equipment.
3. All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of project activity.
4. Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
5. Construction site and access road speed limits will be established and enforced during the construction period; speeds on unpaved roads will not exceed 15 miles per hour.
6. The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
7. No project-related public address or music system will be audible at any adjacent noise-sensitive receptor.

Traffic/Circulation

1. To minimize disruption to communities from construction traffic, the Water Authority will prepare and implement a traffic control plan. The plan will be prepared in accordance with the latest edition of the Federal Highway Administration Manual of Uniform Traffic Control Devices (FHWA 2009), as modified by the most recent California Supplement (FHWA 2012).
2. The project will not unreasonably restrict access to any private property.

Utilities and Service Systems

1. The Water Authority will notify and coordinate with all other utility providers that own easements, right-of-ways, or facilities within or adjacent to the area affected by the proposed project. Any need to connect with or relocate utilities will be presented to the appropriate utility provider prior to commencement of construction.

2 INITIAL STUDY CHECKLIST

1. Project title:

Hauck Mesa Storage Reservoir

2. Lead agency name and address:

San Diego County Water Authority
4677 Overland Avenue
San Diego, California 92123

3. Contact person and phone number:

Mark V. Tegio, Sr.
Senior Water Resources Specialist
858.522.6753

4. Project location:

Unincorporated San Diego County
Valley Center Community
APN: 129-200-09-00

5. Project sponsor's name and address:

San Diego County Water Authority
4677 Overland Avenue
San Diego, California 92123

6. General plan designation:

Semi-Rural Residential (SR-4)

7. Zoning:

Limited Agriculture (A70)

8. Description of project:

The Water Authority proposes to demolish an existing 40-foot-diameter, 70-foot-tall VCMWD aboveground water storage tank and construct and operate a new FRS reservoir

and associated control facility. Situated atop Hauck Mesa at the site of an existing VCMWD water storage tank, the new FRS reservoir would be approximately 80 feet in diameter, approximately 55 feet in height above ground surface, and have a volume of 1.1 million gallons. The proposed FRS reservoir would connect to the Valley Center Pipeline using a 42-inch inlet steel pipe and 42-inch outlet steel pipe. A 20-foot-high concrete ring wall would support the FRS reservoir and a 20-foot access road would encircle the facility. The project site is located immediately north of Valley Center Pipeline right-of-way and approximately 2.5 miles east of I-15 in the Valley Center area of northern San Diego County (Figures 1 and 2). A new FRS reservoir is proposed to provide surge protection along with service reliability and efficiency in the Valley Center area against outage events that could impede daily operation of the Valley Center Pump Station.

Please refer to Section 1.3 for a detailed description of the proposed project.

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

Surrounding land uses include an abandoned single-family structure located approximately 50 feet south of the site (undeveloped open space is located east and south of the abandoned home) and undeveloped open space to the north, east, and briefly to the west. Agricultural uses and single-family residences are located to the west along Lavender Point Lane and further to the north and south beyond undeveloped open space in the immediate vicinity.

Please refer to Section 1.2 for a detailed discussion of the project setting and surrounding land uses.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Robert R. Yamada — 11/9/15

Robert R. Yamada
Director of Water Resources
San Diego County Water Authority

Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

a) The significance criteria or threshold, if any, used to evaluate each question; and

b) The mitigation measure identified, if any, to reduce the impact to less than significance

2.1 Aesthetics

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS –** Would the project**:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

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

Less Than Significant Impact. The proposed project is located within unincorporated San Diego County within the community of Valley Center. Vista points from the site afford panoramic views of agricultural land, undeveloped open space, and hillsides. The site is primarily visible from Lavender Point Lane and an abandoned, legally uninhabitable single-family structure adjacent to the project site. Due to the site's location atop an elevated hillside, additional midrange and distant views of the site are afforded to rural residences, agricultural sites, and viewers on neighboring hillsides.

The site currently supports a prominent aboveground storage tank that is approximately 40 feet in diameter and 70 feet in height, security fencing, a gravel driveway, and several screening trees. The proposed FRS reservoir would be approximately 80 feet in diameter, approximately 55 feet in height above ground surface, and have a volume of 1.1 million gallons. The reservoir diameter would be two times that of the existing tank on site; however, it would be approximately 15 feet shorter. A 20-foot-high concrete ring wall would support the tank. A 20-foot access road would surround the tank. Because the proposed FRS reservoir would replace the existing aboveground storage tank and would actually be 15 feet shorter than the existing tank, the project would not introduce a new visual element that does not occur under existing conditions. Additionally, construction of the new FRS reservoir would not obstruct views afforded to motorists on Lavender Point Lane, nor would it obstruct existing views from relatively distant rural residential land uses in the area. It should be noted that the single-family structure south of the project site is abandoned and legally uninhabitable, and therefore, no sensitive receptors (viewers) occupy the property. Two single-family residences are located to the west and south of the site; construction activities would not have a substantial adverse effect on existing views from these residences.

Temporary visual impacts would occur during construction activities associated with construction equipment staging and operation, construction fencing, and worker vehicle parking. All temporary construction-related visual impacts would cease following completion of construction and the project would not introduce a new visual element that does not occur under existing conditions. As such, impacts would be less than significant.

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

No Impact. No state scenic highway is located within the vicinity of the project site, and the project site is not visible from a designated state scenic highway. Construction of the proposed project would not damage trees, rock outcroppings, or historic buildings within a state scenic highway corridor, and all construction activities would be restricted to the existing site, which is developed with an existing facility. As such, no impacts would occur.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. See response 2.1(a) above. The proposed project would entail replacement of an existing aboveground storage tank with a new, slightly wider, but shorter, FRS reservoir in its place. All construction would take place within the confines of the existing site and easement, and no additional disturbance outside of the previously disturbed site would be required to accommodate the new facility. Additionally, views of the site are limited to motorists travelling on Lavender Point Lane and a limited number of single-family and rural residential residences. Because the new facility would be consistent with existing facilities on the site, including location, general size, project footprint, and type of facility, and the project would not be distinctive from mid-ground or distant viewing locations, changes to the existing visual character of the area would not result in adverse impacts; therefore, a less-than-significant impact would occur.

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

Less Than Significant Impact. As specified in Section 1.4, Water Authority Specifications/Project Design Features, lighting used at the site would be of the lowest illumination necessary to ensure safety of all construction personnel and security of the site, and it would be shielded and directed away from adjacent habitat areas. The project site has existing nighttime lighting for evening operations and site security. The proposed project would not involve installation of any additional lighting sources. Additionally, the facility would be constructed of a concrete foundation and the FRS reservoir structure would not contain glass or other reflective surfaces with the potential to produce glare. It is assumed that the FRS reservoir and all ancillary components of the project, including valves, would be coated with non-reflective paint. Therefore, the

proposed project would result in a less-than-significant impact related to the introduction of a new source of light or glare.

2.2 Agriculture and Forestry Resources

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

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

No Impact. The site is located in an area generally characterized by agricultural uses. The county of San Diego General Plan designation for the site is Semi-Rural Residential (SR-

4). The site is currently zoned Limited Agriculture (A70). The State of California Department of Conservation Farmland Mapping and Monitoring Program categories are based on local soil characteristics and irrigation status, with the best quality land identified as Prime Farmland and Farmland of Statewide Importance. The Department of Conservation has classified land in California into seven "Important Farmlands Categories." The project site is currently designated as "Farmland of Local Importance" under this classification (California Department of Conservation 2010); however, there is currently no agricultural production on the project site or adjacent to the site that could be affected during construction activities. Therefore, no existing agricultural use would be displaced by the project. Additionally, the project site would replace an existing tank facility with a new FRS reservoir, and as such, the site would be utilized for a similar purpose as that under existing conditions. Therefore, an existing agricultural use would not be converted to a non-agricultural use and no impact would occur.

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

No Impact. As previously discussed, the county of San Diego General Plan designation for the site is Semi-Rural Residential (SR-4). The county's Zoning Ordinance identifies the site as Limited Agriculture (A70) and Major Impact Utilities are permitted uses within the A70 zone. Although the site is currently zoned for limited agricultural use, there is currently no agricultural production on the project site (the site currently support an above ground water tank) or adjacent to the site that could be affected during construction activities. No existing agricultural use would be displaced by the project. Additionally, the project site is not currently under a Williamson Act contract that would be affected by construction of the proposed project Furthermore, pursuant to Government Code Section 53091(e), zoning ordinances of a county "shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water" (Government Code, Section 53091(e)). As such, no impact would occur.

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

No Impact. The proposed project site is zoned Limited Agriculture and designated for Semi-Rural Residential (SR-4). It is surrounded by an area that is generally characterized by open space, agricultural uses, and rural residential land uses. The site has been

previously disturbed and construction would not occur outside the existing site boundaries. No forest land, timberland, or areas zoned for Timberland Production occur on the project site or within the surrounding area. Development of the project would, therefore, not result in loss of forest land, timberland, or timberland zoned Timberland Production to a non-forest use. No impacts would occur.

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

No Impact. The proposed project would be located on an existing developed site and would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impacts would occur.

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

No Impact. Please see response 2.2(a); the site is located in an area generally characterized by agricultural uses. The county of San Diego General Plan designation for the site is Semi-Rural Residential (SR-4). The site is currently zoned Limited Agriculture (A70). There is currently no agricultural production on the project site or adjacent to the site that could be affected during construction activities, and therefore, no existing agricultural use would be displaced by the project. Additionally, the site would be utilized for a similar purpose as present conditions. Operation of the proposed facility, including maintenance, inspections, and landscaping would reflect that of the existing facility. Therefore, the proposed project would not involve a change in the existing environment that could result in the conversion of farmland or forest land to a non-forest use; therefore, no impact would occur.

2.3 Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

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

Less Than Significant Impact. The San Diego Air Pollution Control District and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the San Diego Air Basin; specifically, the State Implementation Plan and Regional Air Quality Strategy.[1] The federal ozone (O_3) maintenance plan, which is part of the State Implementation Plan, was adopted in 2012. The State Implementation Plan includes a demonstration that current strategies and tactics will maintain acceptable air quality in the San Diego Air Basin based on the National Ambient Air Quality Standards. The Regional Air Quality Strategy outlines San Diego Air Pollution Control District's plans and control measures designed to attain the state air quality standards for O_3. The State Implementation Plan and Regional Air Quality Strategy rely on information from California Air Resources Board and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through

[1] For the purpose of this discussion, the relevant federal air quality plan is the ozone maintenance plan (SDAPCD 2012). The Regional Air Quality Strategy is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the San Diego Air Basin.

regulatory controls. California Air Resources Board mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the county as part of the development of their general plans.

If a project would introduce urban development that would result in greater intensity than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the State Implementation Plan and Regional Air Quality Strategy and may contribute to a potentially significant cumulative impact on air quality. The county of San Diego General Plan designation for the site is Semi-Rural Residential (SR-4) and the site is currently zoned Limited Agriculture (A70). No aspect of the project would involve introduction of a new land use that would change or further intensify the land use over present conditions. The proposed project would consist of construction of a new FRS reservoir to replace an existing above-grade storage tank. Therefore, because the site would be utilized for similar purposes as those existing, and operation of the project would resemble that of the existing facility, the project would be considered consistent with uses and planned development as anticipated in the State Implementation Plan and Regional Air Quality Strategy. Because the proposed land uses and associated vehicle trips are anticipated in local air quality plans, the project would be consistent at a regional level with the underlying growth forecasts in the Regional Air Quality Strategy. Impacts would be less than significant.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Emissions

Less Than Significant Impact. Construction of the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, dust emissions, and combustion pollutants from on-site construction equipment, as well as from personal vehicles and vendor/delivery trucks. Oxides of nitrogen (NO_x) and carbon monoxide (CO) emissions would primarily result from the use of construction equipment and motor vehicles. Fugitive dust emissions would primarily result from grading activities. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions.

Daily emissions from the construction phase of the project would be limited because most of the construction activities would only require a few units of off-road equipment. For the most part, the off-road equipment would consist of smaller equipment (for example small backhoes). Construction of the project would not entail a large number of trucks for exporting soil or delivery of materials and concrete. Emissions from the construction phase of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, available online (http://www.caleemod.com/).

Construction of the proposed project is anticipated to last approximately 18 months, beginning in the summer of 2019. The equipment mix anticipated for construction activity was based on information provided by the project engineer. The equipment mix analyzed represents a reasonably conservative estimate of construction activity.

The Water Authority has not adopted thresholds of significance for the purposes of analyzing air quality impacts; therefore, the San Diego Air Pollution Control District thresholds of significance were utilized for analyzing criteria air pollutant emissions, as shown in Table 1, Estimated Daily Maximum Construction Emissions. The project is also subject to San Diego Air Pollution Control District Rule 55 – Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least two times daily, resulting in an approximately 55 percent reduction of particulate matter. The project is also subject to San Diego Air Pollution Control District Rule 67.0 – Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compound (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories. For the purposes of a conservative analysis, VOC content restrictions are not reflected in the emissions estimates.

Table 1, Estimated Daily Maximum Construction Emissions, shows the estimated maximum daily construction emissions associated with the construction phase of the Proposed Project. The maximum daily emissions for each pollutant may occur during different phases of construction.

Table 1
Estimated Daily Maximum Construction Emissions (pounds per day)

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
2019	2.46	24.73	18.86	0.03	2.12	1.37
2020	2.29	22.50	18.64	0.03	1.34	1.10
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Source: See Appendix A for complete results.

As shown, daily construction emissions would not exceed the thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$, and construction impacts to ambient air quality would be less than significant.

Operational Emissions

Less Than Significant Impact. Following construction of the proposed project, operation and maintenance activities would consist of routine inspection, repair, and maintenance of the facility. Operations and maintenance activities would include site inspections conducted quarterly by Water Authority staff for routine equipment monitoring, testing, and preventative maintenance. Routine inspections would help ensure system and service efficiency and reliability. Repairs at the site would be conducted on an as-needed basis.

The proposed project is not expected to increase the number of maintenance, inspection or delivery vehicles at the site compared to that of the existing facility; thus, there would not be an increase in emissions from motor vehicles.

Table 2, Estimated Daily Maximum Operational Emissions, presents the maximum daily emissions associated with the operation of the Proposed Project.

Table 2
Estimated Daily Maximum Operational Emissions (pounds per day)

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer						
Area Source Emissions	—	—	—	—	—	—
Energy Emissions	—	—	—	—	—	—
Mobile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Winter						
Area Source Emissions	—	—	—	—	—	—

Table 2
Estimated Daily Maximum Operational Emissions (pounds per day)

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Energy Emissions	—	—	—	—	—	—
Mobile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Daily Emissions	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Source: See Appendix A for complete results.

As shown, daily operational emissions from periodic maintenance and inspection would be negligible (less than 0.00 in all cases), and would not exceed the thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Operational impacts to air quality would be less than significant.

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The San Diego Air Basin is a nonattainment area for O_3, particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and $PM_{2.5}$ under the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The air quality conditions in the San Diego Air Basin are the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (for example, VOC and NO_x for ozone) potentially contribute to poor air quality. As discussed above, the construction and operational emissions from the proposed project would not exceed the county of San Diego's significance thresholds. The proposed project would not conflict with the San Diego Air Pollution Control District's Regional Air Quality Strategy or the State Implementation Plan, which addresses the cumulative emissions in the San Diego Air Basin and the State, respectively. Accordingly, the proposed project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and this impact would be less than significant.

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

Less Than Significant Impact. The nearest potential sensitive receptor to the proposed project site is a structure located approximately 50 feet to the south; however, this single-family structure has been abandoned for many years. In addition, the owners of the structure do not have a certificate of occupancy, and therefore the structure is not legally habitable. Two single-family residences are located approximately 900 feet and 475 feet southwest of the site. Due to the elevation of the project site above these residences, distance from the site, and minimal amount of emissions that would be generated during construction, short-term construction activities would not impact these receptors. In addition, operation of equipment would occur for a relatively short duration during construction of the proposed project. Furthermore, diesel equipment would also be subject to the Airborne Toxic Control Measures for in-use mobile construction equipment promulgated by the California Air Resources Board, which would minimize diesel particulate matter. Construction activities would not generate substantial emissions of toxic air contaminants, specifically diesel exhaust particulate matter. Impacts to sensitive receptors located near project construction would be less than significant.

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

Less Than Significant Impact. Odors would be generated from vehicles or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. While such odors can be a nuisance, they are temporary and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project consists of a flow regulatory storage reservoir and associated control facility for the Water Authority, and would not be associated with an odor-generating use. Therefore, odor impacts related to project operations would be considered less than significant.

2.4 Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on 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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

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

Less Than Significant Impact with Mitigation Incorporated. Special-status wildlife species considered in this document are those that are (a) listed by federal or state agencies, proposed for listing as threatened or endangered, fully protected, or are

candidate species; (b) listed as a Species of Special Concern by CDFW (2014); or (c) listed as an NCCP/HCP Covered Species (Water Authority 2010, Volume I).

Dudek prepared a biological resources technical report (BTR) for the Twin Oaks Valley WTP Expanded Service Area Project in December 2014. While the BTR did not specifically address the proposed FRS reservoir, it did address the Hauck Mesa site and adjacent Water Authority right-of-way to the south. The BTR summarizes the results of biological reconnaissance, habitat assessments, vegetation mapping, an inventory of wildlife and plant species, and focused surveys for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) conducted in 2014, and it analyzes the biological significance of the project area with respect to the Water Authority's approved Subregional NCCP/HCP and federal, state, and local laws and policies. The BTR is included as Appendix B to this MND.

Existing on-site vegetation consists primarily of developed land. A small pocket of southern mixed chaparral is present along the northern and western site boundary. Outside the fenced boundary of the site, native upland vegetation communities are located north, east, and south of the project site and include coastal sage scrub and southern mixed chaparral.

To determine whether suitable habitat (coastal sage scrub habitat and coastal sage scrub subassociations) in the area surrounding the project site was occupied, Dudek biologist Tricia Wotipka conducted a USFWS protocol survey for the California gnatcatcher in April 2014. No California gnatcatchers were found within parcels owned by the Water Authority or the VCMWD, nor were they noted in adjacent off-site parcels during any of the three survey visits (see Appendix B). No other NCCP/HCP-covered plant or wildlife species were observed on site, and due to the extent of disturbed vegetation and hard compacted soils present, none are likely to occur in the impact footprint. For example, based on the disturbed nature of the site, rosy boa (*Lichanura trivirgata roseofusca*) is not likely to occur in the impact footprint. Also, potential burrows were not detected in the impact footprint and due to the extent of disturbed vegetation and hard compacted soils present, Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) would not occur in the impact footprint.

Special-Status Plants

No known covered plant species would be directly impacted by implementation of the proposed project. The project has been designed to avoid all potential direct impacts on

any NCCP/HCP narrow endemic species and their critical habitat. Therefore, no significant impact to special-status plant species would occur.

Special-Status Wildlife

The project was designed to minimize impacts to special-status wildlife species, including coastal California gnatcatcher and other potentially occurring special-status species. In addition, through application of the Special Conditions for avoidance and minimization pursuant to the NCCP/HCP, direct and indirect impacts to special-status wildlife species would be avoided and minimized to the extent feasible and practicable. Implementation of avoidance and minimization measures would reduce potential impacts to special-status wildlife species to a level below significant.

Vegetation clearing within (and near) areas that have the potential to support coastal California gnatcatchers and other native birds protected by the Migratory Bird Treaty Act and the California Fish and Game Code (Sections 3503, 3503.5, and 3513) would be conducted outside the breeding season (i.e., February 15–August 15 for uplands; March 15–September 15 for riparian areas), pursuant to the Water Authority's Avian Breeding Season Policy. Areas restricted from these activities shall be fenced or staked under supervision of the Environmental Surveyor. If it is not feasible to conduct vegetation clearing outside of the breeding season, **Mitigation Measure (MM) BIO-1** (pre-activity surveys) would be implemented to identify locations of active bird nests, and appropriate buffers would be established by the Environmental Surveyor to avoid impacts to nesting birds pursuant to the guidelines identified in the NCCP/HCP.

MM BIO-1 If construction activities must commence during the upland avian breeding season (February 15 through August 15), the Water Authority will conduct nest surveys within 300 feet of all proposed activities. If active nests are encountered, no Covered Activities will be implemented within a minimum distance of 100 feet of the nest. A greater setback (up to 300 feet) may be allowed, as determined by the Environmental Surveyor, based on the site-specific considerations, phase of the nesting cycle, and species or other biological considerations.

Potential significant direct impacts to other potentially occurring special-status reptile and mammal species (see Table 5 of Appendix B) that cannot easily vacate the disturbance areas would be mitigated through application of the Special Conditions for avoidance and minimization of Covered Species pursuant to the NCCP/HCP Appendix B. Application

of these Special Conditions would reduce potential impacts to potentially occurring special-status reptile and mammal species to a level below significant.

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

Less than Significant with Mitigation Incorporated. Jurisdictional waters, wetlands, or riparian habitats do not occur on site, and no impacts would occur. In addition, given the lack of aquatic resources at the project site, direct impacts to special-status riparian species would not occur. Permanent impacts to approximately 0.32 acre of developed land and 0.03 acre of southern mixed chaparral would occur as a result of the proposed construction work at the project site.

Developed land and associated subcommunities are listed as a Tier IV vegetation community/land cover type in the NCCP/HCP. The Tier IV classification means that developed land is considered non-sensitive and impacts do not require restoration or other habitat-specific mitigation. Southern mixed chaparral is listed as a Tier III habitat. All of the vegetation that would be disturbed is located within the fenced boundary of the project site, which is not located within a Biologically Significant Resource Area, as designated in the NCCP/HCP.

Impacts to southern mixed chaparral would be mitigated through implementation of **MM BIO-2,** which entails the ~~acquisition~~ deduction of credits at a Water Authority upland ~~or wetland~~ habitat management area ~~or other wildlife agency-approved bank~~ at ~~the~~ a 0.5:1 ratio~~s~~ as specified in the NCCP/HCP. Therefore, with implementation of the NCCP/HCP general specifications for vegetation impacts and **MM BIO-2**, the project's impacts on sensitive habitat would be less than significant.

MM BIO-2 In accordance with the mitigation ratios identified in the Water Authority's NCCP/HCP, ~~P~~permanent impacts to southern mixed chaparral shall be mitigated at a 0.5:1 ratio ~~in accordance with the mitigation ratios identified in the Water Authority's NCCP/HCP~~. Mitigation requirements shall be fulfilled through the use of available credits at ~~a~~ the Water Authority's Crestridge upland ~~upland or other wildlife agency-approved~~ habitat management area.

c) Would the project 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?

No Impact. No impacts to jurisdictional waters, wetlands, or riparian habitat are proposed or anticipated, and given the lack of aquatic resources at the project site, direct impacts to special status riparian species are not anticipated. Therefore, no impact would occur.

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

Less Than Significant Impact. The proposed project would be located on the developed grounds of the existing water storage tank that is fenced for security reasons. Therefore, medium- and large-sized mammals currently do not have access to or across the project site. Additionally, the proposed project involves the construction of a FRS reservoir and associated improvements within the confines of the security fencing surrounding the project site, and would not interfere with the movement of wildlife through a wildlife corridor. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. The proposed project would be consistent with policies related to biological resources, and would not require tree removal or impact to tree resources, as all construction would occur on the previously disturbed site. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. As described above, the project would be required to comply with the Water Authority's Subregional NCCP/HCP (October 2010). The Water Authority's NCCP/HCP was developed in an effort to estimate the long-range potential environmental impacts of Water Authority development activities and provide for comprehensive conservation and management of sensitive species that could be impacted by those activities. The project would be designed to minimize impacts to special-status

wildlife species including coastal California gnatcatcher and other potentially occurring special-status species. Through application of avoidance and minimization measures pursuant to the NCCP/HCP (see Section 1.4 of this document), direct and indirect impacts to special-status wildlife species would be avoided and minimized to the extent feasible and practicable. Implementation of avoidance and minimization measures would reduce potential impacts to special-status wildlife species to a level below significant. See also Appendix C, which provides a draft consistency determination regarding the project and the eighteen general conditions for coverage established in the NCCP/HCP.

The wildlife agencies will review this IS/MND as part of the public review process to verify conformance with the adopted Plan. The Water Authority anticipates receipt of a letter of concurrence upon completion of the review process.

Based on the analysis presented in this section, impacts related to the potential conflicts with the Water Authority's NCCP/HCP would be less than significant.

2.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Impact. The project site currently supports an aboveground water storage tank on a previously disturbed site; there are no built historical resources on the site. Therefore, no impacts to a built historical resource would occur.

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

Less Than Significant Impact. A cultural resources/archaeological resources records search was conducted at the South Coastal Information Center at San Diego State University by Dudek in support of the First Addendum to the San Diego County Water Authority Pipeline 2A and Pump Station Final EIR (Appendix D). The records search is confidential and is not intended for public review. In addition to half-mile search area buffer centered on the Valley Center Pump Station site, the records search included a half-mile search buffer centered on the Valley Center Pipeline valve and vault site which is located immediately south adjacent to the Hauck Mesa project site. The results of the record search indicated that no archaeological resources are mapped within both the Valley Center Pipeline valve and vault site and the adjacent Hauck Mesa project site. Furthermore and as noted previously, the project site currently supports an aboveground water storage tank on a previously disturbed site. Project-related excavation would occur on a site that was fully disturbed during installation of the existing water storage tank and project staging would occur within the disturbed fenced boundary of the Hauck Mesa site. Therefore, the project is not likely to uncover or damage any previously undiscovered archaeological resources. In the unlikely event that buried cultural resources are encountered during any phase of construction, then as standard Water Authority procedure project activities in the vicinity of the resources will be temporarily halted, and the Water Authority will consult a qualified archaeologist to assess the significance of the resource and to provide proper management recommendations. As such, implementation of the standard Water Authority procedure pertaining to construction disturbance to buried cultural resources (if encountered) would ensure that impacts to archaeological resources remain less than significant.

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

No Impact. According to California Geological Survey mapping, the Hauck Mesa site is underlain by Mesozoic bedrock units (USGS 2000) and the project site is not underlain by formations with potential to contain paleontological resources. In addition, the project site is assigned a paleontological resource sensitivity of "none" (County of San Diego 2007a). Furthermore, given the disturbed nature of the site and the fact that the site was previously graded/excavated when the VCMWD tank was installed, excavation into previously undisturbed paleontological resources and/or unique geologic materials is unlikely. Lastly, according to the County Unique Geologic

Features Inventory (County of San Diego 2007b), there are no Unique Geologic Features on the project site or within the immediate project area. Therefore, construction of the proposed project would not either directly or indirectly destroy a unique paleontological resource of site or unique geologic feature.

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

Less Than Significant Impact. The site is not known to be an informal/formal cemetery. The site has been previously disturbed when the existing tank was installed. Due to past excavation/ fills introduced to the project site, it is highly unlikely that human remains are present. In the unlikely event that human remains are discovered during grading, the Water Authority would implement the standard Water Authority practice pertaining to the discovery of human remains (see Section 1.4 of this document). Furthermore, existing regulations address construction disturbance of human remains and establish a notification process to ensure proper identification and handling. Public Resource Code Section 5097.8 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission to resolve disputes regarding the disposition of such remains. The proposed project is required to comply with Public Resource Code Section 5097.98 should any unknown human remains be discovered during site disturbance. Additionally, Sections 7050.5, 7051, 5052, and 7054 of the Health and Safety Code collectively address the illegality of interference with human burial remains, as well as the disposition of Native America burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. Therefore, implementation of the standard Water Authority practice pertaining to the discovery of human remains and compliance with existing regulations would ensure that impacts remain less than significant.

2.6 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. 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.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a) Would the project 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.

Less Than Significant Impact. The project site is not located with an Alquist-Priolo Earthquake Fault Zone. The nearest fault zone to the project site is the Elsinore Fault Zone located approximately 10 miles from the site (Southern California Earthquake Data Center 2012). Other nearby fault zones include the San Jacinto Fault Zone and Rose Canyon Fault Zone. Strong seismic activity along nearby faults, however, could result in ground shaking conditions that is a common hazard in much of southern California; this would not affect the proposed FRS reservoir and no habitable structures would be built as part of the proposed project. Furthermore, the proposed project would serve to minimize damage during a strong seismic event, as the newly constructed facility would better withstand a potential fault surface rupture than would the older tank structure that currently exists on site. The new FRS reservoir would be designed in full compliance with all seismic safety design guidelines per State and Water Authority protocols. Therefore, impacts would be less than significant.

ii) Strong seismic ground shaking?

Less Than Significant Impact. The site is within seismically active Southern California. The FRS reservoir would be designed in accordance with all seismic requirements contained in the Uniform Building Code and Water Authority seismic design protocols; therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death caused by damage from rupture of know earthquake faults. Impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The project site is not located within a liquefaction zone (SanGIS 2011) and would not increase the risk from seismic-related ground failure impacts, including liquefaction. Therefore, impacts would be less than significant.

iv) Landslides?

Less Than Significant Impact. No known landslide hazards currently exist on site; therefore, remedial grading or additional shoring would not be necessary to ensure site stability. Additionally, minor excavation and site grading during construction would not activate landslide activity; therefore, impacts would be less than significant.

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

Less Than Significant Impact. The proposed project would be constructed within a previously disturbed site. The site-specific geotechnical study would analyze the potential for soil erosion and would provide recommendations for project design to reduce erosion impacts. Standard BMPs for erosion control as outlined in Section 1.4 (see Hazards and Hazardous Materials and Hydrology/Water Quality) would be implemented to ensure that impacts related to erosion would be minimized. As such, impacts would be less than significant.

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

Less Than Significant Impact. The project site is not located within a liquefaction zone (SanGIS 2011). The project would involve construction of a new FRS reservoir in place of the existing water storage tank on site, and would include a concrete ring wall to support the structure; therefore, post-development site conditions would not change compared to existing site conditions, and overall stability of the structure would improve following completion of construction. Proper engineering of earthwork (i.e., grading and excavation) would ensure that the site would not become unstable during construction. In addition, the project's structure would be designed according to the Uniform Building Code (UBC) and applicable Water Authority and regulatory seismic protocols that would reduce potential safety impacts associated with geologic units and soils. Therefore, because the project would replace an existing water storage tank facility including elements that would improve structural stability compared to the existing water storage tank, the proposed project would not result in impacts associated with lateral spreading, subsidence, or liquefaction. As such impacts would be less than significant.

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

Less Than Significant Impact. Please refer to response to threshold 2.6(c), above. Compliance with all applicable regulatory engineering requirements would ensure that geologic risks from expansive soils are minimized. Because an existing aged storage tank currently occupies the project site, development of a new FRS reservoir designed in accordance with the UBC would improve the overall safety of the site. As such, compliance with all applicable regulatory engineering requirements including the UBC would ensure impacts would be less than significant.

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

No Impact. No septic tanks or alternative wastewater disposal systems would be constructed for the proposed project. No impacts would occur.

2.7 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

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

Less Than Significant Impact. Global climate change is a cumulative impact; a project participates in the potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gas (GHG). The Water Authority adopted a Climate Action Plan in March 2014 (Water Authority 2014c) which identifies emission reduction strategies to be incorporated as part of project development

and long-term Water Authority program planning. The Water Authority does not currently have adopted thresholds of significance for analyzing GHG emissions generated from project development. Instead, the Water Authority uses a screening threshold of 900 metric tons of carbon dioxide equivalent (MT CO_2E) as provided in guidance from the California Air Pollution Control Officers Association (CAPCOA) report "CEQA & Climate Change" (CAPCOA 2008) to determine the significance of construction and operational GHG emissions. The CAPCOA report references the 900-metric-ton guideline as a conservative screening threshold to determine if a project would necessitate additional analysis and mitigation.

Construction Emissions

Construction of the proposed project would result in GHG emissions that are primarily associated with the use of construction equipment and worker vehicles. Construction would occur 5 days a week over approximately 18 months. An average of six workers would be on site each day. Construction-related emissions would occur on a short-term basis of approximately 18 months. Construction emissions would not continue after the project is completed.

Table 3, Estimated Construction GHG Emissions, shows the estimated annual GHG construction emissions associated with the proposed project in calendar years 2019 and 2020.

Table 3
Estimated Construction GHG Emissions (metric tons/year)

Construction Year	CO_2E Emissions
2019	159
2020	330
Total	489
Amortized Construction Emissions*	**24**

Source: See Appendix A for complete results.
Note: Per Water Authority emission calculation methodology presented in the Climate Action Plan, construction emissions are amortized over 20 years.

As shown in Table 3, the project would not cause a cumulatively considerable contribution on an annual basis to GHG emissions as a result of construction activities. Impacts would be less than significant.

Operational Emissions

Following construction of the proposed project, operation and maintenance activities would consist of routine inspection, repair, and maintenance of the facility. Operations and maintenance activities would include site inspections conducted quarterly by Water Authority staff for routine equipment monitoring, testing, and preventative maintenance. Routine inspections would help ensure system and service efficiency and reliability. Repairs at the site would be conducted on an as-needed basis, as such, operational GHG emissions would be negligible.

Total annual GHG emissions from construction and operation of the proposed project would be approximately 24 metric tons CO_2E per year as shown in Table 4, Estimated Operational GHG Emissions.

Table 4
Estimated Operational GHG Emissions (metric tons/year)

Source	CO_2E Emissions
Amortized Construction Emissions	24
Operational Emissions	0
Total	**24**

Source: See Appendix A for complete results.

Because the total project GHG emissions would not exceed the 900 MT CO_2E screening threshold, impacts would be less than significant.

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

Less Than Significant Impact. The Climate Change Scoping Plan, approved by CARB on December 12, 2008, provides an outline for actions to reduce California's GHG emissions. The Scoping Plan requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. There are several federal and state regulatory measures aimed at the identification and reduction of GHG emissions; most of these measures focus on area source emissions (for example, energy usage) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles).

Additionally, the project would be consistent with the Water Authority's Climate Action Plan as adopted in March 2014. The Climate Action Plan is the Water Authority's long-

term strategy document for reducing GHG emissions generated from agency operations. The Climate Action Plan includes an inventory or current and future GHG emissions and their sources, reduction targets and anticipated milestones, reduction measures to achieve identified emission targets, and a monitoring and reporting program to ensure strategy implementation. Reduction measures identified in the Climate Action Plan include Master Plan Projects and associated energy efficiency design features; energy audits for lighting upgrades, support operations and pump upgrades; vehicle fleet conversion; solar PV installation where feasible; and in-line hydropower generation where feasible.

The project would entail replacement of an existing water tank with a new FRS reservoir, and as such, the site would be utilized for a similar purpose as that under existing conditions and would not introduction a new land use or facility that would generate substantially greater emissions. As such, the project would not impede implementation of the Climate Action Plan, nor would it conflict with the overall reduction measures currently pursued by the Water Authority. Therefore, this impact would be less than significant.

2.8 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

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

Less Than Significant Impact. Construction activities on the project site would involve the transport of gasoline and other materials to the site during construction. Relatively small amounts of commonly used hazardous substances, such as fossil fuels, lubricants, and solvents would be used on site for construction and maintenance. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. Once construction is complete, the transport, use, or disposal of hazardous materials would be limited to common hazardous materials such as cleaning agents, paints and thinners, fuels, insecticides, herbicides. Although limited quantities of these hazardous materials are expected to be used during both construction and operation of the proposed project, uses generally do not entail the use of such substances in quantities that would present a significant hazard to the environment or the public at large. Accidents and spills involving small quantities of these materials that may occur at individual sites would not create a significant hazard to the public or the environment. Impacts would thus be less than significant.

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

Less Than Significant Impact. Refer to response 2.8(a). Once constructed, no hazardous materials aside from small amounts of everyday household cleaners and common chemicals used for landscaping and maintenance are anticipated to be located on-site. Through the implementation of standard chemical transport, storage, use and disposal protocols, adverse impacts that typically result from accidental spills would be avoided. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. No schools are located with 0.25 mile of the project site. As noted in response "a," limited amounts of some hazardous materials could be used during FRS reservoir construction, including the use of standard construction materials (for example, paints, solvents, and fuels), cleaning and other maintenance products (used in the maintenance of buildings, pumps, pipes and equipment), diesel and other fuels (used in construction and maintenance equipment and vehicles), and the limited application of pesticides associated with landscaping. None of these materials would result in hazardous emissions or are considered acutely hazardous. The routine transport, use, and disposal of these materials would be subject to a wide range of laws and regulations intended to minimize potential health risks associated with their use or the accidental release of such substances. All construction activity would be performed in compliance with Water Authority regulations, and compliance with these regulations would ensure that the general public would not be exposed to any unusual or excessive risks related to hazardous materials during construction on the project site. Impacts would be less than significant.

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

No Impact. A review of the California Department of Toxic Substance Control's Envirostor database was conducted in August 2015. The database shows that no sites of Potential Environmental Concern or Clean Up sites occur in the vicinity of the project site (Envirostor 2015). Therefore, no impact would occur.

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?

No Impact. The project site is not located within 2 miles of a public airport or public use airport. The nearest airports to the project site include Lyall-Roberts Airport located in Pauma Valley approximately 7.5 miles east of the site, and McClellan-Palomar Airport, located in Carlsbad approximately 14 miles southwest of the project site. No impacts would occur.

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?

Less Than Significant Impact. The nearest private airstrip is located approximately 1.5 miles to the south. The existing storage tank is approximately 70 feet in height, and the proposed FRS reservoir would be approximately 55 feet in height above ground surface; therefore, the proposed FRS reservoir would be approximately 15 feet shorter than the existing tank. Because the proposed project would result in a shorter structure, the proposed project would not increase air safety hazards at the site. Impacts would be less than significant.

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

Less Than Significant Impact. The proposed project would include demolition of an existing water storage tank and construction of a new FRS reservoir in its place. All construction activity would occur within the existing Water Authority easements and right-of-ways, county of San Diego roadways, and in previously disturbed, temporary construction areas within the boundaries of the existing site. Although temporary road closures may occur during construction along Lavender Point Lane and/or adjoining roadways, access for emergency vehicles would remain open at all times. Moreover, Lavender Point Lane and nearby access road are not heavily travelled due to the rural nature of the project area; therefore, there is low potential for emergency vehicle obstruction due to traffic congestion as a result of temporary roadway closure. Therefore, the proposed project would not impair implementation of or physically interfere with an emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. Portions of the Valley Center community in northern San Diego County, which encompasses the project site, are considered areas of high potential for wildland fires due to the dry, arid character of the area's vegetation and vast open spaces. As a standard general condition/construction specification, before the start of construction all construction crewmembers would be trained in the requirements of the plan. Furthermore, fire safety information would be disseminated to construction crews during regular project safety meetings. Fire management techniques would also be applied during project construction as deemed necessary, and depending on the on-site vegetation and the vegetation of surrounding areas. The FRS reservoir and associated improvements would be constructed of fire resistant materials including concrete and steel. The proposed project would not be subjected to any greater risk to fire hazards than the existing facility. Moreover, no residences are proposed, nor would the project result in increased use of the site such that it would increase the exposure of people to a significant risk of loss, injury or death involving wildland fires. Therefore, impacts would be less than significant.

2.9 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
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 which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 which would result in flooding on- or off-site?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
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 flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

a) Would the project violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. Impacts to drainage and water quality could result from release of toxins (for example, herbicides, pesticides, and petroleum products) used during construction and operation of the new FRS reservoir. Standard BMPs for water quality and erosion control as outlined in Section 1.4 (see Hydrology/Water Quality) of this document would be implemented to ensure that runoff during construction is diverted away from drainages and riparian habitats. No direct impacts to drainages or riparian habitats are anticipated and appropriate erosion control measures will be implemented to prevent any indirect impacts to off-site sensitive vegetation communities. Vehicle fueling or fluid changes would be restricted to designated impacted staging areas away from sensitive habitat or native soils to prevent errant toxins from reaching the water table. Additionally, the proposed FRS reservoir would be approximately two times the size in diameter compared to the existing tank, which would reduce the amount of pervious surface on-site; however, the amount of surface area that would become impervious would be minimal and would not result in substantial increases in runoff volumes.

Therefore, impacts to drainages and water quality are not expected to occur and would be less than significant.

b) Would the project 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 (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. Implementation of the proposed project would involve an increase in the existing tank footprint as described in response 2.9(a), above. However, the amount of surface area that would become impervious because of the proposed project is minimal and would not interfere substantially with groundwater recharge. Therefore, impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. During construction, standard BMPs for water quality and erosion control as outlined in Section 1.4 (see Hydrology/Water Quality) of this document would be implemented to reduce runoff and prevent erosion. Additionally, no streams or other drainage features cross the site. Therefore, the proposed project would not substantially alter the existing drainage pattern of the area or alter the course of a stream or river which would result in erosion or siltation on or off site. Impacts would be less than significant.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. During construction, standard BMPs for water quality and erosion control as outlined in Section 1.4 (see Hydrology/Water Quality) of this document would be implemented to reduce runoff and prevent erosion. Additionally, no streams or other drainage features cross the site. Therefore, the proposed project would not substantially alter the existing drainage pattern of the area or alter the course of a stream or river, which would result in erosion or siltation on or off site. Additionally, implementation of the proposed project would involve an increase in the existing tank footprint as described in response 2.9(a), above. However, the amount of surface area that

would become impervious because of the proposed project is minimal and would not substantially increase surface runoff such that flooding would occur on- or off-site; impacts would be less than significant.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As previously mentioned, development of the site would incorporate standard BMPs as implemented by the Water Authority to reduce the amount of runoff conveyed to local storm drains, as well as any necessary upgrades to the existing system. Further environmental review may be required prior to project construction should the project have the potential to result in a significant impact to drainage patterns. The proposed project is not expected to contribute a substantial amount of additional runoff to existing drainage facilities, and impacts would be less than significant.

f) Would the project otherwise substantially degrade water quality?

Less Than Significant Impact. See responses 2.9(a) through 2.9(e), above.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project site is not located within a 100-year flood hazard area. Additionally, the project does not propose housing units and as a result, no impacts would occur.

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project site is not located within a 100-year flood hazard area and thus, would not impede or redirect flood flows.

i) Would the project 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?

Less Than Significant Impact. The project site is located on an elevated hillside which is not prone to flooding. Moreover, the project site is not located near a levee or dam. Impacts would be less than significant.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. The proposed project is located approximately 18 miles from the Pacific Ocean and is not located near other bodies of water; therefore, the project site would not be impacted by a seiche or tsunami.

The topography of the area surrounding the project site is steep, and there is a potential for mudflows to occur in heavy rain following disturbances, such as wildfires, to upland hill slopes. However, the proposed project would not entail alterations to slope areas or the existing terrain such that it could prompt mudflows; therefore, impacts would be less than significant.

2.10 Land Use and Planning

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING** – Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

a) Would the project physically divide an established community?

No Impact. The proposed project is located in the Valley Center community within unincorporated San Diego County, and is surrounded by undeveloped open space and agricultural uses. Several single-family rural residences are located within 475 and 1,100 feet of the project site. Due to the site's isolated location, and because all construction activity would take place within the existing project site, the proposed project would not physically divide an established community. No impact would occur.

b) Would the project 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?

No Impact. The county of San Diego General Plan designation for the site is Semi-Rural Residential (SR-4). The site is currently zoned Limited Agriculture (A70). Although the site maintains these land use designations, the project would not change the existing, active use at the site, which includes an existing water storage tank and associated appurtenances. In addition, pursuant to Government Code Section 53091 (e), zoning ordinances of a county "shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water" (Government Code Section 53091 (e)).Therefore, because the proposed project would not result in the introduction of a new land use that would conflict with existing zoning or General Plan designation for the site and because zoning ordinances of a county are not applicable to the construction of water storage facilities, no impact would occur.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Less Than Significant Impact. See response 2.4(f) above. The project would not conflict with the Water Authority's adopted NCCP/HCP or other applicable plans. Therefore, related impacts would be less than significant.

2.11 Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

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

No Impact. The proposed project is not located in an area of known mineral resources, either of regional or local value (County of San Diego 2009). Additionally, no mineral resources have been identified on the project site. Therefore, the proposed project would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State, and no impact would result.

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

No Impact. See response 2.1(a), above. The proposed project site is not designated as an important mineral resource recovery site in applicable local land use documents. As such, no impact would result.

2.12 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE – Would the project result in:				
a) 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?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

a) Would the project 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?

The Water Authority does not have its own noise standards, but instead choses to utilize standards, regulations or guidelines of the local land use jurisdiction within which a project is located. The proposed project is located in the Valley Center community in unincorporated San Diego County; therefore, the county of San Diego Noise Ordinance standards are utilized for the purpose of analyzing project-specific noise impacts.

San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Sections 36.401–36.435, Noise Ordinance

The Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise as well as provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Section 36.404 of the county Noise Ordinance contains sound level limits specific to receiving land uses. Sound level limits are in terms of a 1-hour average sound level. The allowable noise limits depend upon the county's zoning district and time of day. The Proposed Project and adjacent properties would be located in county Noise Ordinance zone (1) as the sites and surrounding properties are within areas zoned S92 (General Rural), A70 (Limited Agriculture), A72 (General Agriculture) or S80 (Open Space).

Table 5, County of San Diego Exterior Noise Standards, shows one-hour sound level limits.

Table 5
County of San Diego Exterior Noise Standards

Zone	Time	One-Hour Sound Level Limits (dB)
(1) RS, RD, RR, RMH, A70, A 72, S80, S81, S87, S90, S92 and RV and RU with a density of less than 11 dwelling units per acre	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45

Source: County of San Diego Noise Ordinance, Section 36.404.

Section 36.408 – Hours of Operation of Construction Equipment

Section 36.408 in this ordinance sets limits on the time of day and days of the week that construction can occur as well as setting noise limits for construction activities. In summary, the ordinance prohibits operating construction equipment as follows:

- Mondays through Saturdays except between the hours of 7:00 a.m. and 7:00 p.m.
- Sundays, and days appointed by the president, governor, or board of supervisors for a public fast, Thanksgiving, or holiday.

Section 36.409 – Sound Level Limitations on Construction Equipment

In addition, the code requires that no equipment shall be operated so as to cause an 8-hour average construction noise level in excess of 75 dB between the hours of 7:00 a.m. and 7:00 p.m. when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Existing Noise Levels

Short-term noise measurements were conducted on April 23, 2014 at one on-site location adjacent to the existing water storage tank at approximately 2:00 p.m. in the afternoon. Measured average noise levels at the site were approximately 53 A-weighted decibels (dBA).

Construction Noise

Less Than Significant Impact. Construction noise and vibration are temporary phenomena. Construction noise and vibration levels will vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Total construction is expected to take approximately 18 months. Construction equipment that would be in operation would include a loader, crane, concrete/industrial saws, excavator, grader, and haul trucks. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 6, Construction Equipment Noise Levels. Note that the equipment noise levels presented in Table 6 are maximum noise levels. The equipment operates in alternating cycles of full power and low power, thus, producing noise levels less than the maximum level. The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period.

Table 6
Construction Equipment Noise Levels

Equipment Type	"Typical" Equipment dB(A) at 50 feet	"Quiet"[1] Equipment dB(A) at 50 feet
Air compressor	81	71
Backhoe	85	80
Concrete pump	82	80
Concrete vibrator	76	70
Crane	83	75
Truck	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic tools	85	75
Water pump	76	71
Power hand saw	78	70
Shovel	82	80
Trucks	88	83

Source: DOT 2006
Note: [1] Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

The maximum noise levels at 50 feet for typical equipment would range up to 88 dB for the type of equipment normally used for this type of project, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. When the sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, an excess ground attenuation value of 1.5 dB per doubling distance can be assumed.

Construction of the proposed project would occur entirely within the existing project boundaries and Water Authority right-of-way and easements. Because the closest receptor's property line is located approximately 50 feet south of the project site, daytime construction noise at the closest receptor's property line could exceed the County's 75 dB noise limit. It should however be noted that this structure has been abandoned for some time and would likely remain abandoned during construction of the proposed project. Furthermore, for reasons discussed in Section 1.2 of this document, the structure is not currently legally habitable. If the structure remains abandoned and legally unhabitable and there are no sensitive receptors on the property to receive construction noise, then the structure and the property would not be impacted. Pursuant to Section 36.409 of the County Noise Ordinance, the noise level limit of 75 dB between the hours of 7:00 a.m. and 7:00 p.m. is applicable when measured at the boundary line of "any occupied property where noise is being received." The next closest occupied property to the project site is located approximately 190 feet to the west. The residence on this property is located approximately 670 feet to the northwest of the project site.

The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Although the model was funded and promulgated by the FHWA, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway project are also used for other project types. Input variables for RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., a grader, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were utilized for this analysis.

Using the FHWA's RCNM construction noise model and construction information (types and number of construction equipment by phase) provided the estimated noise levels from construction were calculated, and summarized in Table 7, Roadway Construction Noise Model (RCNM) Results. The RCNM inputs and outputs are provided in Appendix E.

Table 7
Roadway Construction Noise Model (RCNM) Results

Receiver Location	Case Description/Activity	L_{eq} (dBA)
Property line of nearest occupied property (located approximately 190 feet west of project site)	Demolition	75
	Site preparation	69
	Grading	73
	Construction	74
	Interconnection	68

As shown in Table 7, the highest noise levels are predicted to occur during demolition activities when noise levels would reach 75 dBA L_{eq}. Because daytime construction noise levels at the next closest receptor's property line (approximately 190 feet to the west) would not exceed the County's 75 dB noise limit, construction noise impacts would be less than significant.

In addition, construction activities would occur during hours permitted by the County Noise Ordinance. More specifically, construction activities would comply with Section 36.408 of the County's Noise Ordinance and would avoid nighttime construction between the hours of 7:00 p.m. and 7:00 a.m. Because construction activities would occur during the timeframe permitted by the County's Noise Ordinance (i.e., Monday through Saturdays between the hours of 7 a.m. and 7 p.m.) and would not exceed noise levels in excess of established County standards, impacts would be less than significant.

Operational Noise

Less Than Significant Impact. Operational noises generated by the proposed project would be consistent with existing noise generated by the existing Water Authority facilities on-site. Most noise-generating components, including maintenance and inspection visits by Water Authority personnel, would only occur intermittently. Therefore, the proposed project operations would not generate noise levels in excess of exterior noise standards established in Section 36.404 of the County noise ordinance as it relates to S92, A70, A72 and S80 zones. As such, operational impacts would be less than significant.

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

Less Than Significant Impact. Construction activity would not require use of equipment that would generate substantial groundborne vibration such as pile driving, jackhammers, or blasting. Minimal excavation required during construction of the proposed project would result in generation of limited ground-borne vibration. Groundborne vibration information related to construction activities has been collected by the California Department of Transportation (Caltrans 2004). Information from Caltrans indicates that continuous vibrations with a peak particle velocity (PPV) of approximately 0.1 inch/second begin to annoy people. Ground-borne vibration is typically attenuated over short distances. The nearest structure to the construction site would be located approximately 50 feet from the construction area. The heavier pieces of construction equipment, such as loaded trucks, would have peak particle velocities of approximately 0.076 inch/second PPV or less at a distance of 25 feet (DOT 2006). At a distance of 50 feet, the peak particle velocity would be approximately 0.03 inch/second PPV and therefore below 0.1 inches/second.

Furthermore, construction vibration associated with the proposed project would not result in structural building damage, which typically occurs at vibration levels of 0.5 inch/second or greater for buildings of reinforced concrete, steel, or timber construction. Vibration during construction would be minimal, short-term and temporary and would not significantly impact the adjacent structure. In addition, this structure has been abandoned for some time and would likely remain abandoned during construction of the proposed project. If the structure remains abandoned and legally unhabitable and there are no sensitive receptors on the property to receive construction vibration (i.e., the property is unoccupied), then the structure and the property would not be impacted. Operation of the proposed project is not anticipated to generate groundborne vibration. Therefore, impacts would be less than significant.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. Please refer to response 2.12(a). Operational noise generated by the proposed project would generally be associated with vehicle trips by Water Authority personnel for intermittent site maintenance and inspection. The FRS reservoir is not anticipated to generate substantial operational noise. Operational noise would be similar to existing noise generated by the existing water storage tank.

Therefore, the proposed project would not result in an increase in ambient noise levels in the project vicinity above existing levels. Impacts would be less than significant.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction Noise

Less Than Significant Impact. See response 2.12 (a), above. During construction of the project, temporary increases in ambient noise levels would occur due to the operation of construction equipment and vehicles. As detailed in Table 7, the maximum noise levels generated by construction equipment would range up to 75 dBA L_{eq} during demolition activities, but would not exceed applicable County noise thresholds. Because construction would occur within the permitted timeframe for construction activities as established by the County Noise Ordinance (i.e., Monday through Saturday, 7:00 a.m. to 7:00 p.m.) and because temporary increases in ambient noise affecting residential receptors would not exceed applicable County thresholds, impacts would be less than significant.

Operational Noise

Less Than Significant Impact. Operational noise would be similar to existing noise generated by the existing water storage tank. Therefore, the proposed project would not result in an increase in ambient noise levels in the project vicinity above existing levels. Impacts would be less than significant.

e) Would the project be 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 expose people residing or working in the project area to excessive noise levels?

No Impact. The project is not located within 2 miles of a public airport or a public use airport. The nearest airports to the project site include Lyall-Roberts Airport located in Pauma Valley approximately 7.5 miles east of the site, and McClellan-Palomar Airport, located in Carlsbad approximately 14 miles southwest of the project site. No impacts would occur.

f) Would the project be within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The nearest private airstrip is located approximately 1.5 miles to the south. As discussed previously, the proposed FRS reservoir would require similar operation-related inspection and maintenance tasks as the existing facility; therefore, the project would not expose people residing or working in the project area to excessive noise levels beyond existing conditions. Impacts would be less than significant.

2.13 Population and Housing

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Would the project 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)?

Less Than Significant Impact. The proposed project would replace the existing on-site water storage tank with a new FRS reservoir to improve system functionality and reliability under the Valley Center Pipeline water distribution system; therefore, would not indirectly induce growth in the project area. Additionally, the project does not include any new homes or businesses. Therefore, impacts would be less than significant.

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

No Impact. The project site does not currently support housing. No impact would result.

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

No Impact. The proposed project would not displace substantial numbers of people. The site is currently occupied by a water storage tank and no change in land use is proposed. No impact would result.

2.14 Public Services

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

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

Fire protection?

Less Than Significant Impact. The Valley Center Fire Protection District, in cooperation with the San Pasqual Reservation Fire Department, provides fire protection and safety services to the Valley Center community, including the project site. The nearest fire station to the project site is Station 1 located at 28234 Lilac Road, approximately 8 miles (driving distance) from the project site. The proposed project would not introduce any hazardous operations at the site that would increase emergency calls, nor would it require more employees that could possibly require emergency service. Given the similar land use as

currently present on the site, no additional fire protection services would be required; therefore, impacts would be less than significant.

Police protection?

Less Than Significant Impact. The project site is serviced by the San Diego County Sheriff's Department - Valley Center Substation. The County Valley Center Sheriff's substation is located at 28201 North Lake Wohlford Road, approximately 12 miles (driving distance) from the project site. The project would not result in an increase in call volume or an increase in response to the area since the project would not result an intensification of use on site. Therefore, impacts would be less than significant.

Schools?

No Impact. The proposed project entails the construction of a FRS reservoir and associated improvements, and would not include any housing or population growth that would require additional school facilities. Therefore, no impacts would result.

Parks?

No Impact. As described above, the proposed project would not include any housing or population growth; therefore, no new park facilities would be required, and no impacts would result.

Other public facilities?

Less Than Significant Impact. See response 2.14(a), above.

2.15 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

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

No Impact. The proposed project involves the construction of a FRS reservoir and associated accessory facilities. The proposed project would not involve the construction of new housing or the introduction of new jobs to the area that could increase the use of existing neighborhood and regional parks or other recreational facilities. Therefore, no impacts would occur.

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

No Impact. The proposed project does not include the construction of recreational facilities, nor does it involve the construction of new housing or the introduction of new jobs to the area that would necessitate the construction or expansion of recreational facilities; therefore, no impacts would occur.

2.16 Transportation and Traffic

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC – 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
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?	☐	☐	☒	☐

a) Would the project 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 Impact. Regional access to the project site is provided via I-15. Local access to the site is provided from Lilac Road and Lavender Point Lane in the Valley Center community. Public access to the site is restricted, and the site is surrounded by security fencing which is padlocked at the entrance to the site.

Construction

Construction of the proposed project would result in additional trips by construction workers along local roadways. A maximum of six workers are expected to be on site on any given day. Although minimal trips would be generated by construction workers travelling to and from the site, heavy construction equipment and haul trucks on local area roads could result in reduced travel times and temporary delays. However, as discussed in Section 1.4 of this document, the Water Authority would require preparation and implementation of a traffic control plan to minimize disruption to the surrounding area from construction traffic. The traffic control plan would identify measures to ensure that potential conflicts between construction traffic associated with the project and local vehicle, pedestrian, and bicycle traffic are minimized. Therefore, with preparation and implementation of a traffic control plan, construction traffic impacts would be less than significant.

Operation

Following construction of the proposed project, operation and maintenance activities would consist of routine inspection, repair, and maintenance of the facility. Operations and maintenance activities would include site inspections conducted quarterly by Water Authority staff for routine equipment monitoring, testing, and preventative maintenance. Routine inspections would help ensure system and service efficiency and reliability. Repairs at the site would be conducted on an as-needed basis. Operational trips would resemble those under existing conditions and would not result in significant traffic-related impacts.

b) Would the project 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?

Less Than Significant Impact. See response 2.16(a). Construction of the proposed project would generate minimal trips by construction workers accessing the site and would not increase congestion on local roadways. Additionally, operation of the proposed project would not result in trips beyond those currently required for operation of the existing facility. Therefore, impacts would be less than significant.

c) Would the project 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?

Less Than Significant Impact. The proposed project does not include any aviation components. The nearest private airstrip is located approximately 1.5 miles to the south. The existing water storage tank is approximately 70 feet in height, and the proposed FRS reservoir would be approximately 55 feet in height above ground surface; therefore, the proposed FRS reservoir would be approximately 15 feet shorter than the existing tank. Because the proposed project would result in a shorter structure, the proposed project would not result in a change of air traffic patterns or result in substantial safety risks. Impacts would be less than significant.

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

Less Than Significant Impact. See response 2.16(a). Increased hazard due to a design feature such as sharp curves or dangerous intersections are not anticipated. No new

roadways would be constructed in conjunction with the proposed project. As discussed in Section 1.4 of this document, the Water Authority would require preparation of a traffic control plan that will identify measures to ensure that potential conflicts between construction traffic associated with the project and local vehicle, pedestrian, and bicycle traffic are minimized. With implementation of a traffic control plan, short-term construction traffic impacts and potential conflicts between construction vehicles and the vehicles of local area residents would be less than significant.

e) Would the project result in inadequate emergency access?

Less Than Significant Impact. During construction, workers would use local roadways to access the project site. A maximum of six construction workers would be at the site on a given day. Although minimal trips would be generated by construction workers travelling to and from the site, heavy construction equipment and haul trucks on local area roads could result in reduced travel times and temporary delays. To minimize disruption to the surrounding area from construction traffic, the Water Authority would prepare and implement a traffic control plan. The traffic control plan would identify measures to ensure that potential conflicts between construction traffic and local vehicle, pedestrian, and bicycle traffic are minimized and to facilitate the smooth passage of traffic including emergency vehicles. Furthermore, as detailed in Section 1.4 of this document, during construction, the Water Authority would require that construction activities do not unreasonably restrict access to private properties along affected roadways. Therefore, with implementation of a traffic control plan and Water Authority general conditions related to traffic/circulation (see Section 1.4 of this document), temporary construction impacts to emergency access would be less than significant.

f) Would the project 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 Impact. During construction, vehicles would utilize local roadways including Lilac Road and Lavender Point Lane. Although there are no striped bicycle lanes or installed sidewalks, Lilac Road and Lavender Point Lane could be used by locals and recreationalists for biking and walking. Buses or other forms of public transit do not operate on Lilac Road or Lavender Point Lane.

Minimal trips would be generated by construction workers travelling to and from the site; however, heavy construction equipment and haul trucks would be in use and would

contribute to short-term construction traffic on local roads. The Water Authority would require preparation and implementation of a traffic control plan that will identify measures to ensure that potential conflicts between construction traffic local vehicle, pedestrian, and bicycle traffic are minimized and to facilitate the smooth passage of traffic including emergency vehicles. Therefore, with implementation of a traffic control plan, temporary construction impacts to pedestrians and bicycle facilities would be less than significant.

2.17 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The proposed project would not require wastewater treatment services; therefore, no impact would occur.

b) Would the project 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?

Less Than Significant Impact. The project involves the construction of a new FRS reservoir that would improve the Water Authority's aqueduct system operations. A new FRS reservoir is also proposed to provide service reliability to portions of the VCMWD, Vallecitos Water District, Vista Irrigation District, and the Rincon del Diablo Municipal Water District against outage events that could impede daily operation of the Valley Center Pump Station. Aqueduct flow regulatory storage would also provide operational flexibility to help balance system flows. No water treatment services would be included as part of the proposed project. Therefore, expansion of the existing facility would not result in significant environmental impacts.

c) Would the project 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?

Less Than Significant Impact. Currently, no storm drainage facilities exist on site. The project would result in minimal additional runoff that would be generated by the fact that the larger footprint of the FRS reservoir would result in a larger span of impervious surface. It is assumed that adequate drainage facilities/structures would be designed to reduce run-off to existing condition levels. Therefore, a less than significant impact is anticipated.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. The operation of the proposed project would not require new or expanded entitlements. Therefore, impacts would be less than significant.

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

No Impact. The project itself would not generate any new uses that would require additional wastewater treatment capacity. Therefore, no impact would occur.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. Demolition of the existing tank and appurtenances would necessitate disposal or recycling at a landfill or industrial waste facility. There are several of these facilities located throughout southern California. The contractor would utilize the facility that makes the most economic sense and has capacity. Once operational, the proposed project would not create additional solid waste that would need to be serviced by a landfill; therefore, the project would result in a less than significant impact.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. All demolition debris would be disposed of and/or recycled at an appropriate facility that is permitted to accept this type of material. There are several facilities located throughout southern California that are regulated by federal, state and local statutes. Therefore, it is assumed that the contractor will select such a facility that is in full compliance with all applicable solid waste, disposal and environmental hazard regulations. Therefore a less than significant impact would occur.

2.18 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project 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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the project have the potential to 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?

Less Than Significant Impact with Mitigation Incorporated. As discussed in Section 2.4, potential impacts to biological resources were determined to be less than significant with mitigation incorporated. The project site currently supports an aboveground water storage tank on a previously disturbed site. Project-related excavation would occur on a site that was fully disturbed during installation of the existing water storage tank and project staging would occur within the disturbed fenced boundary of the Hauck Mesa site. Therefore, the project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Furthermore, there are no built historical resources on the site and as such, no impacts to a built historical resource would occur during project implementation. Lastly, the results of the record search conducted by Dudek in 2014 for the First Addendum to the San Diego County Water Authority Pipeline 2A and Pump Station Final EIR indicated that no archaeological resources are mapped within the immediate vicinity of the Hauck Mesa site. As such, development of the project is not likely to eliminate any important examples of the major periods of California history or prehistory. As such, based on the analysis presented in Sections 2.4, with implementation of mitigation, impacts to biological resources would be less than significant.

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

Less Than Significant Impact. Cumulative projects would include projects occurring within the Valley Center community of San Diego County such as other Water Authority system improvement projects. Potentially significant impacts are limited to biological resources. All potentially significant biological resource impacts associated with the proposed project were determined to be less than significant with implementation of appropriate mitigation measures. All other potential environmental impacts were determined to be less than significant. As such, the proposed project is not anticipated to contribute to an environmental impact that is individually limited, but cumulatively considerable. As such, cumulative impacts would be less than significant.

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

Less Than Significant Impact. Based on the above analysis present in Section 2, all impacts related to the proposed project would be less than significant.

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3 DETERMINATION

In conformance with the CEQA Guidelines (14 CCR 15000 et seq.), the Water Authority, as lead agency, prepared an IS and completed an Environmental Checklist Form (see Section 2) for the proposed Hauck Mesa Storage Reservoir Project. The Water Authority has elected to adhere to standards adopted by the applicable local land use and state and federal regulatory agencies and has adopted them as its own for use as thresholds of significance for the proposed project. During the IS process, the Water Authority determined that unless certain mitigation was implemented, the proposed project could have a significant impact on biological resources. The significant impacts warranting mitigation were presented in the IS Checklist and are detailed in Section 3.1. The project has been revised to include the specific measures listed in Section 3.2, which would mitigate impacts to below a level of significance. Analysis of all environmental issues is presented in the evaluation portion of the IS Checklist, provided in Section 2.

3.1 Environmental Impacts Requiring Mitigation

Biological Resources

The project has the potential to result in indirect effects on coastal California gnatcatcher, an NCCP/HCP covered wildlife species, due to the presence of suitable habitat in the surrounding area. The project would also result in a minimal amount of permanent impacts on southern mixed chaparral.

3.2 Mitigation Measures

Biological Resources

The project's biological mitigation requirements included herein are based on the Water Authority's NCCP/HCP.

MM BIO-1 If construction activities must commence during the upland avian breeding season (February 15 through August 15), the Water Authority will conduct nest surveys within 300 feet of all proposed activities. If active nests are encountered, no Covered Activities will be implemented within a minimum distance of 100 feet of the nest. A greater setback (up to 300 feet) may be allowed, as determined by the Environmental Surveyor, based on the site-specific considerations, phase of the nesting cycle, and species or other biological considerations.

MM BIO-2 In accordance with the mitigation ratios identified in the Water Authority's NCCP/HCP, ~~P~~permanent impacts to southern mixed chaparral shall be mitigated at

a 0.5:1 ratio ~~in accordance with the mitigation ratios identified in the Water Authority's NCCP/HCP~~. Mitigation requirements shall be fulfilled through the use of available credits at ~~a~~ the Water Authority's Crestridge upland ~~upland or other wildlife agency-approved~~ habitat management area.

3.3 Authority to Prepare a Mitigated Negative Declaration

As provided in the CEQA Guidelines Section 15070 (Title 14, California Code of Regulations), an MND may be prepared for a project subject to CEQA when an IS has been prepared and shows that there is no substantial evidence that the project may have a significant impact on the environment. The Water Authority is the lead agency and is responsible for the planning and construction of this proposed infrastructure improvements project. Based on the findings of the IS/Environmental Checklist Form prepared for this project (Section 2 of this document), the Water Authority has determined that preparation of an MND is the appropriate method to present environmental review of the proposed project in compliance with CEQA (California Public Resources Code, Section 21000 et seq.).

3.4 List of Preparers

Sarah Lozano, AICP, Principal
Jennifer Longabaugh, AICP, LEED AP ND, Environmental Planner
Joshua Saunders, AICP, LEED GA, Environmental Planner
Mike Greene, Environmental Specialist/Acoustician
Steve Taffolla, Technical Editor
Devin Brookhart, Publications Specialist Lead
David Mueller, Publications Specialist

3.5 Results of Public Review

~~This section will be completed following the conclusion of the public review period and during preparation of the Final MND.~~

☐ No comments were received during the public input period.

☐ Comments were received during the public input period but they did not address the Draft Mitigated Negative Declaration findings or the accuracy or completeness of the Initial Study. No response is necessary. The letters are attached.

☒ Comments addressing the findings of the Draft Mitigated Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public input period.

Robert R. Yamada
Director of Water Resources
San Diego County Water Authority

12/16/15
Date

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4 REFERENCES

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5 RESPONSE TO COMMENTS ON THE DRAFT MND

The Draft Mitigated Negative Declaration (MND) for the Hauck Mesa Storage Reservoir was prepared by the San Diego County Water Authority (Water Authority) and circulated for a 30-day public review beginning November 10, 2015. A Notice of Intent (NOI) to adopt an MND was published on November 8, 2015, and was mailed to residences and buildings within a 600-foot radius of the project work area. Copies of the Draft MND and supporting technical appendices were made available for review at the Water Authority and the Valley Center Branch of the San Diego County Library. An electronic version of the Draft MND and appendices was also made available for review and download from the Water Authority's webpage, http://www.sdcwa.org. A public hearing to take testimony on the adequacy of the Draft MND was held at the Water Authority's Board of Director meeting on December 10, 2015.

One comment letter was received in response to issuance of the Draft MND, from the County of San Diego Planning & Development Services Department. No speakers offered testimony on the MND during the December 10, 2015, hearing.

This Final MND has been prepared in accordance with the requirements of California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000, et seq.) and the CEQA Guidelines, as amended February 1999 (14 CCR 15000 et seq.). The purpose of the Final MND is to provide the decision-making body, in this case the Water Authority, responsible agencies, and the public with environmental impact information relative to the proposed project. The Water Authority must consider the information contained in this Final MND, including comments received during the public review period, prior to approving the proposed project.

The Final MND includes copies of each comment letter received in response to the Draft MND and the Water Authority's responses to the comments received. The Final MND also includes the revised Draft MND and technical appendices. Each issue raised in the comment letters has been assigned a number, as indicated with brackets in the margin of the page, and each response is provided with a corresponding number. All comment letters have been reproduced on the pages preceding the corresponding responses. The names of those commenting on the Draft MND have been provided to assist in the location of comment letters and responses.

The Final MND includes revisions to clarify and correct the Draft MND, where necessary. Those revisions are shown in strikeout/underline format, with strikeout text signifying deletions and underline text signifying additions. No new significant information is presented in the Final

MND that would require recirculation of the Draft MND pursuant to Section 15073.5(a) of the CEQA Guidelines.

Draft MND Comment Letters

Local Agency

County of San Diego Planning & Development Services, dated December 10, 2015 (comment letter 1)

Comment Letter 1

County of San Diego

MARK WARDLAW
DIRECTOR
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FAX (858) 694-2555

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
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December 10, 2015

Sarah Lozano
Dudek
605 Third Street
Encinitas, CA 92024

Via email to slozano@dudek.com

COMMENTS ON THE NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE HAUCK MESA STORAGE RESERVOIR PROJECT

Dear Ms. Lozano,

The County of San Diego (County) has received the San Diego County Water Authority's (SDCWA) Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration (MND) for the Hauck Mesa Storage Reservoir project (project) and appreciates this opportunity to comment. County staff has completed their review and have the following comments regarding the project:

General Comments

Responsible agencies are not identified in the MIND. The MND should explain if the SDCWA will or will not need permits from other agencies. 1-1

Many of the Project Design Features (PDF) do not appear to have sufficient detail to be relied upon for impact/mitigation determination. For example, the Code of Federal Regulations cited for light/glare issues in the PDF section under aesthetics instead of using the Local County Light Pollution Code. Further, the impact analysis discussion within the Checklist does not refer to the Federal PDF regulation being complied with to demonstrate there is no impact. If a PDF is listed, it must be clear what that PDF is (sufficient detail) and how it effectively addresses the potential impact and renders it less than significant. 1-2

Environmental Health

Construction activities and/or the planned new facility may require a ministerial permit from the Hazardous Materials Division of the Department of Environmental Health (DEH). This will not make DEH a CEQA "responsible agency" or "trustee agency." 1-3

The County's Vector Control Program (VCP) is responsible for the protection of public health through the surveillance and control of mosquitoes that are vectors for human disease including West Nile virus (WNV).

The VCP respectfully requests that the MND for this project considers impacts arising from potential mosquito breeding sources created by the project and that the project be designed and constructed in a manner to minimize those impacts. More specifically, the Water Pollution Control Plan (WPCP) referred to on Page 9 of the Draft MND and Initial Study/Environmental Checklist which will be implemented during construction should include measures to prevent the accumulation of standing water. Potential mosquito breeding sources include but are not limited to the design and maintenance of storm water control and detention structures (e.g., catch basins, storm water treatment units, rip-rap, and bio-swales), construction- 1-4

related depressions created by grading activities and vehicle tires, planters/tree pits and landscaping. Any area that is capable of accumulating and holding at least ½ inch of water for more than 96 hours can support mosquito breeding and development.

Please note, the VCP has the authority pursuant to state law and County Code to order the abatement of any mosquito breeding that does occur either during construction or after the project is completed that is determined to be a vector breeding public nuisance. VCP will exert that authority as necessary to protect public health if the project is not designed and constructed to prevent such breeding.

For your information, the County of San Diego Guidelines for Determining Significance for Vectors can be accessed at http://www.sandiegocounty.gov/dplu/docs/Vector_Guidelines.pdf and the California Department of Public Health Best Management Practices for Mosquito Control in California is available at http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf

1-4 Cont.

Stormwater

For storm water quality standards, the 2007 MS4 Permit (Order No. R9-2007-0001) and the County of San Diego Standard Urban Stormwater Mitigation Plan (SUSMP), dated August 1, 2012, are currently in effect. Please note that the project may need to comply with the recently adopted San Diego Municipal Storm Water Permit Order No. R9-2013-0001, (as amended by Order Nos. R9-2015-0001 and R9-2015-0100) if prior lawful approval is not established prior to the implementation of the BMP Design Manual and other development regulations related to the 2013 San Diego Municipal Storm Water Permit (Order No. R9-2013-0001).

1-5

The project may generate potential storm water quality impacts onto unincorporated County of San Diego lands; therefore, the project may need to consider the following items: 1) Post-construction Best Management Practices (BMPs), Low Impact Development (LID), Source Control BMPs and hydromodification management plan (HMP) in accordance with the relevant San Diego Municipal Storm Water Permit (2007 MS4 Permit or 2013 MS4 Permit pending the time of project approval/construction); and, 2) Construction BMPs and associated plans for conformance with the County of San Diego' Grading Ordinance, Watershed Protection Ordinance and State of California's Construction General Permit.

1-6

The County appreciates the opportunity to participate in the environmental review process for this project. We look forward to providing additional assistance at your request. If you have any questions regarding these comments, please contact Danny Serrano, Land Use/Environmental Planner, at (858) 694-3680, or via email at Daniel.serrano@sdcounty.ca.gov

Sincerely,

Joseph Farace, AICP
Advance Planning Division
Planning & Development Services

Email cc:
Chris Livoni, Policy Advisor, Board of Supervisors, District 5
Conor McGee, CAO Staff Officer, LUEG
Jeff Kashak, Environmental Planner, Department of Public Works
Peter Eichar AICP, Land Use/Environmental Planner, Planning & Development Services
Mary Wells Bennett, Administration Analyst, Department of Environmental Health
Eric Lardy, Land Use/Environmental Planning Manager, Planning & Development Services

RESPONSE TO DRAFT MND COMMENT LETTER 1

County of San Diego Planning & Development Services
December 10, 2015

1-1 The anticipated permits and approvals required of the proposed project are described in Section 1.3, Project Description (under heading "Permits and Approvals"). The discussion has been revised to clarify the Valley Center Municipal Water District (VCMWD) is a responsible agency for the proposed project. Please see page 7 of the Final Mitigated Negative Declaration (MND).

1-2 Please refer to Section 1.4, Water Authority Specifications/Project Design Features. As lead agency, the Water Authority has developed project-specific and sufficiently detailed specifications/project design features that will be written into project plans and specifications such that they will be required to be implemented during construction and operation of the Project. As stated in Section 1.4, Water Authority Specifications/Project Design Features, lighting used at the site during construction will be of the lowest illumination necessary to ensure safety of all construction personnel, and security of the site and lighting fixtures will be shielded and directed away from adjacent areas. The impact analysis in Section 2.1, Aesthetics, of the MND has been revised to include a summary of the specification/project design feature relevant to lighting/aesthetics. Lastly, it should be noted that the County of San Diego is not a responsible agency associated with the proposed project under CEQA. As such and because the proposed project does not require permits from the County of San Diego, evidence of compliance with the County Light Pollution Code is not required.

1-3 Please refer to Section 2.8, Hazards and Hazardous Materials. Hazardous materials will not be stored at the site. No facilities are proposed that would store hazardous materials on site, and therefore a permit from the Hazardous Materials Division of the Department of Environmental Health is not anticipated to be required for the proposed project.

1-4 Please refer to Section 1.4, Water Authority Specifications/Project Design Features. The Water Authority has identified specifications/project design features that will be implemented during construction to minimize impacts to hydrology and water quality. As stated in Geology and Soils Project Design Feature 1, the Water Authority will implement a construction Water Pollution Control Plan (WPCP) that will include

best management practices (BMPs) specific for project type, location, and characteristics. While actual BMPs for the proposed project will be determined during the WPCP development process, the WPCP shall be prepared in accordance with the requirements of the (Draft) BMP Design Manual for the San Diego Region (BMP Design Manual) or the requirements of the 2007 MS4 Permit (Order No. R9-2007-0001). Section 2.1.1.1, General Requirements, of the BMP Design Manual requires that on-site BMPs be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g., mosquitos, rodents, or flies).

1-5 As discussed in Section 2.9, Hydrology and Water Quality, BMPs would be implemented during construction and operation of the proposed project to minimize impacts to existing site hydrology and water quality. BMPs will be detailed and site specific. Also, preparation of a WPCP has been incorporated into the Project as a Water Authority specification/project design features. In Section 1.4 of the MND under the heading "Hydrology/Water Quality," the WPCP specification/project design feature discusses the required contents of the plan, including identification of structural and/or treatment control BMPs that are to be implemented in accordance with a time schedule to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction, and identification of permanent or post-construction BMPs that will "to the maximum extent possible" reduce or eliminate pollutants after construction is completed. While actual BMPs for the proposed project will be determined during the WPCP development process, the WPCP shall be prepared in accordance with the requirements of the (Draft) BMP Design Manual for the San Diego Region (BMP Design Manual) or the requirements of the 2007 MS4 Permit (Order No. R9-2007-0001) and the WPCP will conform to the latest Regional Water Quality Control Board requirements. See also Biological Resources Project Design Feature 6, Geology and Soils Project Design Features 1 and 2, and Hydrology/Water Quality Project Design Feature 1, which identify the required contents of the WPCP and describe typical control measures that may be implemented.

1-6 Please refer to response to comment 1-5.

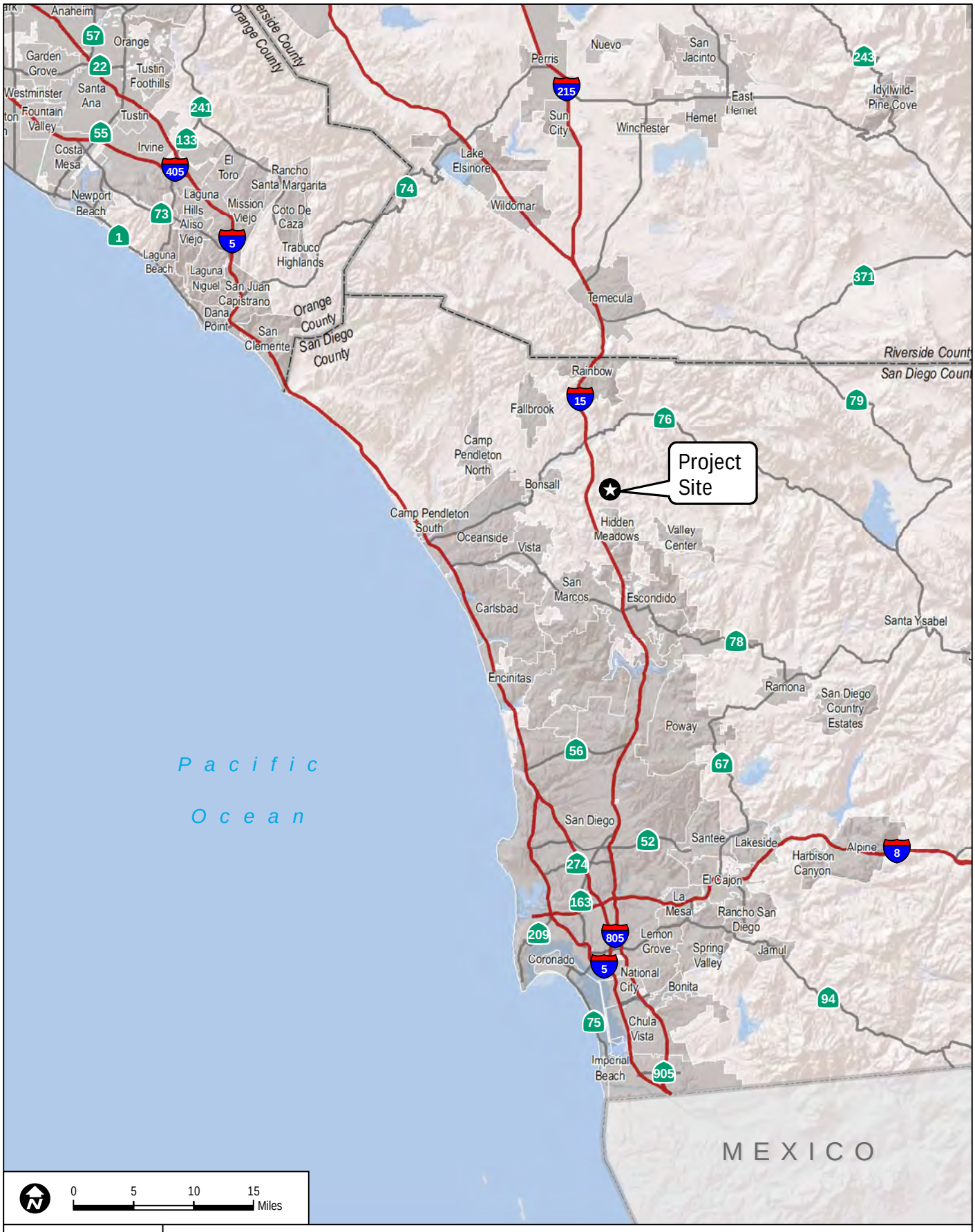

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FIGURE 1

Regional Map

Hauck Mesa Storage Reservoir - Initial Study and Mitigated Negative Declaration

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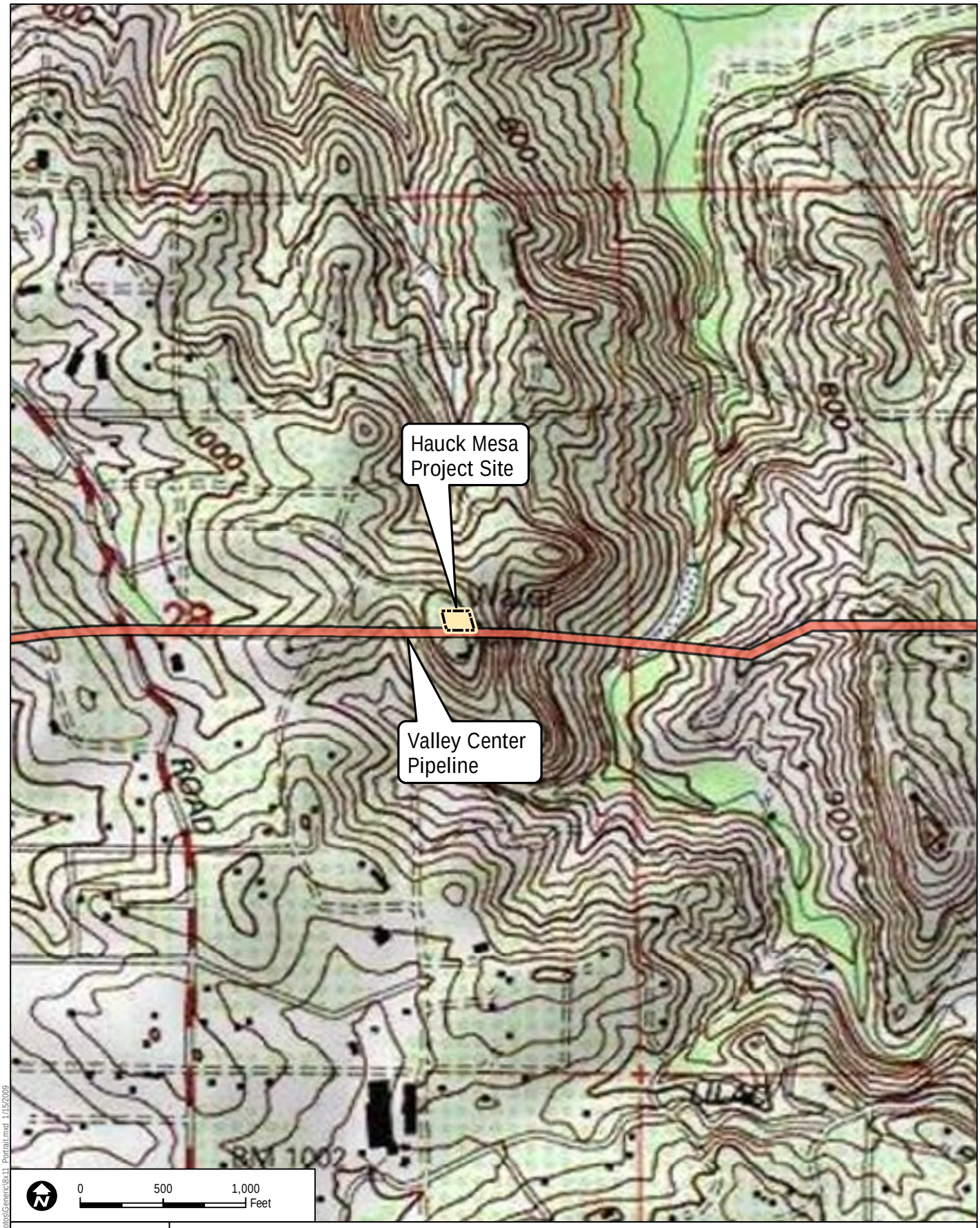

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SOURCE: USGS 7.5-Minute Series Quadrangle.

FIGURE 2
Vicinity Map

Hauck Mesa Storage Reservoir - Initial Study and Mitigated Negative Declaration

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SOURCE: BING MAPPING SERVICE

FIGURE 3
Aerial Map

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Hauck Mesa Storage Reservoir - Initial Study and Mitigated Negative Declaration

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SOURCE: BING MAPPING SERVICE

FIGURE 4

Proposed Improvements

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Hauck Mesa Storage Reservoir - Initial Study and Mitigated Negative Declaration

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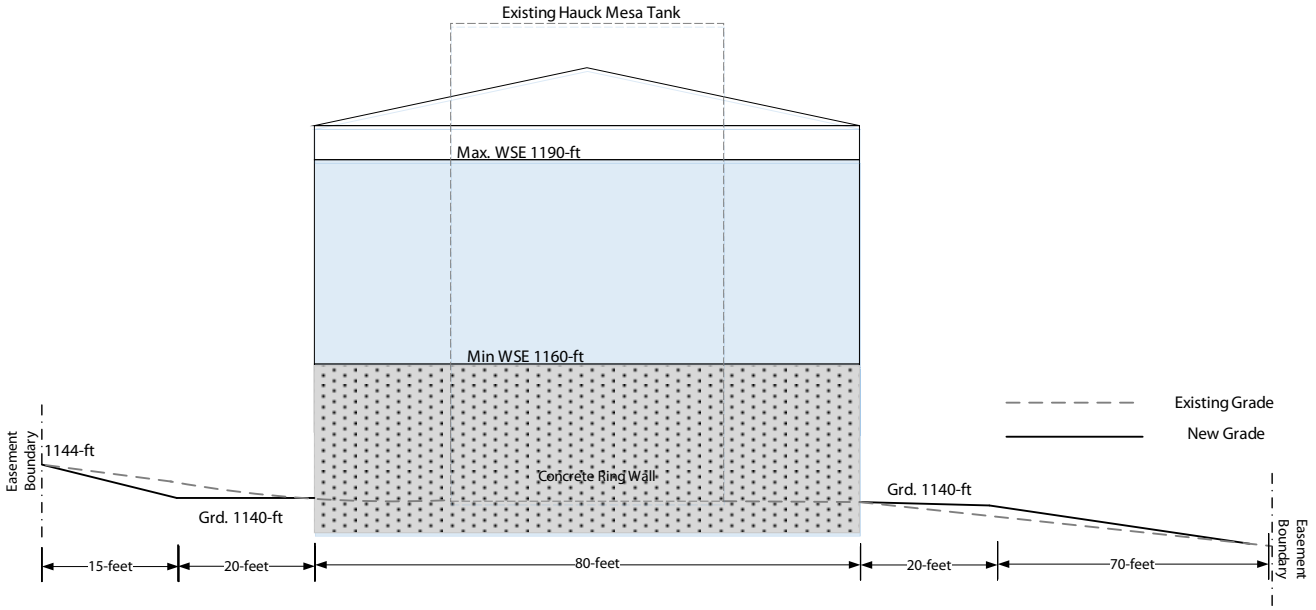
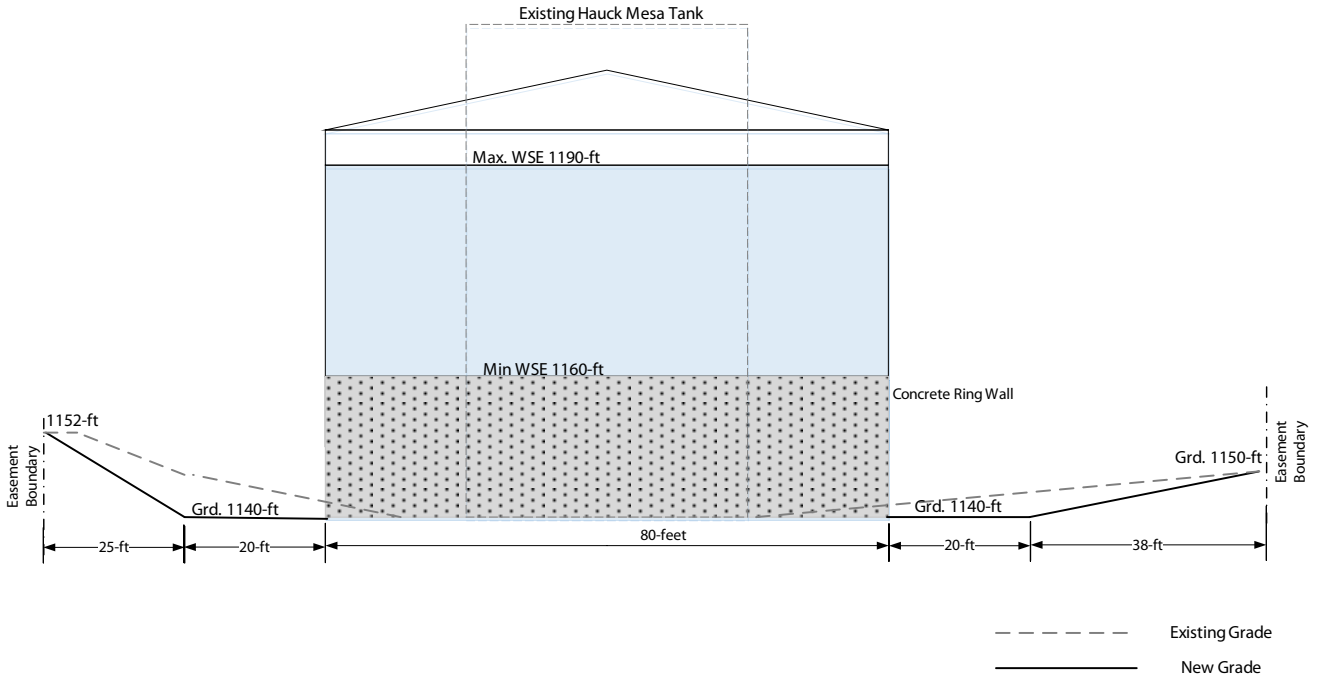


Section View (East-West)



Total Cut Volume ~ 5,000 cubic yards

Section View (North-South)

SOURCE: JACOBS 2014

FIGURE 5

Hauck Mesa Flow Regulatory Storage Reservoir - Section Views

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Hauck Mesa Storage Reservoir - Initial Study and Mitigated Negative Declaration

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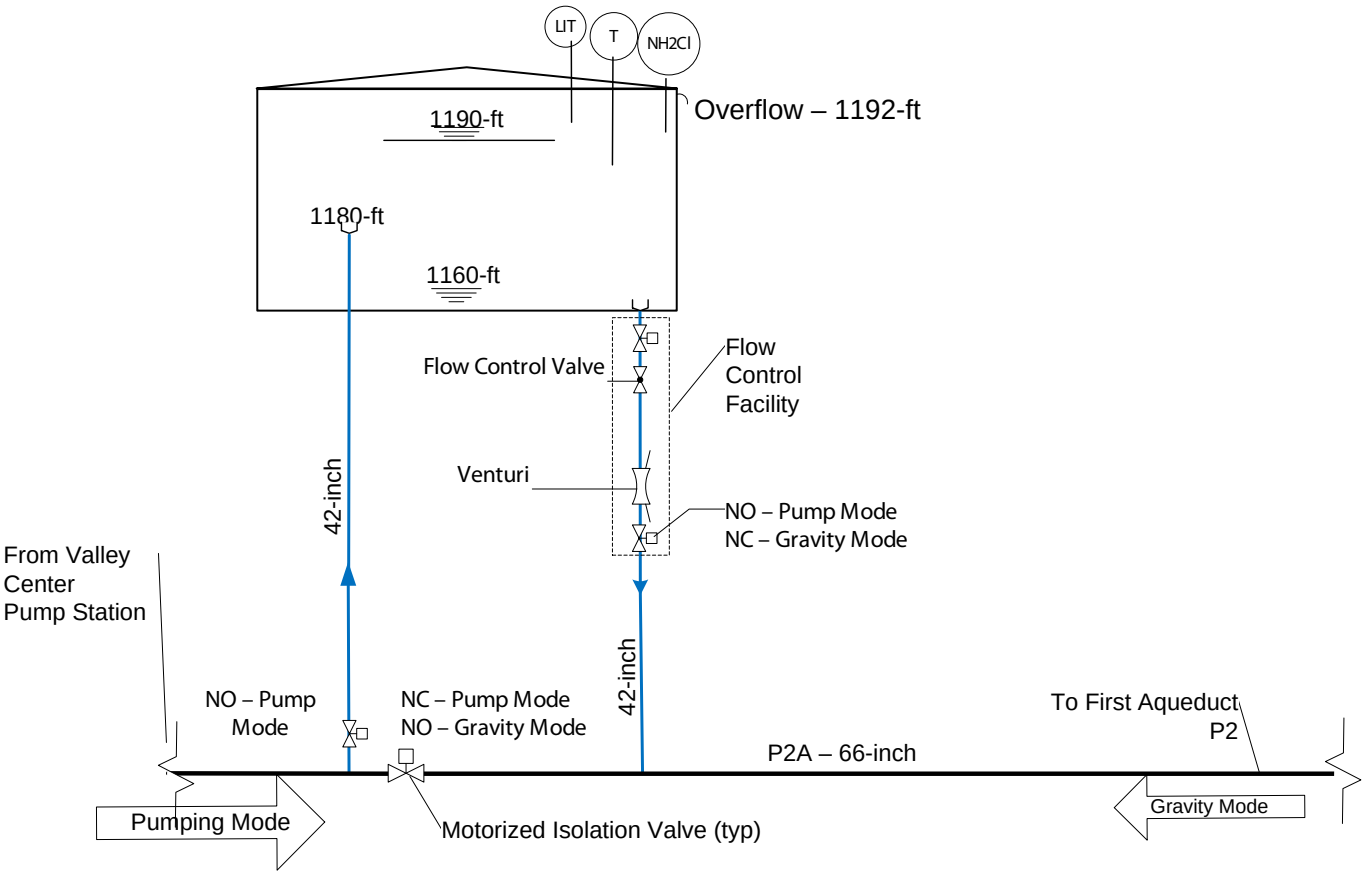

SOURCE: JACOBS 2014

FIGURE 6

Hauck Mesa Flow Regulatory Storage Reservoir Schematic

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APPENDIX A

CalEEMod Model Output Files

Hauck Mesa FRS

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	10			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment per SDCWA

Construction worker trips, vendor trips and haul trips per SDCWA

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.4457	24.6914	18.5207	0.0310	0.8712	1.2533	2.1245	0.2188	1.1531	1.3719	0.0000	3,029.3933	3,029.3933	0.8167	0.0000	3,046.5449
2020	2.2777	22.4636	18.3036	0.0310	0.1990	1.1409	1.3399	0.0538	1.0497	1.1035	0.0000	2,960.6772	2,960.6772	0.8163	0.0000	2,977.8190
Total	**4.7234**	**47.1550**	**36.8243**	**0.0620**	**1.0702**	**2.3942**	**3.4644**	**0.2726**	**2.2027**	**2.4754**	**0.0000**	**5,990.0704**	**5,990.0704**	**1.6330**	**0.0000**	**6,024.3639**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.4457	24.6914	18.5207	0.0310	0.8712	1.2533	2.1245	0.2188	1.1531	1.3719	0.0000	3,029.3933	3,029.3933	0.8167	0.0000	3,046.5449
2020	2.2777	22.4636	18.3036	0.0310	0.1990	1.1409	1.3399	0.0538	1.0497	1.1035	0.0000	2,960.6772	2,960.6772	0.8163	0.0000	2,977.8190
Total	**4.7234**	**47.1550**	**36.8243**	**0.0620**	**1.0702**	**2.3942**	**3.4644**	**0.2726**	**2.2027**	**2.4754**	**0.0000**	**5,990.0704**	**5,990.0704**	**1.6330**	**0.0000**	**6,024.3639**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/3/2019	9/2/2019	5	66	
2	Site Preparation	Site Preparation	9/3/2019	10/1/2019	5	21	
3	Grading	Grading	10/2/2019	12/4/2019	5	46	
4	Building Construction	Building Construction	12/5/2019	12/5/2020	5	262	
5	Interconnetion	Grading	12/6/2020	12/25/2020	5	15	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Interconnetion	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Cranes	1	6.00	226	0.29
Site Preparation	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Excavators	1	8.00	162	0.38
Building Construction	Graders	2	8.00	174	0.41
Building Construction	Excavators	2	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	12.00	0.00	51.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	12.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	12.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	12.00	4.00	1,048.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Interconnetion	1	6.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1708	0.0000	0.1708	0.0259	0.0000	0.0259			0.0000			0.0000
Off-Road	1.4660	13.3089	10.8030	0.0191		0.7615	0.7615		0.7373	0.7373		1,832.3767	1,832.3767	0.2882		1,838.4279
Total	**1.4660**	**13.3089**	**10.8030**	**0.0191**	**0.1708**	**0.7615**	**0.9323**	**0.0259**	**0.7373**	**0.7632**		**1,832.3767**	**1,832.3767**	**0.2882**		**1,838.4279**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0133	0.1593	0.1388	5.8000e-004	0.0135	2.5300e-003	0.0160	3.6900e-003	2.3300e-003	6.0100e-003		55.3024	55.3024	3.9000e-004		55.3107
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.0456**	**0.1970**	**0.5453**	**1.8300e-003**	**0.1121**	**3.2300e-003**	**0.1153**	**0.0298**	**2.9800e-003**	**0.0328**		**148.2607**	**148.2607**	**4.6200e-003**		**148.3578**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0769	0.0000	0.0769	0.0116	0.0000	0.0116			0.0000			0.0000
Off-Road	1.4660	13.3089	10.8030	0.0191		0.7615	0.7615		0.7373	0.7373	0.0000	1,832.3767	1,832.3767	0.2882		1,838.4279
Total	**1.4660**	**13.3089**	**10.8030**	**0.0191**	**0.0769**	**0.7615**	**0.8384**	**0.0116**	**0.7373**	**0.7489**	**0.0000**	**1,832.3767**	**1,832.3767**	**0.2882**		**1,838.4279**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0133	0.1593	0.1388	5.8000e-004	0.0135	2.5300e-003	0.0160	3.6900e-003	2.3300e-003	6.0100e-003		55.3024	55.3024	3.9000e-004		55.3107
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.0456**	**0.1970**	**0.5453**	**1.8300e-003**	**0.1121**	**3.2300e-003**	**0.1153**	**0.0298**	**2.9800e-003**	**0.0328**		**148.2607**	**148.2607**	**4.6200e-003**		**148.3578**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0386	0.0000	0.0386	4.7500e-003	0.0000	4.7500e-003			0.0000			0.0000
Off-Road	1.4990	14.9909	12.5511	0.0177		0.8681	0.8681		0.7986	0.7986		1,754.4726	1,754.4726	0.5551		1,766.1296
Total	**1.4990**	**14.9909**	**12.5511**	**0.0177**	**0.0386**	**0.8681**	**0.9067**	**4.7500e-003**	**0.7986**	**0.8034**		**1,754.4726**	**1,754.4726**	**0.5551**		**1,766.1296**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2042	2.4542	2.1387	8.8600e-003	0.2075	0.0390	0.2464	0.0568	0.0359	0.0927		851.9984	851.9984	6.0700e-003		852.1259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.2365**	**2.4919**	**2.5452**	**0.0101**	**0.3060**	**0.0397**	**0.3457**	**0.0830**	**0.0365**	**0.1194**		**944.9567**	**944.9567**	**0.0103**		**945.1730**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0174	0.0000	0.0174	2.1400e-003	0.0000	2.1400e-003			0.0000			0.0000
Off-Road	1.4990	14.9909	12.5511	0.0177		0.8681	0.8681		0.7986	0.7986	0.0000	1,754.4726	1,754.4726	0.5551		1,766.1296
Total	**1.4990**	**14.9909**	**12.5511**	**0.0177**	**0.0174**	**0.8681**	**0.8855**	**2.1400e-003**	**0.7986**	**0.8008**	**0.0000**	**1,754.4726**	**1,754.4726**	**0.5551**		**1,766.1296**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2042	2.4542	2.1387	8.8600e-003	0.2075	0.0390	0.2464	0.0568	0.0359	0.0927		851.9984	851.9984	6.0700e-003		852.1259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.2365**	**2.4919**	**2.5452**	**0.0101**	**0.3060**	**0.0397**	**0.3457**	**0.0830**	**0.0365**	**0.1194**		**944.9567**	**944.9567**	**0.0103**		**945.1730**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0207	0.0000	0.0207	2.6300e-003	0.0000	2.6300e-003			0.0000			0.0000
Off-Road	1.3826	13.8222	11.3997	0.0162		0.7901	0.7901		0.7269	0.7269		1,600.7017	1,600.7017	0.5065		1,611.3370
Total	**1.3826**	**13.8222**	**11.3997**	**0.0162**	**0.0207**	**0.7901**	**0.8108**	**2.6300e-003**	**0.7269**	**0.7295**		**1,600.7017**	**1,600.7017**	**0.5065**		**1,611.3370**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1399	1.6806	1.4645	6.0700e-003	0.1421	0.0267	0.1687	0.0389	0.0246	0.0635		583.4337	583.4337	4.1600e-003		583.5210
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.1722**	**1.7183**	**1.8710**	**7.3200e-003**	**0.2406**	**0.0274**	**0.2680**	**0.0651**	**0.0252**	**0.0902**		**676.3920**	**676.3920**	**8.3900e-003**		**676.5681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.3100e-003	0.0000	9.3100e-003	1.1800e-003	0.0000	1.1800e-003			0.0000			0.0000
Off-Road	1.3826	13.8222	11.3997	0.0162		0.7901	0.7901		0.7269	0.7269	0.0000	1,600.7017	1,600.7017	0.5065		1,611.3370
Total	**1.3826**	**13.8222**	**11.3997**	**0.0162**	**9.3100e-003**	**0.7901**	**0.7994**	**1.1800e-003**	**0.7269**	**0.7281**	**0.0000**	**1,600.7017**	**1,600.7017**	**0.5065**		**1,611.3370**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1399	1.6806	1.4645	6.0700e-003	0.1421	0.0267	0.1687	0.0389	0.0246	0.0635		583.4337	583.4337	4.1600e-003		583.5210
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.1722**	**1.7183**	**1.8710**	**7.3200e-003**	**0.2406**	**0.0274**	**0.2680**	**0.0651**	**0.0252**	**0.0902**		**676.3920**	**676.3920**	**8.3900e-003**		**676.5681**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3111	23.5503	17.0174	0.0258		1.2352	1.2352		1.1364	1.1364		2,559.5397	2,559.5397	0.8098		2,576.5458
Total	**2.3111**	**23.5503**	**17.0174**	**0.0258**		**1.2352**	**1.2352**		**1.1364**	**1.1364**		**2,559.5397**	**2,559.5397**	**0.8098**		**2,576.5458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0686	0.8246	0.7186	2.9800e-003	0.7461	0.0131	0.7592	0.1851	0.0120	0.1972		286.2715	286.2715	2.0400e-003		286.3143
Vendor	0.0337	0.2788	0.3782	9.5000e-004	0.0265	4.3000e-003	0.0308	7.5700e-003	3.9500e-003	0.0115		90.6238	90.6238	6.7000e-004		90.6378
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.1346**	**1.1411**	**1.5033**	**5.1800e-003**	**0.8712**	**0.0181**	**0.8893**	**0.2188**	**0.0166**	**0.2355**		**469.8536**	**469.8536**	**6.9400e-003**		**469.9991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3111	23.5503	17.0174	0.0258		1.2352	1.2352		1.1364	1.1364	0.0000	2,559.5397	2,559.5397	0.8098		2,576.5458
Total	**2.3111**	**23.5503**	**17.0174**	**0.0258**		**1.2352**	**1.2352**		**1.1364**	**1.1364**	**0.0000**	**2,559.5397**	**2,559.5397**	**0.8098**		**2,576.5458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0686	0.8246	0.7186	2.9800e-003	0.7461	0.0131	0.7592	0.1851	0.0120	0.1972		286.2715	286.2715	2.0400e-003		286.3143
Vendor	0.0337	0.2788	0.3782	9.5000e-004	0.0265	4.3000e-003	0.0308	7.5700e-003	3.9500e-003	0.0115		90.6238	90.6238	6.7000e-004		90.6378
Worker	0.0323	0.0377	0.4065	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		92.9583	92.9583	4.2300e-003		93.0471
Total	**0.1346**	**1.1411**	**1.5033**	**5.1800e-003**	**0.8712**	**0.0181**	**0.8893**	**0.2188**	**0.0166**	**0.2355**		**469.8536**	**469.8536**	**6.9400e-003**		**469.9991**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1482	21.4825	16.8526	0.0258		1.1235	1.1235		1.0336	1.0336		2,503.1819	2,503.1819	0.8096		2,520.1831
Total	**2.1482**	**21.4825**	**16.8526**	**0.0258**		**1.1235**	**1.1235**		**1.0336**	**1.0336**		**2,503.1819**	**2,503.1819**	**0.8096**		**2,520.1831**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0670	0.7084	0.7060	2.9700e-003	0.0738	0.0129	0.0867	0.0201	0.0119	0.0320		279.7270	279.7270	2.0400e-003		279.7697
Vendor	0.0319	0.2375	0.3645	9.5000e-004	0.0265	3.8500e-003	0.0304	7.5700e-003	3.5400e-003	0.0111		88.5524	88.5524	6.4000e-004		88.5659
Worker	0.0306	0.0353	0.3805	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		89.2159	89.2159	4.0200e-003		89.3003
Total	**0.1295**	**0.9811**	**1.4511**	**5.1700e-003**	**0.1990**	**0.0174**	**0.2164**	**0.0538**	**0.0161**	**0.0699**		**457.4953**	**457.4953**	**6.7000e-003**		**457.6360**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1482	21.4825	16.8526	0.0258		1.1235	1.1235		1.0336	1.0336	0.0000	2,503.1819	2,503.1819	0.8096		2,520.1831
Total	**2.1482**	**21.4825**	**16.8526**	**0.0258**		**1.1235**	**1.1235**		**1.0336**	**1.0336**	**0.0000**	**2,503.1819**	**2,503.1819**	**0.8096**		**2,520.1831**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0670	0.7084	0.7060	2.9700e-003	0.0738	0.0129	0.0867	0.0201	0.0119	0.0320		279.7270	279.7270	2.0400e-003		279.7697
Vendor	0.0319	0.2375	0.3645	9.5000e-004	0.0265	3.8500e-003	0.0304	7.5700e-003	3.5400e-003	0.0111		88.5524	88.5524	6.4000e-004		88.5659
Worker	0.0306	0.0353	0.3805	1.2500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		89.2159	89.2159	4.0200e-003		89.3003
Total	**0.1295**	**0.9811**	**1.4511**	**5.1700e-003**	**0.1990**	**0.0174**	**0.2164**	**0.0538**	**0.0161**	**0.0699**		**457.4953**	**457.4953**	**6.7000e-003**		**457.6360**

3.6 Interconnetion - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.1085
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.1085**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	0.2375	0.3645	9.5000e-004	0.0265	3.8500e-003	0.0304	7.5700e-003	3.5400e-003	0.0111		88.5524	88.5524	6.4000e-004		88.5659
Worker	0.0153	0.0176	0.1903	6.2000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		44.6080	44.6080	2.0100e-003		44.6502
Total	**0.0472**	**0.2551**	**0.5548**	**1.5700e-003**	**0.0758**	**4.2000e-003**	**0.0800**	**0.0206**	**3.8600e-003**	**0.0245**		**133.1603**	**133.1603**	**2.6500e-003**		**133.2161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.1085
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.1085**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	0.2375	0.3645	9.5000e-004	0.0265	3.8500e-003	0.0304	7.5700e-003	3.5400e-003	0.0111		88.5524	88.5524	6.4000e-004		88.5659
Worker	0.0153	0.0176	0.1903	6.2000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		44.6080	44.6080	2.0100e-003		44.6502
Total	**0.0472**	**0.2551**	**0.5548**	**1.5700e-003**	**0.0758**	**4.2000e-003**	**0.0800**	**0.0206**	**3.8600e-003**	**0.0245**		**133.1603**	**133.1603**	**2.6500e-003**		**133.2161**

Hauck Mesa FRS

San Diego Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	10			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment per SDCWA

Construction worker trips, vendor trips and haul trips per SDCWA

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.4590	24.7287	18.8634	0.0309	0.8712	1.2534	2.1246	0.2188	1.1531	1.3719	0.0000	3,022.3477	3,022.3477	0.8168	0.0000	3,039.5004
2020	2.2901	22.4958	18.6393	0.0309	0.1990	1.1410	1.3400	0.0538	1.0497	1.1035	0.0000	2,953.8845	2,953.8845	0.8163	0.0000	2,971.0275
Total	**4.7491**	**47.2245**	**37.5026**	**0.0619**	**1.0702**	**2.3944**	**3.4645**	**0.2726**	**2.2028**	**2.4755**	**0.0000**	**5,976.2321**	**5,976.2321**	**1.6331**	**0.0000**	**6,010.5278**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.4590	24.7287	18.8634	0.0309	0.8712	1.2534	2.1246	0.2188	1.1531	1.3719	0.0000	3,022.3477	3,022.3477	0.8168	0.0000	3,039.5004
2020	2.2901	22.4958	18.6393	0.0309	0.1990	1.1410	1.3400	0.0538	1.0497	1.1035	0.0000	2,953.8845	2,953.8845	0.8163	0.0000	2,971.0274
Total	**4.7491**	**47.2245**	**37.5026**	**0.0619**	**1.0702**	**2.3944**	**3.4645**	**0.2726**	**2.2028**	**2.4755**	**0.0000**	**5,976.2321**	**5,976.2321**	**1.6331**	**0.0000**	**6,010.5278**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/3/2019	9/2/2019	5	66	
2	Site Preparation	Site Preparation	9/3/2019	10/1/2019	5	21	
3	Grading	Grading	10/2/2019	12/4/2019	5	46	
4	Building Construction	Building Construction	12/5/2019	12/5/2020	5	262	
5	Interconnetion	Grading	12/6/2020	12/25/2020	5	15	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Interconnetion	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Cranes	1	6.00	226	0.29
Site Preparation	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Excavators	1	8.00	162	0.38
Building Construction	Graders	2	8.00	174	0.41
Building Construction	Excavators	2	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	12.00	0.00	51.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	12.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	12.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	12.00	4.00	1,048.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Interconnetion	1	6.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1708	0.0000	0.1708	0.0259	0.0000	0.0259			0.0000			0.0000
Off-Road	1.4660	13.3089	10.8030	0.0191		0.7615	0.7615		0.7373	0.7373		1,832.3767	1,832.3767	0.2882		1,838.4279
Total	**1.4660**	**13.3089**	**10.8030**	**0.0191**	**0.1708**	**0.7615**	**0.9323**	**0.0259**	**0.7373**	**0.7632**		**1,832.3767**	**1,832.3767**	**0.2882**		**1,838.4279**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0146	0.1644	0.1811	5.7000e-004	0.0135	2.5400e-003	0.0160	3.6900e-003	2.3300e-003	6.0200e-003		55.1723	55.1723	4.0000e-004		55.1807
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.0485**	**0.2067**	**0.5706**	**1.7400e-003**	**0.1121**	**3.2400e-003**	**0.1153**	**0.0298**	**2.9800e-003**	**0.0328**		**142.4589**	**142.4589**	**4.6300e-003**		**142.5560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0769	0.0000	0.0769	0.0116	0.0000	0.0116			0.0000			0.0000
Off-Road	1.4660	13.3089	10.8030	0.0191		0.7615	0.7615		0.7373	0.7373	0.0000	1,832.3767	1,832.3767	0.2882		1,838.4279
Total	**1.4660**	**13.3089**	**10.8030**	**0.0191**	**0.0769**	**0.7615**	**0.8384**	**0.0116**	**0.7373**	**0.7489**	**0.0000**	**1,832.3767**	**1,832.3767**	**0.2882**		**1,838.4279**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0146	0.1644	0.1811	5.7000e-004	0.0135	2.5400e-003	0.0160	3.6900e-003	2.3300e-003	6.0200e-003		55.1723	55.1723	4.0000e-004		55.1807
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.0485**	**0.2067**	**0.5706**	**1.7400e-003**	**0.1121**	**3.2400e-003**	**0.1153**	**0.0298**	**2.9800e-003**	**0.0328**		**142.4589**	**142.4589**	**4.6300e-003**		**142.5560**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0386	0.0000	0.0386	4.7500e-003	0.0000	4.7500e-003			0.0000			0.0000
Off-Road	1.4990	14.9909	12.5511	0.0177		0.8681	0.8681		0.7986	0.7986		1,754.4726	1,754.4726	0.5551		1,766.1296
Total	**1.4990**	**14.9909**	**12.5511**	**0.0177**	**0.0386**	**0.8681**	**0.9067**	**4.7500e-003**	**0.7986**	**0.8034**		**1,754.4726**	**1,754.4726**	**0.5551**		**1,766.1296**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2243	2.5328	2.7895	8.8500e-003	0.2075	0.0391	0.2465	0.0568	0.0359	0.0927		849.9934	849.9934	6.1600e-003		850.1228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.2583**	**2.5752**	**3.1790**	**0.0100**	**0.3060**	**0.0398**	**0.3458**	**0.0830**	**0.0366**	**0.1195**		**937.2800**	**937.2800**	**0.0104**		**937.4981**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0174	0.0000	0.0174	2.1400e-003	0.0000	2.1400e-003			0.0000			0.0000
Off-Road	1.4990	14.9909	12.5511	0.0177		0.8681	0.8681		0.7986	0.7986	0.0000	1,754.4726	1,754.4726	0.5551		1,766.1296
Total	**1.4990**	**14.9909**	**12.5511**	**0.0177**	**0.0174**	**0.8681**	**0.8855**	**2.1400e-003**	**0.7986**	**0.8008**	**0.0000**	**1,754.4726**	**1,754.4726**	**0.5551**		**1,766.1296**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2243	2.5328	2.7895	8.8500e-003	0.2075	0.0391	0.2465	0.0568	0.0359	0.0927		849.9934	849.9934	6.1600e-003		850.1228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.2583**	**2.5752**	**3.1790**	**0.0100**	**0.3060**	**0.0398**	**0.3458**	**0.0830**	**0.0366**	**0.1195**		**937.2800**	**937.2800**	**0.0104**		**937.4981**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0207	0.0000	0.0207	2.6300e-003	0.0000	2.6300e-003			0.0000			0.0000
Off-Road	1.3826	13.8222	11.3997	0.0162		0.7901	0.7901		0.7269	0.7269		1,600.7017	1,600.7017	0.5065		1,611.3370
Total	**1.3826**	**13.8222**	**11.3997**	**0.0162**	**0.0207**	**0.7901**	**0.8108**	**2.6300e-003**	**0.7269**	**0.7295**		**1,600.7017**	**1,600.7017**	**0.5065**		**1,611.3370**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1536	1.7344	1.9102	6.0600e-003	0.1421	0.0268	0.1688	0.0389	0.0246	0.0635		582.0607	582.0607	4.2200e-003		582.1493
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.1876**	**1.7768**	**2.2997**	**7.2300e-003**	**0.2406**	**0.0275**	**0.2681**	**0.0651**	**0.0253**	**0.0903**		**669.3473**	**669.3473**	**8.4500e-003**		**669.5246**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.3100e-003	0.0000	9.3100e-003	1.1800e-003	0.0000	1.1800e-003			0.0000			0.0000
Off-Road	1.3826	13.8222	11.3997	0.0162		0.7901	0.7901		0.7269	0.7269	0.0000	1,600.7017	1,600.7017	0.5065		1,611.3370
Total	**1.3826**	**13.8222**	**11.3997**	**0.0162**	**9.3100e-003**	**0.7901**	**0.7994**	**1.1800e-003**	**0.7269**	**0.7281**	**0.0000**	**1,600.7017**	**1,600.7017**	**0.5065**		**1,611.3370**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1536	1.7344	1.9102	6.0600e-003	0.1421	0.0268	0.1688	0.0389	0.0246	0.0635		582.0607	582.0607	4.2200e-003		582.1493
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.1876**	**1.7768**	**2.2997**	**7.2300e-003**	**0.2406**	**0.0275**	**0.2681**	**0.0651**	**0.0253**	**0.0903**		**669.3473**	**669.3473**	**8.4500e-003**		**669.5246**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3111	23.5503	17.0174	0.0258		1.2352	1.2352		1.1364	1.1364		2,559.5397	2,559.5397	0.8098		2,576.5458
Total	**2.3111**	**23.5503**	**17.0174**	**0.0258**		**1.2352**	**1.2352**		**1.1364**	**1.1364**		**2,559.5397**	**2,559.5397**	**0.8098**		**2,576.5458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0754	0.8510	0.9373	2.9700e-003	0.7461	0.0131	0.7592	0.1851	0.0121	0.1972		285.5978	285.5978	2.0700e-003		285.6413
Vendor	0.0386	0.2851	0.5192	9.4000e-004	0.0265	4.3400e-003	0.0309	7.5700e-003	3.9900e-003	0.0116		89.9236	89.9236	6.9000e-004		89.9380
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.1479**	**1.1785**	**1.8460**	**5.0800e-003**	**0.8712**	**0.0182**	**0.8894**	**0.2188**	**0.0167**	**0.2355**		**462.8079**	**462.8079**	**6.9900e-003**		**462.9546**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3111	23.5503	17.0174	0.0258		1.2352	1.2352		1.1364	1.1364	0.0000	2,559.5397	2,559.5397	0.8098		2,576.5458
Total	**2.3111**	**23.5503**	**17.0174**	**0.0258**		**1.2352**	**1.2352**		**1.1364**	**1.1364**	**0.0000**	**2,559.5397**	**2,559.5397**	**0.8098**		**2,576.5458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0754	0.8510	0.9373	2.9700e-003	0.7461	0.0131	0.7592	0.1851	0.0121	0.1972		285.5978	285.5978	2.0700e-003		285.6413
Vendor	0.0386	0.2851	0.5192	9.4000e-004	0.0265	4.3400e-003	0.0309	7.5700e-003	3.9900e-003	0.0116		89.9236	89.9236	6.9000e-004		89.9380
Worker	0.0340	0.0423	0.3895	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		87.2866	87.2866	4.2300e-003		87.3753
Total	**0.1479**	**1.1785**	**1.8460**	**5.0800e-003**	**0.8712**	**0.0182**	**0.8894**	**0.2188**	**0.0167**	**0.2355**		**462.8079**	**462.8079**	**6.9900e-003**		**462.9546**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1482	21.4825	16.8526	0.0258		1.1235	1.1235		1.0336	1.0336		2,503.1819	2,503.1819	0.8096		2,520.1831
Total	**2.1482**	**21.4825**	**16.8526**	**0.0258**		**1.1235**	**1.1235**		**1.0336**	**1.0336**		**2,503.1819**	**2,503.1819**	**0.8096**		**2,520.1831**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0733	0.7310	0.9208	2.9700e-003	0.0738	0.0129	0.0868	0.0201	0.0119	0.0320		279.0679	279.0679	2.0700e-003		279.1113
Vendor	0.0364	0.2428	0.5021	9.4000e-004	0.0265	3.8900e-003	0.0304	7.5700e-003	3.5800e-003	0.0112		87.8660	87.8660	6.6000e-004		87.8800
Worker	0.0321	0.0395	0.3638	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		83.7686	83.7686	4.0200e-003		83.8530
Total	**0.1418**	**1.0132**	**1.7867**	**5.0800e-003**	**0.1990**	**0.0175**	**0.2165**	**0.0538**	**0.0161**	**0.0699**		**450.7026**	**450.7026**	**6.7500e-003**		**450.8444**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1482	21.4825	16.8526	0.0258		1.1235	1.1235		1.0336	1.0336	0.0000	2,503.1819	2,503.1819	0.8096		2,520.1831
Total	**2.1482**	**21.4825**	**16.8526**	**0.0258**		**1.1235**	**1.1235**		**1.0336**	**1.0336**	**0.0000**	**2,503.1819**	**2,503.1819**	**0.8096**		**2,520.1831**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0733	0.7310	0.9208	2.9700e-003	0.0738	0.0129	0.0868	0.0201	0.0119	0.0320		279.0679	279.0679	2.0700e-003		279.1113
Vendor	0.0364	0.2428	0.5021	9.4000e-004	0.0265	3.8900e-003	0.0304	7.5700e-003	3.5800e-003	0.0112		87.8660	87.8660	6.6000e-004		87.8800
Worker	0.0321	0.0395	0.3638	1.1700e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		83.7686	83.7686	4.0200e-003		83.8530
Total	**0.1418**	**1.0132**	**1.7867**	**5.0800e-003**	**0.1990**	**0.0175**	**0.2165**	**0.0538**	**0.0161**	**0.0699**		**450.7026**	**450.7026**	**6.7500e-003**		**450.8444**

3.6 Interconnetion - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.1085
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.1085**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0364	0.2428	0.5021	9.4000e-004	0.0265	3.8900e-003	0.0304	7.5700e-003	3.5800e-003	0.0112		87.8660	87.8660	6.6000e-004		87.8800
Worker	0.0161	0.0198	0.1819	5.9000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		41.8843	41.8843	2.0100e-003		41.9265
Total	**0.0525**	**0.2625**	**0.6840**	**1.5300e-003**	**0.0758**	**4.2400e-003**	**0.0801**	**0.0206**	**3.9000e-003**	**0.0246**		**129.7503**	**129.7503**	**2.6700e-003**		**129.8065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.1085
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.1085**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0364	0.2428	0.5021	9.4000e-004	0.0265	3.8900e-003	0.0304	7.5700e-003	3.5800e-003	0.0112		87.8660	87.8660	6.6000e-004		87.8800
Worker	0.0161	0.0198	0.1819	5.9000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		41.8843	41.8843	2.0100e-003		41.9265
Total	**0.0525**	**0.2625**	**0.6840**	**1.5300e-003**	**0.0758**	**4.2400e-003**	**0.0801**	**0.0206**	**3.9000e-003**	**0.0246**		**129.7503**	**129.7503**	**2.6700e-003**		**129.8065**

Hauck Mesa FRS

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	10			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment per SDCWA

Construction worker trips, vendor trips and haul trips per SDCWA

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1274	1.2244	1.0275	1.8100e-003	0.0267	0.0655	0.0922	6.2700e-003	0.0615	0.0677	0.0000	158.2702	158.2702	0.0319	0.0000	158.9408
2020	0.2790	2.7475	2.2680	3.7900e-003	0.0242	0.1394	0.1636	6.5600e-003	0.1283	0.1348	0.0000	328.1870	328.1870	0.0905	0.0000	330.0873
Total	**0.4064**	**3.9720**	**3.2954**	**5.6000e-003**	**0.0509**	**0.2049**	**0.2558**	**0.0128**	**0.1897**	**0.2025**	**0.0000**	**486.4572**	**486.4572**	**0.1224**	**0.0000**	**489.0280**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1274	1.2244	1.0275	1.8100e-003	0.0232	0.0655	0.0886	5.7400e-003	0.0615	0.0672	0.0000	158.2700	158.2700	0.0319	0.0000	158.9406
2020	0.2790	2.7475	2.2680	3.7900e-003	0.0242	0.1394	0.1636	6.5600e-003	0.1283	0.1348	0.0000	328.1867	328.1867	0.0905	0.0000	330.0869
Total	**0.4064**	**3.9720**	**3.2954**	**5.6000e-003**	**0.0474**	**0.2049**	**0.2522**	**0.0123**	**0.1897**	**0.2020**	**0.0000**	**486.4567**	**486.4567**	**0.1224**	**0.0000**	**489.0276**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**7.03**	**0.00**	**1.40**	**4.13**	**0.00**	**0.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/3/2019	9/2/2019	5	66	
2	Site Preparation	Site Preparation	9/3/2019	10/1/2019	5	21	
3	Grading	Grading	10/2/2019	12/4/2019	5	46	
4	Building Construction	Building Construction	12/5/2019	12/5/2020	5	262	
5	Interconnetion	Grading	12/6/2020	12/25/2020	5	15	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Interconnetion	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Cranes	1	6.00	226	0.29
Site Preparation	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Excavators	1	8.00	162	0.38
Building Construction	Graders	2	8.00	174	0.41
Building Construction	Excavators	2	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	12.00	0.00	51.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	12.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	12.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	12.00	4.00	1,048.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Interconnetion	1	6.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.6400e-003	0.0000	5.6400e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0484	0.4392	0.3565	6.3000e-004		0.0251	0.0251		0.0243	0.0243	0.0000	54.8560	54.8560	8.6300e-003	0.0000	55.0372
Total	**0.0484**	**0.4392**	**0.3565**	**6.3000e-004**	**5.6400e-003**	**0.0251**	**0.0308**	**8.5000e-004**	**0.0243**	**0.0252**	**0.0000**	**54.8560**	**54.8560**	**8.6300e-003**	**0.0000**	**55.0372**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	5.4500e-003	5.5200e-003	2.0000e-005	4.4000e-004	8.0000e-005	5.2000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.6540	1.6540	1.0000e-005	0.0000	1.6542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	1.3700e-003	0.0128	4.0000e-005	3.1800e-003	2.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.6391	2.6391	1.3000e-004	0.0000	2.6418
Total	**1.5000e-003**	**6.8200e-003**	**0.0184**	**6.0000e-005**	**3.6200e-003**	**1.0000e-004**	**3.7200e-003**	**9.6000e-004**	**1.0000e-004**	**1.0700e-003**	**0.0000**	**4.2931**	**4.2931**	**1.4000e-004**	**0.0000**	**4.2960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.5400e-003	0.0000	2.5400e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0484	0.4392	0.3565	6.3000e-004		0.0251	0.0251		0.0243	0.0243	0.0000	54.8560	54.8560	8.6300e-003	0.0000	55.0371
Total	**0.0484**	**0.4392**	**0.3565**	**6.3000e-004**	**2.5400e-003**	**0.0251**	**0.0277**	**3.8000e-004**	**0.0243**	**0.0247**	**0.0000**	**54.8560**	**54.8560**	**8.6300e-003**	**0.0000**	**55.0371**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	5.4500e-003	5.5200e-003	2.0000e-005	4.4000e-004	8.0000e-005	5.2000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.6540	1.6540	1.0000e-005	0.0000	1.6542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	1.3700e-003	0.0128	4.0000e-005	3.1800e-003	2.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.6391	2.6391	1.3000e-004	0.0000	2.6418
Total	**1.5000e-003**	**6.8200e-003**	**0.0184**	**6.0000e-005**	**3.6200e-003**	**1.0000e-004**	**3.7200e-003**	**9.6000e-004**	**1.0000e-004**	**1.0700e-003**	**0.0000**	**4.2931**	**4.2931**	**1.4000e-004**	**0.0000**	**4.2960**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.1000e-004	0.0000	4.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1574	0.1318	1.9000e-004		9.1100e-003	9.1100e-003		8.3900e-003	8.3900e-003	0.0000	16.7121	16.7121	5.2900e-003	0.0000	16.8232
Total	**0.0157**	**0.1574**	**0.1318**	**1.9000e-004**	**4.1000e-004**	**9.1100e-003**	**9.5200e-003**	**5.0000e-005**	**8.3900e-003**	**8.4400e-003**	**0.0000**	**16.7121**	**16.7121**	**5.2900e-003**	**0.0000**	**16.8232**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2700e-003	0.0267	0.0270	9.0000e-005	2.1300e-003	4.1000e-004	2.5400e-003	5.9000e-004	3.8000e-004	9.6000e-004	0.0000	8.1076	8.1076	6.0000e-005	0.0000	8.1089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.4000e-004	4.0800e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8397	0.8397	4.0000e-005	0.0000	0.8406
Total	**2.6000e-003**	**0.0271**	**0.0311**	**1.0000e-004**	**3.1400e-003**	**4.2000e-004**	**3.5600e-003**	**8.6000e-004**	**3.9000e-004**	**1.2400e-003**	**0.0000**	**8.9474**	**8.9474**	**1.0000e-004**	**0.0000**	**8.9494**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8000e-004	0.0000	1.8000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1574	0.1318	1.9000e-004		9.1100e-003	9.1100e-003		8.3900e-003	8.3900e-003	0.0000	16.7121	16.7121	5.2900e-003	0.0000	16.8231
Total	**0.0157**	**0.1574**	**0.1318**	**1.9000e-004**	**1.8000e-004**	**9.1100e-003**	**9.2900e-003**	**2.0000e-005**	**8.3900e-003**	**8.4100e-003**	**0.0000**	**16.7121**	**16.7121**	**5.2900e-003**	**0.0000**	**16.8231**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2700e-003	0.0267	0.0270	9.0000e-005	2.1300e-003	4.1000e-004	2.5400e-003	5.9000e-004	3.8000e-004	9.6000e-004	0.0000	8.1076	8.1076	6.0000e-005	0.0000	8.1089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.4000e-004	4.0800e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8397	0.8397	4.0000e-005	0.0000	0.8406
Total	**2.6000e-003**	**0.0271**	**0.0311**	**1.0000e-004**	**3.1400e-003**	**4.2000e-004**	**3.5600e-003**	**8.6000e-004**	**3.9000e-004**	**1.2400e-003**	**0.0000**	**8.9474**	**8.9474**	**1.0000e-004**	**0.0000**	**8.9494**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0318	0.3179	0.2622	3.7000e-004		0.0182	0.0182		0.0167	0.0167	0.0000	33.3990	33.3990	0.0106	0.0000	33.6210
Total	**0.0318**	**0.3179**	**0.2622**	**3.7000e-004**	**4.8000e-004**	**0.0182**	**0.0187**	**6.0000e-005**	**0.0167**	**0.0168**	**0.0000**	**33.3990**	**33.3990**	**0.0106**	**0.0000**	**33.6210**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4100e-003	0.0400	0.0406	1.4000e-004	3.2000e-003	6.1000e-004	3.8100e-003	8.8000e-004	5.7000e-004	1.4400e-003	0.0000	12.1615	12.1615	9.0000e-005	0.0000	12.1633
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	9.6000e-004	8.9400e-003	3.0000e-005	2.2100e-003	2.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.8394	1.8394	9.0000e-005	0.0000	1.8412
Total	**4.1300e-003**	**0.0410**	**0.0495**	**1.7000e-004**	**5.4100e-003**	**6.3000e-004**	**6.0400e-003**	**1.4700e-003**	**5.8000e-004**	**2.0400e-003**	**0.0000**	**14.0008**	**14.0008**	**1.8000e-004**	**0.0000**	**14.0045**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0318	0.3179	0.2622	3.7000e-004		0.0182	0.0182		0.0167	0.0167	0.0000	33.3990	33.3990	0.0106	0.0000	33.6209
Total	**0.0318**	**0.3179**	**0.2622**	**3.7000e-004**	**2.1000e-004**	**0.0182**	**0.0184**	**3.0000e-005**	**0.0167**	**0.0168**	**0.0000**	**33.3990**	**33.3990**	**0.0106**	**0.0000**	**33.6209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4100e-003	0.0400	0.0406	1.4000e-004	3.2000e-003	6.1000e-004	3.8100e-003	8.8000e-004	5.7000e-004	1.4400e-003	0.0000	12.1615	12.1615	9.0000e-005	0.0000	12.1633
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	9.6000e-004	8.9400e-003	3.0000e-005	2.2100e-003	2.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.8394	1.8394	9.0000e-005	0.0000	1.8412
Total	**4.1300e-003**	**0.0410**	**0.0495**	**1.7000e-004**	**5.4100e-003**	**6.3000e-004**	**6.0400e-003**	**1.4700e-003**	**5.8000e-004**	**2.0400e-003**	**0.0000**	**14.0008**	**14.0008**	**1.8000e-004**	**0.0000**	**14.0045**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.2237	0.1617	2.5000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	22.0588	22.0588	6.9800e-003	0.0000	22.2053
Total	**0.0220**	**0.2237**	**0.1617**	**2.5000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**22.0588**	**22.0588**	**6.9800e-003**	**0.0000**	**22.2053**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9000e-004	8.1200e-003	8.2200e-003	3.0000e-005	6.9000e-003	1.2000e-004	7.0200e-003	1.7100e-003	1.1000e-004	1.8300e-003	0.0000	2.4647	2.4647	2.0000e-005	0.0000	2.4651
Vendor	3.5000e-004	2.7300e-003	4.4800e-003	1.0000e-005	2.5000e-004	4.0000e-005	2.9000e-004	7.0000e-005	4.0000e-005	1.1000e-004	0.0000	0.7785	0.7785	1.0000e-005	0.0000	0.7786
Worker	3.0000e-004	4.0000e-004	3.6900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7598	0.7598	4.0000e-005	0.0000	0.7605
Total	**1.3400e-003**	**0.0113**	**0.0164**	**5.0000e-005**	**8.0600e-003**	**1.7000e-004**	**8.2300e-003**	**2.0200e-003**	**1.6000e-004**	**2.1900e-003**	**0.0000**	**4.0030**	**4.0030**	**7.0000e-005**	**0.0000**	**4.0042**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.2237	0.1617	2.5000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	22.0587	22.0587	6.9800e-003	0.0000	22.2053
Total	**0.0220**	**0.2237**	**0.1617**	**2.5000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**22.0587**	**22.0587**	**6.9800e-003**	**0.0000**	**22.2053**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9000e-004	8.1200e-003	8.2200e-003	3.0000e-005	6.9000e-003	1.2000e-004	7.0200e-003	1.7100e-003	1.1000e-004	1.8300e-003	0.0000	2.4647	2.4647	2.0000e-005	0.0000	2.4651
Vendor	3.5000e-004	2.7300e-003	4.4800e-003	1.0000e-005	2.5000e-004	4.0000e-005	2.9000e-004	7.0000e-005	4.0000e-005	1.1000e-004	0.0000	0.7785	0.7785	1.0000e-005	0.0000	0.7786
Worker	3.0000e-004	4.0000e-004	3.6900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7598	0.7598	4.0000e-005	0.0000	0.7605
Total	**1.3400e-003**	**0.0113**	**0.0164**	**5.0000e-005**	**8.0600e-003**	**1.7000e-004**	**8.2300e-003**	**2.0200e-003**	**1.6000e-004**	**2.1900e-003**	**0.0000**	**4.0030**	**4.0030**	**7.0000e-005**	**0.0000**	**4.0042**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2610	2.6101	2.0476	3.1400e-003		0.1365	0.1365		0.1256	0.1256	0.0000	275.9081	275.9081	0.0892	0.0000	277.7820
Total	**0.2610**	**2.6101**	**2.0476**	**3.1400e-003**		**0.1365**	**0.1365**		**0.1256**	**0.1256**	**0.0000**	**275.9081**	**275.9081**	**0.0892**	**0.0000**	**277.7820**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.6000e-003	0.0892	0.1032	3.6000e-004	8.7800e-003	1.5700e-003	0.0104	2.4000e-003	1.4400e-003	3.8400e-003	0.0000	30.8018	30.8018	2.3000e-004	0.0000	30.8066
Vendor	4.1900e-003	0.0297	0.0554	1.1000e-004	3.1600e-003	4.7000e-004	3.6300e-003	9.0000e-004	4.3000e-004	1.3400e-003	0.0000	9.7287	9.7287	7.0000e-005	0.0000	9.7302
Worker	3.6100e-003	4.7300e-003	0.0441	1.4000e-004	0.0117	8.0000e-005	0.0118	3.1100e-003	8.0000e-005	3.1900e-003	0.0000	9.3252	9.3252	4.4000e-004	0.0000	9.3345
Total	**0.0164**	**0.1236**	**0.2028**	**6.1000e-004**	**0.0236**	**2.1200e-003**	**0.0258**	**6.4100e-003**	**1.9500e-003**	**8.3700e-003**	**0.0000**	**49.8558**	**49.8558**	**7.4000e-004**	**0.0000**	**49.8713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2610	2.6101	2.0476	3.1400e-003		0.1365	0.1365		0.1256	0.1256	0.0000	275.9078	275.9078	0.0892	0.0000	277.7817
Total	**0.2610**	**2.6101**	**2.0476**	**3.1400e-003**		**0.1365**	**0.1365**		**0.1256**	**0.1256**	**0.0000**	**275.9078**	**275.9078**	**0.0892**	**0.0000**	**277.7817**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.6000e-003	0.0892	0.1032	3.6000e-004	8.7800e-003	1.5700e-003	0.0104	2.4000e-003	1.4400e-003	3.8400e-003	0.0000	30.8018	30.8018	2.3000e-004	0.0000	30.8066
Vendor	4.1900e-003	0.0297	0.0554	1.1000e-004	3.1600e-003	4.7000e-004	3.6300e-003	9.0000e-004	4.3000e-004	1.3400e-003	0.0000	9.7287	9.7287	7.0000e-005	0.0000	9.7302
Worker	3.6100e-003	4.7300e-003	0.0441	1.4000e-004	0.0117	8.0000e-005	0.0118	3.1100e-003	8.0000e-005	3.1900e-003	0.0000	9.3252	9.3252	4.4000e-004	0.0000	9.3345
Total	**0.0164**	**0.1236**	**0.2028**	**6.1000e-004**	**0.0236**	**2.1200e-003**	**0.0258**	**6.4100e-003**	**1.9500e-003**	**8.3700e-003**	**0.0000**	**49.8558**	**49.8558**	**7.4000e-004**	**0.0000**	**49.8713**

3.6 Interconnetion - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	0.0118	0.0128	2.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	1.5348	1.5348	5.0000e-004	0.0000	1.5452
Total	**1.1800e-003**	**0.0118**	**0.0128**	**2.0000e-005**	**0.0000**	**7.5000e-004**	**7.5000e-004**	**0.0000**	**6.9000e-004**	**6.9000e-004**	**0.0000**	**1.5348**	**1.5348**	**5.0000e-004**	**0.0000**	**1.5452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	1.8300e-003	3.4200e-003	1.0000e-005	2.0000e-004	3.0000e-005	2.2000e-004	6.0000e-005	3.0000e-005	8.0000e-005	0.0000	0.6005	0.6005	0.0000	0.0000	0.6006
Worker	1.1000e-004	1.5000e-004	1.3600e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2878	0.2878	1.0000e-005	0.0000	0.2881
Total	**3.7000e-004**	**1.9800e-003**	**4.7800e-003**	**1.0000e-005**	**5.6000e-004**	**3.0000e-005**	**5.8000e-004**	**1.6000e-004**	**3.0000e-005**	**1.8000e-004**	**0.0000**	**0.8884**	**0.8884**	**1.0000e-005**	**0.0000**	**0.8887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	0.0118	0.0128	2.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	1.5348	1.5348	5.0000e-004	0.0000	1.5452
Total	**1.1800e-003**	**0.0118**	**0.0128**	**2.0000e-005**	**0.0000**	**7.5000e-004**	**7.5000e-004**	**0.0000**	**6.9000e-004**	**6.9000e-004**	**0.0000**	**1.5348**	**1.5348**	**5.0000e-004**	**0.0000**	**1.5452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	1.8300e-003	3.4200e-003	1.0000e-005	2.0000e-004	3.0000e-005	2.2000e-004	6.0000e-005	3.0000e-005	8.0000e-005	0.0000	0.6005	0.6005	0.0000	0.0000	0.6006
Worker	1.1000e-004	1.5000e-004	1.3600e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2878	0.2878	1.0000e-005	0.0000	0.2881
Total	**3.7000e-004**	**1.9800e-003**	**4.7800e-003**	**1.0000e-005**	**5.6000e-004**	**3.0000e-005**	**5.8000e-004**	**1.6000e-004**	**3.0000e-005**	**1.8000e-004**	**0.0000**	**0.8884**	**0.8884**	**1.0000e-005**	**0.0000**	**0.8887**

APPENDIX B

Biological Resources Technical Report for the Valley Center Pump Station/ Hauck Mesa FRS Sites (December 2014)

BIOLOGICAL RESOURCES TECHNICAL REPORT
for the
Twin Oaks Valley WTP Expanded Service Area Project

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DECEMBER 2014

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GLOSSARY OF TERMS AND ACRONYMS

BSRA	Biologically Significant Resource Area
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
County	County of San Diego
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEIR	Final Environmental Impact Report
GIS	geographic information system
HMA	Habitat Management Area
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP/HCP	Natural Community Conservation Plan / Habitat Conservation Plan
NOAA	National Oceanic and Atmospheric Administration
O&M	operation and maintenance
PIZ	Probable Impact Zone
ROW	right-of-way
SDG&E	San Diego Gas & Electric
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCMWD	Valley Center Municipal Water District
VCPS	Valley Center Pump Station
Water Authority	San Diego County Water Authority
WTP	Water Treatment Plant

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SUMMARY OF FINDINGS

This Biological Resources Technical Report evaluates the potential biological impacts of the Twin Oaks Valley Water Treatment Plant (WTP) Expanded Service Area Project proposed by the San Diego County Water Authority (Water Authority). The project includes rehabilitation of the Valley Center Pump Station and minor Pipeline 2A improvements at Hauck Mesa site. This report describes the biological character of the project Study Area in regard to existing vegetation, flora, wildlife, and wildlife habitats; provides an analysis of potential direct and indirect impacts to biological resources based on the proposed project scenario; discusses mitigation measures that would reduce any identified significant impacts to a level below significant; and analyzes the biological significance of the site with respect to the Water Authority's approved Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (Water Authority 2010, Volume II) and federal, state, and local laws and policies. The proposed Pipeline 2A and Pump Station Improvements Project is an approved Covered Activity under the NCCP/HCP.

Dudek biologist Tricia Wotipka conducted biological surveys at the Hauck Mesa site in spring 2014. Due to access limitations, Ms. Wotipka was not able to physically access the Valley Center Pump Station (VCPS) site; however, because the site supports existing developed and modified lands, a survey of the site was not necessary. The Study Area lies within the Probable Impact Zone (PIZ) evaluated in the NCCP/HCP.

In support of its mission, the Water Authority has determined that certain improvements to Pipeline 2A and the VCPS are needed to improve long-term water supply reliability and operational efficiency for its member agencies. The goals of the proposed project improvements are to address operational issues associated with existing Water Authority facilities and infrastructure, including the VCPS, controlled-closing air vacuum valves at Hauck Mesa, and communication infrastructure for the VCPS. In addressing operational issues, the Water Authority would also enhance the pump station's functional survivability (such as its ability to withstand seismic events) and capacity, which would enhance service reliability to the Water Authority's member agencies. As proposed, the project improvements would also ensure emergency water deliveries to the First Aqueduct as a planned component of the Water Authority's Emergency Storage Project and would expand the service area of the Twin Oaks Valley WTP.

Based on species composition and general physiognomy, two non-native uplands vegetation community/land cover type and two native upland vegetation communities were identified within the proposed project Study Area (see Figures 3a and 4a). Non-native uplands vegetation communities/land cover types present within the Study Area include developed land and annual

(non-native) grassland. Native upland vegetation communities include coastal sage scrub (Diegan; including disturbed areas) and southern mixed chaparral (mafic) (including disturbed).

No special-status plant or wildlife species were identified within the project Study Area during 2014 surveys. Proposed improvements would occur within the VCPS building and within the parking lot and access road area of the VCPS site. A total of 0.26 acre of developed land would be impacted as a result of these improvements. The existing Pipeline 2A vault and valve (both of which would be replaced) are located at the western terminus of a narrow, gravel and dirt Water Authority access road, and the proposed new vault and valve would be located approximately 100 feet to the east within the same gravel and dirt access road. All construction staging would occur around the existing tank on the Valley Center Municipal Water District (VCMWD) property to the immediate north of the vault work areas. A total of 0.30 acre of developed land, 0.042 acre of disturbed land, and 0.015 acre of disturbed coastal sage scrub would be temporarily impacted as a result of the proposed valve replacement and installation work. Permanent impacts to 0.013 acre of disturbed land and 0.006 acre of disturbed coastal sage scrub would also occur as a result of the proposed valve replacement and installation work at Hauck Mesa. Southern mixed chaparral also exists on site and in adjacent hillside areas; however, no direct impacts would occur.

The project has been designed to avoid direct impacts to special-status plant and wildlife species and will apply the Special Conditions for avoidance and minimization pursuant to the NCCP/HCP to reduce potential impacts to a level below significant. Implementation of species-specific NCCP/HCP Special Conditions would reduce impacts to less than significant. No significant direct impacts are proposed or anticipated to any special-status plant or wildlife species or U.S. Fish and Wildlife Service (USFWS)-designated critical habitat for any special-status species. The project does not require any federal permits, and therefore there is no federal nexus requiring a federal Endangered Species Act (ESA) Section 7 consultation with the USFWS. The project also has been designed to ensure that potential indirect impacts associated with drainage/water quality, lighting, increased human activities during project activities, and invasive species would be less than significant.

Disturbance of vegetation communities could affect native nesting birds if project activities occur during the nesting season. Pursuant to the NCCP/HCP, the nesting season is defined as January 15 to July 31 for raptor species, March 15 to September 15 for riparian species, and February 15 to August 15 for upland species. Compliance with the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503.5 and 3513 (see Section 6.2, Regulatory Issues) will be ensured either by removing/modifying potential nesting habitat outside the nesting season, or by having a qualified Environmental Surveyor conduct pre-activity nest surveys to determine the status of nesting birds within and around the impact

areas if any vegetation disturbance occurs during the nesting season. If an active nest is detected and construction must proceed, the Environmental Surveyor will establish buffer guidelines and nest activity will be monitored to ensure compliance with the MBTA and California Fish and Game Code.

The Water Authority will provide monitoring by an Environmental Surveyor to ensure that the applicable NCCP/HCP minimization measures and mitigation commitments are fulfilled and to ensure that inadvertent construction activities do not occur in sensitive areas outside the project footprint. The Environmental Surveyor will attend the pre-construction meeting and provide brief educational presentations to field crews to outline environmental expectations and familiarize personnel with sensitive resources to be protected and avoided. The Environmental Surveyor will be present during clearing, topsoil salvage, and construction activities located within sensitive habitat, as detailed in a Pre-Activity Survey Form. The Environmental Surveyor will advise the construction manager during construction to ensure compliance with all avoidance, minimization, and mitigation measures for the duration of the project and will ensure that all construction activities, including staging areas and access routes, comply with the approved plans (Water Authority 2010, Volume I).

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1 INTRODUCTION

This Biological Resources Technical Report evaluates the potential biological impacts of the Twin Oaks Valley WTP Expanded Service Area Project proposed by the Water Authority. This report describes the biological character of the VCPS site and the Hauck Mesa site, herein referred to as the Study Area (see Figures 1 and 2). This report describes the existing vegetation, flora, wildlife, and wildlife habitats; provides an analysis of potential direct and indirect impacts to biological resources based on the proposed project scenario; discusses mitigation measures that would reduce any identified significant impacts to a level below significant; and analyzes the biological significance of the Study Area with respect to the Water Authority's approved Subregional NCCP/HCP (Water Authority 2010, Volume II) and federal, state, and local laws and policies. The proposed Project is an approved Covered Activity under the NCCP/HCP.

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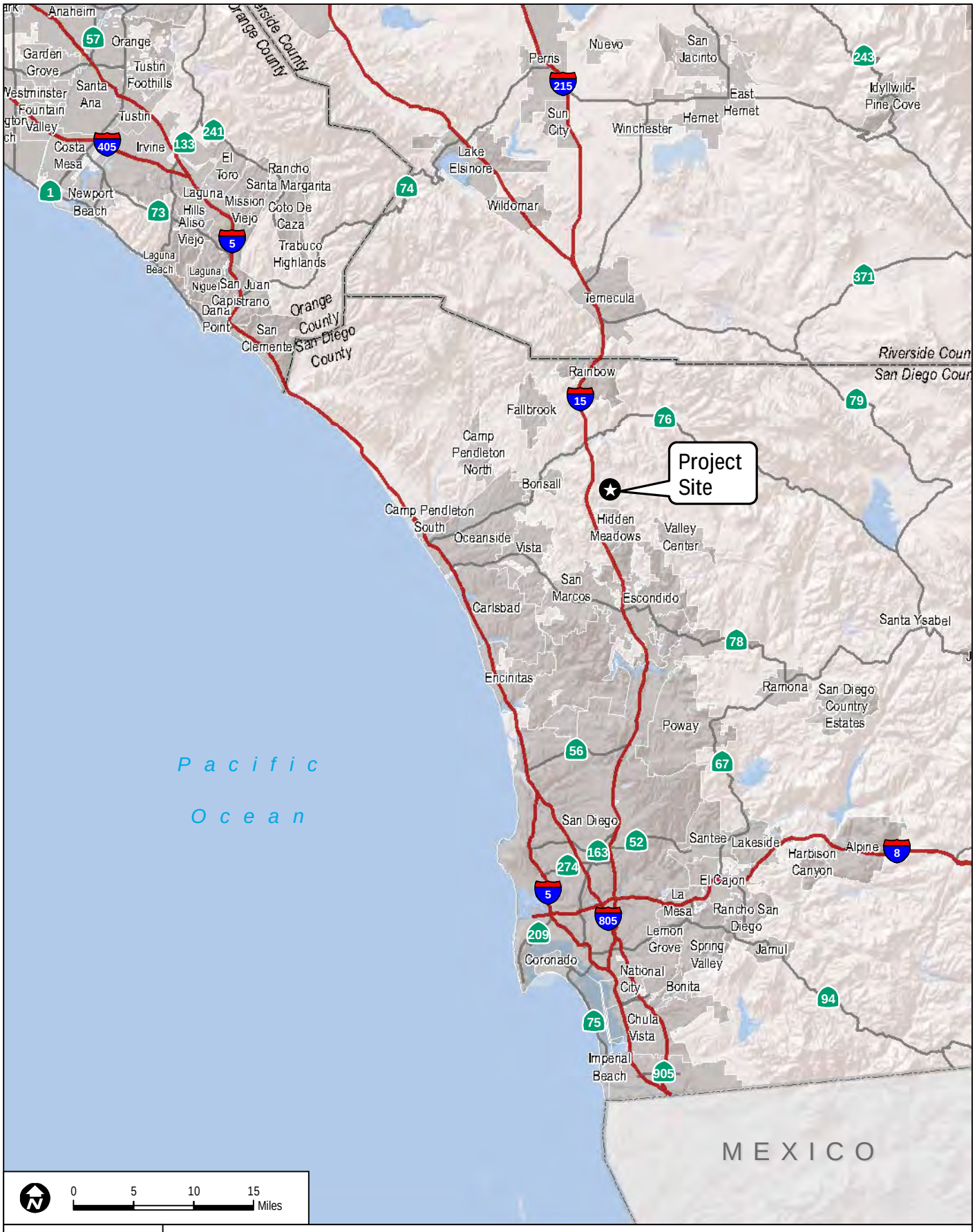

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FIGURE 1

Regional Map

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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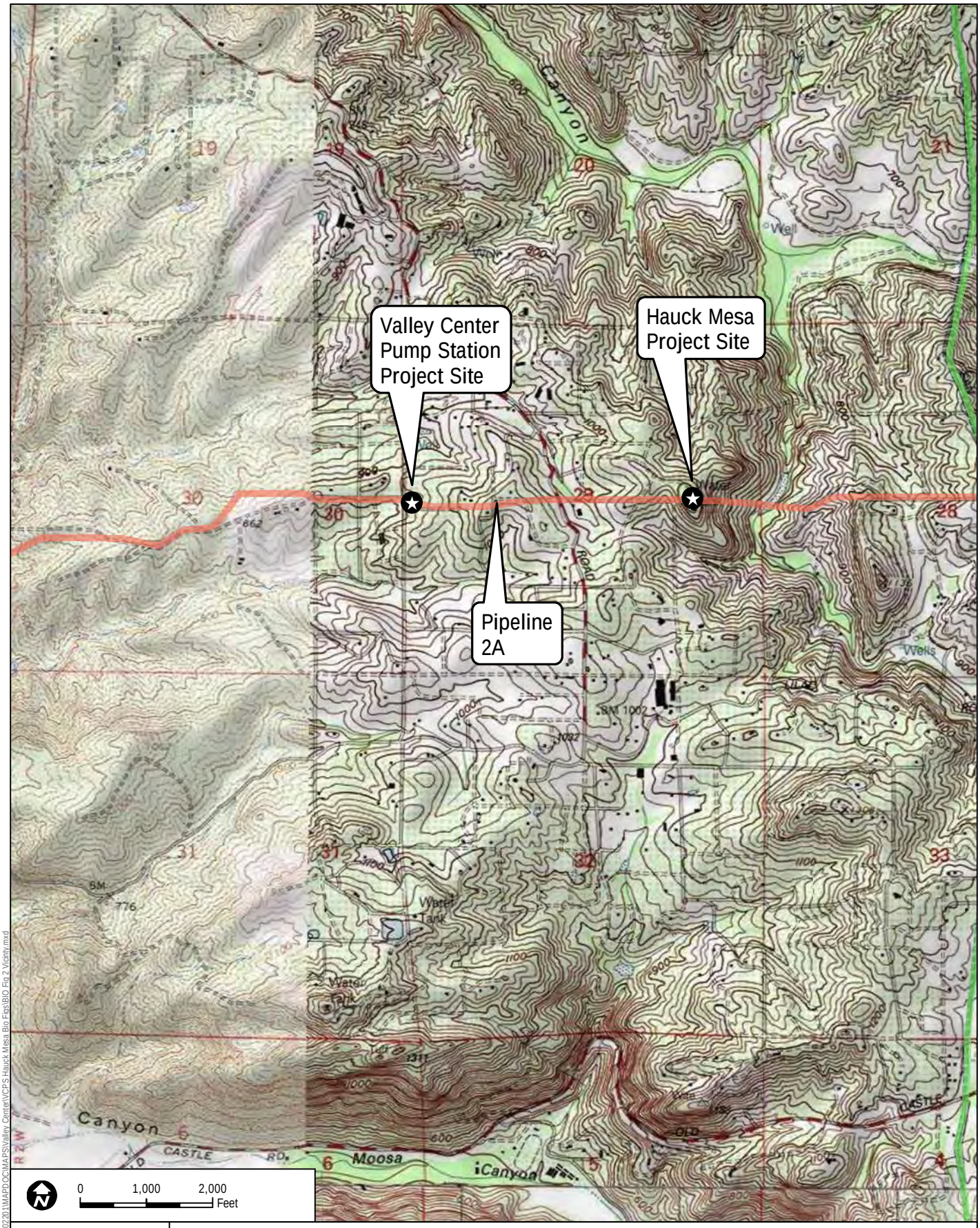

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SOURCE: USGS 7.5-Minute Series Quadrangle.

FIGURE 2

Vicinity Map

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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2 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 Project Location

The proposed project is located in the unincorporated area of northern San Diego County within the community of Valley Center at two locations. More specifically, the proposed project improvements are located within the fenced boundary of the VCPS site and within the existing Pipeline 2A right-of-way (ROW) at the Hauck Mesa landform. As shown on Figures 3a and 4a, the project area can be characterized as rural residential and also supports agricultural production. For example, rural residential land uses are generally located to the west and east of the VCPS, and agricultural uses, including row crops and nurseries, are located to the southwest, south, and southeast. Cleared, undeveloped rural lands are located to the north. Land uses surrounding the Hauck Mesa site include a vacant residence to the south, undeveloped lands (coastal sage scrub and chaparral habitat) further to the north and east, and agricultural uses downslope to the west.

The existing VCPS facility consists of a 2,800-square-foot concrete masonry building on an approximately 1.5-acre site with elevations ranging from 918 feet above mean sea level at the western boundaries to 965 feet above mean sea level along the eastern boundary. Most of the proposed project improvements would be contained within the existing building. A full description of improvements proposed at the pump station site is provided in Section 2.2.

The proposed Pipeline 2A improvements would be installed within the Water Authority's existing Pipeline 2A ROW located immediately adjacent to an existing VCMWD water storage facility atop the Hauck Mesa landform. In addition to an aboveground storage tank and associated valve infrastructure, the VCMWD property features security fencing, a gravel driveway, and several screening trees. The property and the Hauck Mesa Pipeline 2A improvements site are located approximately 0.75 mile east of the pump station facility. The elevation at the Hauck Mesa site is approximately 1,120 feet above mean sea level. The proposed Pipeline 2A improvements would be located within a disturbed, graveled-covered portion of Pipeline 2A ROW that is approximately 40 feet wide. A full description of proposed project improvements is provided in Section 2.2.

2.2 Project History and Description

On August 10, 1989, the Water Authority Board of Directors adopted the Water Authority Water Distribution Plan, which recommended measures to meet the forecasted water demand requirements through the year 2010. Included in this program/plan was the Pipeline 2A project.

In 1991, the Water Authority certified the Final Environmental Impact Report (FEIR) to construct and operate a 5-mile, 66- to 69-inch-diameter pipeline and a 60-cubic-foot-per-second (cfs) pump station to enhance the operational and emergency supply capabilities of the Water Authority aqueduct system by allowing for deliveries of water between the First and Second Aqueducts. In the event of an emergency, such as a pipeline failure in either aqueduct, Pipeline 2A could provide treated water in either direction. In addition, Pipeline 2A and the VCPS would provide the Fallbrook Public Utility District, Rainbow Municipal Water District, Rincon del Diablo Municipal Water District, VCMWD, Yuima Municipal Water District, and Vallecitos Water District with sufficient treated water to meet their forecasted demands.

In support of its mission, the Water Authority has determined that certain improvements to Pipeline 2A and the VCPS are needed to improve long-term water supply reliability and operational efficiency for its member agencies. The goals of the proposed project improvements are to address operational issues associated with existing Water Authority facilities and infrastructure, including the VCPS, controlled-closing air vacuum valves at Hauck Mesa, and communication infrastructure for the VCPS. In addressing operational issues, the Water Authority would also enhance the pump station's functional survivability (such as its ability to withstand seismic events) and capacity, which would enhance service reliability to the Water Authority's member agencies. As proposed, the project improvements would also ensure emergency water deliveries to the First Aqueduct as a planned component of the Emergency Storage Project and would expand the service area of the Twin Oaks Valley WTP.

Under the proposed project improvements, water would continue to flow between the First and Second Aqueducts through Pipeline 2A and with the assistance of the VCPS. At the VCPS, several improvements would be made to address operational issues and increase the service capacity of the pump station from the existing 20 cfs to a proposed 41 cfs. The approved project identified the ultimate sizing of the pump station as 60 cfs. However, hydraulic constraints in the existing pump station limit the expansion to 21 cfs, for a potential total pump station capacity of 41 cfs. This capacity remains below the ultimate capacity approved as part of the FEIR.

Project improvements to the VCPS would primarily occur within the pump station building, but some would occur outside of the building and within the fenced boundary of the pump station site. In addition, the proposed project improvements include communication and instrumentation improvements at the VCPS and the Pipeline 2A Hauck Mesa site.

The proposed project improvements entail the following components:

- ***VCPS Improvements (see Figures 3a and 3b):***
  - Replacement of two existing 10 cfs pumps with two 13.7 cfs pumps and installation of a new third 13.7 cfs pump in the empty bay within the pump station building;
  - Installation of three pump motors and variable frequency drives (one for each of the three 13.7 cfs pumps);
  - Replacement of existing valves, including replacement of the suction-side isolation 24-inch butterfly valves with 24-inch resilient seated gate valves, replacement of the 42-inch sleeve valve with a 42-inch plunger valve, and replacement of the 10-inch Vee Port valve with a 10-inch plunger valve;
  - Replacement of the existing outdoor San Diego Gas & Electric (SDG&E) pad-mounted 300-kilovolt-ampere, 12-kilovolt to 480-volt step-down transformer with an appropriately sized transformer (approximately 1,000 kilovolt-amperes) capable of accommodating the additional load associated with the increased pumping capacity of the pump station, including installation of a second power conduit on the utility side of the transformer;
  - Replacement of the existing automatic transfer switch unit to accommodate the additional loads necessary to pump 41 cfs and installation of a current transformer cabinet to house utility metering component;
  - Replacement of the existing motor control center;
  - Improvements to the ventilation system capacity by increasing the capacity of existing supply and exhaust fans and installation of standby fans and additional ductwork;
  - Structural strengthening of the pump station building roof; and
  - Replacement of the existing 6-foot-tall site perimeter fence and entrance gate with a new 8-foot-tall fence and gate consisting of either black PVC-coated chain link or black ornamental iron.

  Construction associated with the improvements listed above would occur entirely within the fenced boundary of the Water Authority-owned VCPS site. Construction activities at the VCPS would be phased over a period of approximately 12 months and are anticipated to begin in September 2014. The first phase of construction would consist of demolition activities. Construction during this phase would include removal of the two existing pumps and butterfly valves on the suction side of the pumps and removal of electrical panels and

conduits. During the first phase of construction, an estimated construction work force of five work crews, with at least four workers per crew, would be required.

The second phase of construction would consist of the installation of three new pumps, including valves and piping for the third pump. In addition, four existing fans would be upsized and two new fans would be installed on the pump station roof. Other construction activities that would occur include the installation of new electrical equipment and cables and a security system. Trenching for the new electrical conduit would occur during this phase. The trench would span from the south side of the pump station building to the utility pole at the southwest corner of the pump station site and would be approximately 7 feet wide and up to 12 feet deep. Approximately five crews would also be required during the second phase of construction.

The third phase of construction would consist of replacing the 48-inch sleeve valve with a new 48-inch plunger valve and replacing the 10-inch Vee Port valve on bypass piping with a 10-inch plunger valve. Approximately two crews would be required during the third phase of construction. Construction staging would occur within the boundary of the pump station site.

- ***Communication and Instrumentation Improvements at VCPS:*** Improvements to the existing communication and instrumentation system at the VCPS would include the replacement of the existing control panel to meet the Water Authority's Programmable Logic Controller standard specification. In addition, because the existing radio communication system is obsolete and unreliable, communication system improvements are proposed. These improvements would entail replacing the existing communications cabinet within the VCPS and utilizing an existing underground conduit between the utility pole located south of the VCPS building and the new communication cabinet to connect to an existing AT&T fiber-optic network. While improvements to the existing communication and instrumentation systems are proposed, existing security features, such as fire and door intrusion alarms, would also be replaced and video surveillance installed as an additional security feature.
- ***Pipeline 2A Valve Replacement and Installation at Hauck Mesa:*** Pipeline 2A operates as a gravity-flow system from east to west (i.e., flowing from the First Aqueduct to the Second Aqueduct) and as a pumped-flow system from west to east (i.e., flowing from the Second Aqueduct to the First Aqueduct). Under the existing operating scenario, an air vacuum valve is installed within a partially buried air-release vault atop the Pipeline 2A high point on the west side of Hauck Mesa and provides a means of venting entrained air from Pipeline 2A (see Figures 4a and 4b). Under the proposed improvements, the existing air vacuum valve would be removed, the existing air-release vault will be

replaced with a larger 10-foot by 8-foot vault, and two new controlled-closing air vacuum valves would be installed to provide mechanical, active surge protection in the pipeline. The aboveground portion of the air-release vault would be raised approximately 2 feet higher to accommodate the new valves. In addition, a new air-release vault, which would house two new controlled-closing air vacuum valves, would be constructed approximately 100 feet east of the replacement air-release vault. Computer modeling of the expanded VCPS facility indicates that these valves are required to protect aqueduct pipelines from pressure damage in the event of a trip out of the pumps, such as a power outage. The areas identified for valve installation have been previously disturbed by development associated with Pipeline 2A and the existing VCMWD-owned water storage structure atop Hauck Mesa.

Construction activities would occur over a period of approximately 12 months and are anticipated to begin in the fall of 2014. Construction would consist of excavation, demolition of existing concrete and piping, dewatering, concrete placement, piping installation, disinfection of the pipeline before placing back in service, and backfill and re-grading activities and would require the use of typical heavy construction equipment, such as excavators, dump trucks, front loaders, generators, and dewatering equipment. Approximately two crews, which may include four workers per crew, would be required to facilitate valve replacement and installation.

2.3 Environmental Setting

Land use within and surrounding the approximately 1.37-acre VCPS study area and 2.75-acre Hauck Mesa study area is a mixture of undeveloped land, disturbed habitat, and utility development. Both sites are situated on the U.S. Geological Survey (USGS) 7.5-minute Pala quadrangle, Sections 29 and 30; Township 10 south; and Range 2 west.

2.3.1 Topography

Topography within the Hauck Mesa site consists of relatively flat areas on site, with a valley to the east of the area; a steep, downward-sloping southern portion; and a more gradual downward slope to the north and west. The VCPS site consists of a gradual western slope with no steep sections in or surrounding the site. Elevations within each of the two sites range from approximately 920 feet above mean sea level at VCPS to approximately 1,120 feet above mean sea level at the Hauck Mesa site.

2.3.2 Soils

According to the U.S. Department of Agriculture Natural Resources Conservation Service soil data (USDA-NRCS 2014), the following five soil types occur within the Study Area:

- VCPS site:
  - CIE2, Cieneba coarse sandy loam, 5%–15% slopes, eroded
- Hauck-Mesa site:
  - CmrG, Cieneba very rocky coarse sandy loam, 30%–75% slopes
  - CnG2, Cieneba-Fallbrook rocky sandy loams, 30%–65% slopes, eroded
  - ClD2, Cieneba coarse sandy loam, 15%–30% slopes, eroded
  - WE, Vista rocky coarse sandy loam, 15%–30% slopes.

Soils within the Fallbrook series consist of well-drained, moderately deep to deep sandy loams that formed in material weathered in place from granodiorite. The soils are uplands and have slopes of 2%–30% (Bowman 1973).

The Cieneba series consists of excessively drained, very shallow to shallow coarse sandy loams. These soils were formed in substrate that had been weathered into granitic rock. This soil type exists in upland areas, typically rolling and mountainous, with slopes anywhere from 5% to 75% (Bowman 1973).

Steep Gullied land consists of strongly sloping to steep areas that are actively eroding into old alluvium or decomposed rock. It occurs as large individual gullies or as a network of many gullies in areas where the vegetation cover is sparse or has been severely depleted by grazing or fires. The vegetation is a sparse cover or shrubs and annual grasses and forbs. Runoff is very rapid and the erosion hazard very high (Bowman 1973).

The Vista series consists of well-drained, moderately deep and deep coarse sandy loams derived from granodiorite or quartz diorite. These soils are on uplands and have slopes of 5%–65% (Bowman 1973).

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SOURCE: BING MAPPING SERVICE

FIGURE 3a

Valley Center Pump Station - Vegetation Map and Impact Area

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Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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SOURCE: BING MAPPING SERVICE

FIGURE 3b

Proposed Improvements at the Valley Center Pump Station

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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SOURCE: BING MAPPING SERVICE

FIGURE 4a

Hauck Mesa - Vegetation Map and Impact Area

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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SOURCE: BING MAPPING SERVICE

FIGURE 4b

Proposed Improvements at Hauck Mesa

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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3 SURVEY METHODS AND LIMITATIONS

Data regarding biological resources present on the project Study Area were obtained through a review of pertinent literature and through field reconnaissance; both are described in detail below.

3.1 Literature Review

Sensitive biological resources present or potentially present in the proposed project Study Area were identified through a literature search using the following sources: USFWS (2012), California Department of Fish and Wildlife (CDFW) (2000 and 2014a–c), the California Natural Diversity Database (CNDDB) (CDFW 2014d), and the California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Vascular Plants (CNPS 2014). General information regarding wildlife species distribution in the region and potential presence in the Study Area was primarily obtained from Unitt (2004) for birds, Hall (1981) for mammals, Stebbins (2003) for reptiles and amphibians, and Emmel and Emmel (1973) for butterflies.

3.2 Field Reconnaissance

Dudek biologist Tricia Wotipka evaluated biological resources at the Hauck Mesa site in April 2014. Surveys included biological reconnaissance, habitat assessments, vegetation mapping, an inventory of wildlife and plant species, and focused surveys for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*). During the general and focused surveys, the potential for special-status plant and wildlife species to occur on site was assessed based on the existing vegetation communities and land covers, soils, and overall habitat quality of the site. With respect to the VCPS site, it is important to note that due to access limitations and the fact that the existing pump station supports highly modified and disturbed/developed lands, on-the-ground biological surveys were not performed. Vegetation mapping was done through site photograph and aerial imagery interpretation. Field surveys were conducted at the Hauck Mesa site according to the schedule in Table 1.

Table 1
Schedule of Surveys

Date	Hours	Staff	Focus[1]	Weather Conditions
April 15, 2014	0845–1045	TW	Vegetation mapping California gnatcatcher	Clear skies, 62°F–76°F, wind <1 mph
April 22, 2014	0830–1000	TW	California gnatcatcher	Overcast, 60°F–60°F, wind 1–2 mph
April 29, 2014	0930–1030	TW	California gnatcatcher	Clear skies, 86°F–88°F, wind 0–3 mph

Note:
[1] Vegetation mapping and focused surveys for California gnatcatcher were conducted at Hauck Mesa only.
TW = Tricia Wotipka; °F = degrees Fahrenheit; mph = miles per hour

3.2.1 Resource Mapping

In April 2014, Dudek biologist Tricia Wotipka conducted vegetation mapping within the project Study Area. With respect to Hauck Mesa, vegetation communities and land covers were mapped in the field directly onto 200-scale (1 inch = 200 feet) color aerial photographs within the site boundaries. Vegetation communities and land covers were mapped at the VCPS site by reviewing current site photographs and through aerial imagery interpretation. The vegetation boundaries and locations of sensitive vegetation types were then transferred to same-scale topographic maps and digitized using AutoCAD. A geographic information system (GIS) coverage was created using ArcCAD, and acreages of existing vegetation types and proposed project impacts were calculated based on this GIS coverage. Vegetation community classifications follow Holland (1986) as modified by Oberbauer (Oberbauer et al. 2008) and Sawyer and Keeler-Wolf (1995). Specific definitions for communities follow the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for the NCCP/HCP (Water Authority 2010, Volumes I).

An evaluation of the potential for jurisdictional "waters of the United States" (including wetlands) to occur within the Study Area was conducted, and it was determined that no potential waters of the United States subject to regulation under the federal Clean Water Act, California Fish and Game Code, or Porter-Cologne Water Quality Control Act occur within the Study Area. Therefore, a jurisdictional delineation of waters of the United States was not conducted.

3.2.2 Flora

On April 15, 2014, Dudek biologist Tricia Wotipka conducted a general botanical assessment within the Hauck Mesa site. General vegetation mapping was conducted within the proposed development footprint at both the Hauck Mesa and VCPS sites.

Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2014). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2010) and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA-NRCS 2014). A list of plant species observed in the Study Area is presented in Appendix A.

3.2.3 Fauna

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10 x 50 power) were used to aid in the identification of observed wildlife throughout the Study Area. Focused surveys for California gnatcatcher were conducted at the

Hauck Mesa site in all areas supporting suitable habitat within 500 feet from the proposed work footprint. In addition to species actually detected, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area.

Latin and common names of animals follow Unitt (1984) and American Ornithologists Union (2012) for birds, Wilson and Reeder (2005) for mammals, Crother (2008) for reptiles and amphibians, and North American Butterfly Association (2001) and San Diego Natural History Museum (2002) for butterflies. A list of wildlife species observed in the Study Area is presented in Appendix B.

3.3 Survey Limitations

Limitations on the botanical surveys reported in this Biological Resources Technical Report include weather factors. The seasonal rainfall of 10.9 inches during the rainy season of 2013–2014 was below the average of 15.39 inches for the region, as measured from the Valley Center 6 N, California weather station (WRCC 2014). With this below-average seasonal rainfall, some of the herbaceous and bulbaceous species may have been less prevalent or detectable than under average or better conditions but would still have been identifiable. In addition, the surveys were conducted at the peak phenology for the special-status plant species expected to occur on site. Limitations on incidental wildlife observations include daytime-only observations of wildlife species during biological reconnaissance and focused surveys. Many species of reptiles, amphibians, and small mammals are secretive in their habits or are nocturnal and are difficult to observe during the day; detection of these species within the project Study Area was limited to detection of surface sign, such as tracks and scat.

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4 RESULTS OF SURVEYS

The results of the focused and general surveys conducted in April 2014 are discussed in detail in the following sections.

4.1 Botany—Vegetation Communities and Floral Diversity

Based on species composition and general physiognomy, two non-native uplands vegetation communities/land cover types and two native upland vegetation communities were identified within the project Study Area (see Table 2 and Figures 3a–4b). Non-native uplands vegetation communities and land covers present within the VCPS site include annual grassland and developed land. Non-native uplands vegetation communities and land covers present at the Hauck Mesa site include developed land. Non-native uplands vegetation and land covers account for 75% of the site acreage at the Hauck Mesa site and 100% of the vegetation at the VCPS site. There are no native upland vegetation communities at the VCPS site. Native upland vegetation communities at the Hauck Mesa site include coastal sage scrub (Diegan; primarily disturbed areas) and southern mixed chaparral (mafic). Native uplands account for 25% of the site acreage at the Hauck Mesa site and 0% of the site acreage at the VCPS site.

Table 2
Vegetation Communities and Land Cover Types

Vegetation Community / Land Cover Type	Hauck Mesa Survey Area Acreage	VCPS Survey Area Acreage
Native Upland Vegetation Communities		
Disturbed Coastal Sage Scrub	0.02	0
Southern Mixed Chaparral	0.03	0
Subtotal	*0.05*	*0*
Non-Native Vegetation Communities and Land Cover Types		
Annual (Non-Native) Grassland	0	0.97
Developed Land	0.38	0.40
Subtotal	*0.38*	*1.37*
Total	**0.43**	**1.37**

4.1.1 Developed – 12000

Developed lands include areas that have been permanently altered and/or modified to support human use. Developed lands include parking lots, homes, commercial development, infrastructure, and ornamental landscaping (Water Authority 2010, Volume I). Developed lands in the Study Area refer to paved roads, structures, buildings, and site landscaping.

4.1.2 Non-Native Grassland (or Annual Grassland) – 42200

Non-native grassland is typified by a dense to open cover of annual and broadleaf, herbaceous grasses. Annual species make up 50% to 90% of the vegetative cover, with most annuals being non-native species (SANDAG 2003, cited in Water Authority 2010, Volume I). Shrubs and trees may be present, but they do not make up more than 15% of the vegetative cover. Non-native grassland indicator species include brome grasses (*Bromus* spp.), wild oats (*Avena* spp.), fescues (*Vulpia* spp.), mustards (*Brassica* and *Hirschfeldia* spp.), and filarees (*Erodium* spp.). Non-native grasslands became widespread following the 19th century introduction of cattle and sheep herds. This introduced-grassland often occupies deep loams and clays. Non-native grassland typically supports habitat for small mammals, reptiles, and raptor foraging. In the Study Area, most non-native grassland areas likely developed due to past agricultural or urban development-related activities that occurred in native habitats (Water Authority 2010, Volume I). Non-native grassland is limited in distribution to the VCPS site and is primarily associated with developed and/or disturbed areas (Figure 3a).

4.1.3 Southern Mixed Chaparral (Mafic) – 37122

This is a mid-sized to tall, woody chaparral dominated by chamise (*Adenostoma fasciculatum*) often situated on steep north- and east-facing slopes. There are two forms of southern mixed chaparral: granitic, which includes soils derived from granite parent material; and mafic, where the depauperate soils are high in magnesium and iron. According to Oberbauer et al. (2008), the mafic form of southern mixed chaparral occurs on mafic- (gabbro), metavolcanic-, or metasedimentary-derived soils, such as Los Posas and Boomer, in the coastal region. The southern mixed chaparral on site is within Cineba soils (USDA-NRCS 2014) on the north end of the Study Area at the Hauck Mesa site. Although clear floristic distinctions are unclear, mafic southern mixed chaparral communities tend to have higher rates of endemism than granitic-derived chaparral. Drier locales preclude understory species diversity, whereas mesic conditions in the understory support a variety of ferns, subshrubs, herbaceous perennials, bulbs, and annuals. Characteristic species include manzanita (*Arctostaphylos* spp.), blue-colored lilacs (*Ceanothus tomentosus*, *C. leucodermis*), San Diego mountain-mahogany (*Cercocarpus minutiflorus*), chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), toyon (*Heteromeles arbutifolia*), holly-leaf cherry (*Prunus ilicifolia*), and fuchsia-flowered gooseberry (*Ribes speciosum*). This vegetation community occurs along the coastal foothills of San Diego County and Baja California, Mexico, typically below 3,000 feet above mean sea level (Water Authority 2010, Volume I).

At the Hauck Mesa site, southern mixed chaparral vegetation covers the vast majority of the site and is characterized by dense and nearly impenetrable habitat dominated by large, hard-woody shrubs, including, but not limited to, chamise, mission manzanita, and San Diego Mountain Mahogany.

4.1.4 Coastal Sage Scrub (Diegan, Including Disturbed and Revegetated) – 32500

Coastal sage scrub includes low-growing, aromatic shrubs that are drought-deciduous. Diegan coastal sage scrub is found in coastal areas from Los Angeles County south into Baja California, Mexico, where as inland sage scrub occurs within San Diego County at elevations above 1,000 feet above mean sea level. This community typically grows on sites with low moisture availability, steep, xeric slopes, or clay-rich soils that are slow to release stored water (Holland 1986). Typical native scrub species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), California encelia (*Encelia californica*), lemonadeberry (*Rhus integrifolia*), and laurel sumac (*Malosma laurina*) (Water Authority 2010, Volume I). Disturbed coastal sage scrub is similar in native species composition to coastal sage scrub, but it supports a higher percent cover of non-native grasses and forbs, including, but not limited to, Russian thistle (*Salsola tragus*), horehound (*Marrubium vulgare*), wild fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), soft brome (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), wild oats, foxtail barley (*Hordeum murinum*), and doveweed (*Croton setigerus*). Disturbed coastal sage scrub was mapped at the Hauck Mesa landform on a flat terrace adjacent to the VCMWD water storage facility (Figure 4a).

4.1.5 Floral Diversity

A total of 27 species of vascular plants were detected during the vegetation mapping and biological surveys. Of these, 15 (55%) were plant species native to California, and 12 (45%) were non-native plant species. A list of all plant species identified in the Study Area is presented in Appendix A.

4.2 Zoology—Wildlife Diversity

A total of 26 wildlife species were observed or detected (e.g., by indirect sign) during the biological reconnaissance and focused surveys. A cumulative list of all wildlife species observed or detected within the project Study Area during surveys is presented in Appendix B.

4.2.1 Birds

A total of 21 bird species were observed within the Study Area during surveys. Among the most common species observed were house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), California towhee (*Melozone crissalis*), and lesser goldfinch (*Spinus psaltria*). The variety of bird species observed reflects a low level of habitat diversity in the project Study Area.

4.2.2 Reptiles and Amphibians

No reptiles or amphibians were observed or detected during surveys. The only common reptile species expected to potentially occur on either site is the western fence lizard (*Sceloporus occidentalis*).

4.2.3 Mammals

Two mammal species were observed or detected during surveys, brush rabbit (*Sylvilagus bachmani*) and California ground squirrel (*Spermophilus* (*Otospermophilus*) *beecheyi*). Several common rodent species also expected to occur within the project areas include various deermouse species (*Peromyscus* spp.) and western harvest mouse (*Reithrodontomys megalotis*).

5 SENSITIVE RESOURCES

The following resources are discussed in this section: (1) plant and wildlife species present in the project vicinity that are given special recognition by federal and state resource agencies owing to declining, limited, or threatened populations, that are the result, in most cases, of habitat reduction; (2) Covered Species in the NCCP/HCP; and (3) vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife. Sensitive biological resources known to occur in the project Study Area or having the potential to be present on site were identified through a literature search using one or more of the following sources: USFWS (2012), CDFW (2000 and 2014a–c), CNDDB (CDFW 2014d), the CNPS Inventory of Rare and Endangered Vascular Plants (CNPS 2014), Water Authority (2010a), and Holland (1986) as modified by Oberbauer (Oberbauer et al. 2008).

5.1 Sensitive Vegetation Communities

Table 3 lists the vegetation communities documented within the Study Area that are considered sensitive by the Water Authority (Water Authority 2010, Volume I). The Water Authority considers all wetlands, riparian habitats, waterways, southern mixed chaparral (mafic), coastal sage scrub, native grasslands, non-native grasslands, and oak woodlands to be sensitive (Water Authority 2010, Volume I). Within the Hauck Mesa site, approximately 0.05 acre (12%) support sensitive vegetation communities. Of these, southern mixed chaparral accounts for approximately 62% of the total sensitive vegetation on site, followed by the other upland community of coastal sage scrub, which totals 38% of the sensitive vegetation. At the VCPS site, approximately 0.97 acre (71%) support sensitive vegetation. Of this area, annual non-native grassland accounts for all of the sensitive vegetation at this location.

Table 3
Sensitive Vegetation Communities in the Project Study Area

Vegetation Community/Land Cover	Oberbauer Code	Water Authority Tier[1]	Hauck Mesa Acreage	VCPS Acreage
Uplands Vegetation				
Southern Mixed Chaparral (Mafic)	37120	I	0.03	0
Coastal Sage Scrub (including disturbed and revegetated)	32500	II	0.02	0
Non-Native Grassland	42200	III	0	0.97
		Total	**0.05**	**0.97**

1 **Source:** Water Authority 2010, Volume I

5.2 Wetlands and Waters of the United States

A formal delineation of jurisdictional wetlands and waters of the United States was not conducted because no jurisdictional features or hydrologic indicators are present in the Study Area.

5.3 Special-Status Plant Species

Special-status plant species considered in this report are those that are (a) listed by federal and/or state agencies, proposed for listing as threatened or endangered, or are candidate species; (b) considered rare by CNPS (CRPR 1 or 2); or (c) listed as a NCCP/HCP Covered Species (Water Authority 2010, Volume I). No special-status plants were identified in the Study Area.

The potential for special-status plant species to occur in the Study Area was evaluated based on the elevation, soils, vegetation communities, and level of disturbance of the site, as well as their status and distribution in the vicinity of the project Study Area. Table 4 summarizes the results of this analysis. Species identified in the CNDDB or CNPS inventory in the vicinity but that are not expected to occur on site are not included in Table 4; however, all NCCP/HCP Covered Species are included.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/ None	1B.1	Chaparral, Coastal scrub, Desert dunes/sandy/ annual herb/ Jan-Sep/ 246-5249 ft.	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and sandy soils are lacking.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/Covered	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/Clay, openings/ annual herb/ Apr-Jun/ 33-3150 ft.	VCPS: No potential to occur. Project site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable clay soils and habitat are lacking. Hauck Mesa: Low potential to occur. Although the site is located within the species' known elevation range, there are no known reported occurrences of this species in the vicinity. And while there is some disturbed coastal sage scrub present in the impact footprint, clay soils and vernal pools are lacking and the vegetation present is sparse and disturbed.
Adolphia californica	California adolphia	None/None/ Covered	2B.1	Chaparral, Coastal scrub, Valley and foothill grassland/clay/ perennial	VCPS: No potential to occur. Project site supports dry, coarse sandy loams with annual grassland habitat and ornamental

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
				deciduous shrub/ Dec-May/ 148-2428 ft.	(exotic) recruits. Suitable clay soils and habitat are lacking. Hauck Mesa: Was not observed during surveys. The site is located within the species' known elevation range; however, there are no recorded occurrences of this species within 5 miles of the site. Additionally, there is only disturbed coastal sage scrub present within the impact footprint and the site lacks suitable clay soils. Would have been observed if present.
Ambrosia pumila	San Diego ambrosia	FE/None/ Covered	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/sandy loam or clay, often in disturbed areas, sometimes alkaline/ perennial rhizomatous herb/ Apr-Oct/ 66-1362	VCPS: Low potential to occur. Project site does support dry, coarse sandy loams with annual grassland habitat and some ornamental (exotic) recruits. Disturbed nature of the site makes recruitment of the species unlikely. Hauck Mesa: Was not observed during surveys. The site is located within the species' known elevation range; however, there are no recorded occurrences of this species within 5 miles of the site. Additionally, there is only disturbed coastal scrub present within the impact footprint and the site lacks suitable clay soils. Would have been observed if present.

Table 4
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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/ None/Covered	1B.1	Chaparral (maritime, sandy)/ perennial evergreen shrub/ Dec-Jun/ 0-1198	VCPS and Hauck Mesa: No potential to occur. Although the sites are located within the species' known elevation range, there are no known occurrences of this species in the vicinity and existing chaparral at the Hauck Mesa Site is marginal. Would have been observed if present.
Arctostaphylos rainbowensis	Rainbow manzanita	None/ None/ None	1B.1	Chaparral/ perennial evergreen shrub/ Dec-Mar/ 673-2198	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Chaparral habitat present, but evergreen shrub would have been observed during surveys.
Artemisia palmeri	San Diego sagewort	None/None/None	4.2	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland/sandy, mesic/ perennial deciduous shrub/ (Feb),May-Sep/ 49-3002	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Chaparral habitat present, but perennial deciduous shrub would have been observed during surveys.

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Asplenium vespertinum	western spleenwort	None/None/None	4.2	Chaparral, Cismontane woodland, Coastal scrub/rocky/ perennial rhizomatous herb/ Feb-Jun/ 591-3281	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking at this location. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. Site is also outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Astragalus oocarpus	San Diego milk-vetch	None/None/None	1B.2	Chaparral(openings), Cismontane woodland/ perennial herb/ May-Aug/ 1001-5000	VCPS: No potential to occur. The site is outside of this species' known elevation range and there is no suitable habitat at this location. Hauck Mesa: Low potential to occur. This perennial herb would have likely been observed if present. Site is also outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Astragalus pachypus var. *jaegeri*	Jaeger's bush milk-vetch	None/ None/None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/sandy or rocky/ perennial	VCPS and Hauck Mesa: Not expected to occur. The site is outside of the species' known elevation range. While some suitable chaparral habitat exists at the

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
				shrub/ Dec-Jun/ 1198-3002	Hauck Mesa site this perennial species would have been observed if present.
Baccharis vanessae	Encinitas baccharis	FT/SE/Covered	1B.1	Chaparral, cismontane woodland; sandstone/ deciduous shrub/ August–November/ 200–2400 ft.	VCPS: No potential to occur. Project site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Not expected to occur. The site is within the species' known elevation range; however, there is only disturbed coastal sage scrub present within the impact footprint and the species is not recorded in the vicinity.
Berberis nevinii	Nevin's barberry	FE/ SE/ None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub/sandy or gravelly/ perennial evergreen shrub/ Mar-Jun/ 899-2707	VCPS and Hauck Mesa: Not expected to occur. Although the sites are located within the species' known elevation range, there are no known occurrences of this species in the vicinity. While some suitable habitat exists at the Hauck Mesa site this perennial shrub would have been observed if present.
Brodiaea filifolia	Thread-leaved brodiaea	FT/ SE/ Covered	1B.1	Chaparral (openings) cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/ bulbiferous herb/ March–June/ 400–2800 ft.	VCPS: No potential to occur. Project site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and clay soils are lacking. Hauck Mesa: Not expected to occur. The site is located within the species' known

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					elevation range; however, the site lacks suitable soils, there is only disturbed coastal scrub present within the impact footprint, and the species is not known to occur within the project vicinity.
Brodiaea orcuttii	Orcutt's brodiaea	None/ None/ Covered	1B.1	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/ May–July/ 100–5550 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports hard, compacted gravelly soils with disturbed coastal sage scrub vegetation and developed lands in the impact footprint. Vernal pools, seep, and other forms of suitable habitat are lacking at both sites.
Calandrinia breweri	Brewer's calandrinia	None/ None/None	4.2	Chaparral, Coastal scrub/sandy or loamy, disturbed sites and burns/ annual herb/ Mar-Jun/ 33-4003	VCPS: Low potential to occur. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Chaparral habitat onsite is marginal on a steep manufactured slope. No individuals were observed during surveys and there are no reported occurrences of this species within the project vicinity.
Calochortus dunnii	Dunn's mariposa lily	None/ SR/ Covered	1B.2	Closed-cone conifer forest, chaparral; gabbroic or metavolcanic/ bulbiferous herb/ April–June/ 1250–6000 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	None/ None/ None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/rocky, calcareous/ perennial bulbiferous herb/ May-Jul/ 344-2805	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Caulanthus simulans	Payson's jewel-flower	None/ None/ None	4.2	Chaparral, Coastal scrub/sandy, granitic/ annual herb/ (Feb),Mar-May(Jun)/ 295-7218	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Ceanothus cyaneus	Lakeside ceanothus	None/ None/ Covered	1B.2	Closed-cone conifer forest, chaparral/ evergreen shrub/ April–June/ 770–2500 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.
Ceanothus ophiochilus	Vail Lake ceanothus	FT/ SE/ None	1B.1	Chaparral(gabbroic or pyroxenite-rich outcrops)/ perennial evergreen shrub/ Feb-Mar/ 1903-3494	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site is outside of the species' known elevation range and there is no suitable habitat or soils at this location. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.
Ceanothus verrucosus	wart-stemmed ceanothus	None/ None/None	2B.2	Chaparral/ perennial evergreen shrub/ Dec-May/ 3-1247	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site is outside of the species' known elevation range and there is no suitable habitat or soils at this location. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.

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Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Centromadia parryi ssp. *australis*	Southern tarplant	None/None/ Covered	1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/ annual herb/ May–November/ < 400 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat and soils are lacking at both locations. Plus, both sites are outside of the known elevation range for this species.
Centromadia pungens ssp. *laevis*	Smooth tarplant	None/None/ Covered	1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/ annual herb/ April–September/ <1580 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat and soils are lacking at both locations.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/ None/ None	1B.1	Coastal bluff scrub(sandy), Coastal dunes/ annual herb/ Jan-Aug/ 0-328	VCPS and Hauck Mesa: Not expected to occur. Neither site supports coastal bluffs and dunes and the site is outside of the species' known elevation range.
Chaenactis parishii	Parish's chaenactis	None/ None/None	1B.3	Chaparral(rocky)/ perennial herb/ May-Jul/ 4265-8202	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.
Chamaebatia australis	southern mountain misery	None/ None/None	4.2	Chaparral(gabbroic or metavolcanic)/ perennial evergreen shrub/ Nov-May/ 984-3346	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.
Chorizanthe leptotheca	Peninsular spineflower	None/ None/ None	4.2	Chaparral, Coastal scrub, Lower montane coniferous forest/alluvial fan, granitic/ annual herb/ May-Aug/ 984-6234	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking.
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/ None/ None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/sandy or rocky, openings/ annual herb/ Apr-Jun/ 902-4003	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic)

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/ None/ None	1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools/often clay/ annual herb/ Apr-Jul/ 98-5020	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable clay soils and vernal pools are lacking.
Clarkia delicata	delicate clarkia	None/ None/ None	1B.2	Chaparral, Cismontane woodland/often gabbroic/ annual herb/ Apr-Jun/ 771-3281	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Clinopodium chandleri	San Miguel savory	None/ None/ None	1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland/Rocky, gabbroic or	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
				metavolcanic/ perennial shrub/ Mar-Jul/ 394-3527	grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/ None/ None	1B.2	Chaparral, Cismontane woodland/ perennial evergreen shrub/ Apr-Jun/ 98-2592	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Convolvulus simulans	small-flowered morning-glory	None/ None/ None	4.2	Chaparral(openings), Coastal scrub, Valley and foothill grassland/clay, serpentinite seeps/ annual herb/ Mar-Jul/ 98-2297	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Deinandra conjugens	Otay tarplant	FT/ SE/ Covered	1B.1	Coastal scrub, valley and foothill grassland; clay/ annual herb/ May–June/ 80–1000 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat and soils are lacking at both locations.
Deinandra mohavensis	Mojave tarplant	None/ SE/ None	1B.3	Chaparral, Coastal scrub, Riparian scrub/mesic/ annual herb/ (May),Jun-Oct(Jan)/ 2100-5249	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Suitable habitat and soils are lacking at both locations.
Deinandra paniculata	paniculate tarplant	None/ None/ None	4.2	Coastal scrub, Valley and foothill grassland, Vernal pools/usually vernally mesic, sometimes sandy/ annual herb/ Apr-Nov/ 82-3084	VCPS and Hauck Mesa: Not expected to occur. Habitat onsite at both locations is arid with no mesic soils or vernal pools.
Delphinium hesperium ssp. *cuyamacae*	Cuyamaca larkspur	None/ SR/ None	1B.2	Lower montane coniferous forest, Meadows and seeps, Vernal pools/mesic/ perennial herb/ May-Jul/ 4003-5351	VCPS and Hauck Mesa: No potential to occur. Sites are outside of the species' known elevation range and suitable habitat and soils are lacking.

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Dichondra occidentalis	western dichondra	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ perennial rhizomatous herb/ (Jan),Mar-Jul/ 164-1640	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Would have likely been observed if present.
Dodecahema leptoceras	slender-horned spineflower	FE/ SE/ None	1B.1	Chaparral, Cismontane woodland, Coastal scrub(alluvial fan)/sandy/ annual herb/ Apr-Jun/ 656-2493	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and soils are lacking from this location. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking.
Dudleya alainae	Banner dudleya	None/ None/ None	3.2	Chaparral, Lower montane coniferous forest, Sonoran desert scrub/rocky/ perennial herb/ Apr-Jul/ 2428-3937	VCPS and Hauck Mesa: Not expected to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and soils are lacking from this location. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					scrub vegetation in the impact footprint. Chaparral habitat onsite is marginal and suitable soils are lacking. Both sites are outside of the known elevation range for this species.
Dudleya multicaulis	many-stemmed dudleya	None/ None/ None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/often clay/ perennial herb/ Apr-Jul/ 49-2592	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and suitable clay soils are lacking.
Dudleya variegata	variegated dudleya	None/ None/None	1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/ perennial herb/ May–June	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and vernal pools are lacking.

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Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Dudleya viscida	Sticky dudleya	None/ None/ Covered	1B.2	Coastal bluff scrub, chaparral, coastal scrub; rocky/ perennial herb/ May–June	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat and soils are lacking at both locations.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/ SE/ Covered	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, mesic/annual–perennial herb/ April–June/ 60–2000 ft.	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat, vernal pools, and soils are lacking at both locations.
Ferocactus viridescens	San Diego barrel cactus	None/ None/Covered	2.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ perennial stem succulent/ May–June/	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Was not observed in impact area during surveys. Not expected to occur. Perennial stem succulent would have been observed if present.
Iva hayesiana	San Diego marsh-elder	None/ None/ Covered	2.2	Marshes and swamps, playas/ perennial herb/ April–November/ 30–1650 ft.	VCPS and Hauck Mesa: No potential to occur. Suitable marshes, meadows, and wetland habitat is lacking.

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Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Harpagonella palmeri	Palmer's grapplinghook	None/ None/None	4.2	Chaparral, Coastal scrub, Valley and foothill grassland/clay/ annual herb/ Mar-May/ 66-3133	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and clay soils are lacking.
Hesperocyparis forbesii	Tecate cypress	None/ None/ None	1B.1	Closed-cone coniferous forest, Chaparral/clay, gabbroic or metavolcanic/ perennial evergreen tree/ N.A./ 262-4921	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and suitable gabbroic or metavolcanic soils are lacking.
Holocarpha virgata ssp. *elongata*	graceful tarplant	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ annual herb/ May-Nov/ 197-3609	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal.
Horkelia cuneata var. *puberula*	mesa horkelia	None/ None/ None	1B.1	Chaparral(maritime), Cismontane woodland, Coastal scrub/sandy or gravelly/ perennial herb/ Feb-Jul(Sep)/ 230-2657	VCPS and Hauck Mesa: No potential to occur. Suitable maritime chaparral and cismontane woodland habitat is lacking at both locations.
Horkelia truncata	Ramona horkelia	None/ None/ None	1B.3	Chaparral, Cismontane woodland/clay, gabbroic/ perennial herb/ May-Jun/ 1312-4265	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and clay soils are lacking. Would have likely been observed if present.
Hulsea californica	San Diego sunflower	None/ None/ None	1B.3	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/openings and burned areas/ perennial herb/ Apr-Jun/ 3002-9564	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					are no reported occurrences of this species within the project vicinity.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/ None/ None	1B.2	Chaparral, Coastal scrub(sandy, often in disturbed areas)/ perennial shrub/ Apr-Nov/ 33-443	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. This perennial shrub is distinctive and would have been observed onsite if present.
Iva hayesiana	San Diego marsh-elder	None/ None/Covered	2.2	Marshes and swamps, playas/ perennial herb/ April–November/ 30–1650 ft.	VCPS and Hauck Mesa: VCPS and Hauck Mesa: No potential to occur. Suitable marshes, meadows, and wetland habitat is lacking.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/ None/ None	4.2	Coastal dunes(mesic), Meadows and seeps(alkaline seeps), Marshes and swamps(coastal salt)/ perennial rhizomatous herb/ (Mar),May-Jun/ 10-2953	VCPS and Hauck Mesa: Not expected to occur. No suitable habitat for this species at either location.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/ None/ None	1B.1	Marshes and swamps(coastal salt), Playas, Vernal pools/ annual herb/ Feb-Jun/ 3-4003	VCPS and Hauck Mesa: Not expected to occur. No suitable habitat for this species at either location.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/ None/ None	1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland/ perennial shrub/	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
				Apr-Jul/ 1706-4495	species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/ None/None	4.3	Chaparral, Coastal scrub/ annual herb/ Jan-Jul/ 3-2904	VCPS and Hauck Mesa: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Suitable habitat and soils are lacking at both locations.
Leptosiphon grandiflorus	large-flowered leptosiphon	None/ None/None	4.2	Coastal bluff scrub, Closed-cone coniferous forest, Cismontane woodland, Coastal dunes, Coastal prairie, Coastal scrub, Valley and foothill grassland/usually sandy/ annual herb/ Apr-Aug/ 16-4003	VCPS and Hauck Mesa: Not expected to occur. No suitable habitat for this species at either location.
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland/openings/ perennial bulbiferous herb/ Mar-Jul(Aug)/ 98-5906	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and riparian woodlands are lacking.
Lilium parryi	lemon lily	None/ None/ None	1B.2	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest/mesic/ perennial bulbiferous herb/ Jul-Aug/ 4003-9006	VCPS and Hauck Mesa: Not expected to occur. The site is outside of the species' known elevation range. Suitable habitat is lacking at both sites.
Linanthus orcuttii	Orcutt's linanthus	None/ None/ None	1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/openings/ annual herb/ May-Jun/ 3002-7037	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None/ None/ None	4.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools/clay/ annual herb/ Mar-May/ 49-3510	VCPS and Hauck Mesa: No potential to occur. Suitable habitat and clay soils are lacking.
Mimulus clevelandii	Cleveland's bush monkeyflower	None/ None/None	4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/Gabbroic, often in disturbed areas, openings, rocky/ perennial rhizomatous herb/ Apr-Jul/ 1476-6562	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal and gabbroic soils are lacking.
Mimulus diffusus	Palomar monkeyflower	None/ None/ None	4.3	Chaparral, Lower montane coniferous forest/sandy or gravelly/ annual herb/ Apr-Jun/ 4003-6004	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. Site is well outside of the species' known elevation range.
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	None/ None/ None	1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest(sometimes)/Usually understory/ perennial rhizomatous herb/ Apr-Sep/ 1312-4101	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	None/ None/ Covered	1B.2	Chaparral, cismontane woodland/ rhizomatous herb/ June–August/ 1000–3600 ft.	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal.
Monardella macrantha ssp. *hallii*	Hall's monardella	None/ None/ None	1B.3	Broad-leafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/ perennial rhizomatous herb/ Jun-Oct/ 2395-7201	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Monardella nana ssp. *leptosiphon*	San Felipe monardella	None/ None/None	1B.2	Chaparral, Lower montane coniferous forest/ perennial rhizomatous herb/ Jun-Jul/ 3937-6086	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Monardella viminea	Willowy monardella	FE/SE/ Covered	1B.1	Chaparral, coastal scrub, riparian forest, woodland, and scrub; alluvial ephemeral washes/ perennial herb/ June–August/ 160–750 ft.	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Not expected to occur. The site is within the species' known elevation range; however, there is only disturbed coastal scrub present within the impact footprint and the species is not recorded in the vicinity.
Muilla clevelandii	San Diego goldenstar	None/ None/ Covered	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ bulbiferous herb/ April–May/ 160–1550 ft.	VCPS: No potential to occur. Suitable habitat and vernal pools are lacking. Hauck Mesa: Not expected to occur. The site is within the species' known elevation range; however, there is only disturbed coastal scrub present within the impact footprint and the species is not recorded in the vicinity.
Navarretia fossalis	Spreading navarretia	FT/ None/ Covered	1B.1	Chenopod scrub, shallow freshwater marsh and swamps, vernal pools/ annual herb/ April–June	VCPS and Hauck Mesa: No potential to occur. Suitable wetland habitats are lacking.
Nolina cismontana	Chaparral nolina	None/None/Covered	1B.2	Chaparral, coastal scrub; sandstone or gabbro/ evergreen shrub/ May–July/ 460–4200 ft.	VCPS: No potential to occur. Suitable habitat and sandstone and/or gabbro soils are lacking. Hauck Mesa: Not expected to occur. at The site is within the species' known elevation range; however, there is only disturbed coastal scrub present within the

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					impact footprint and the species is not recorded in the vicinity.
Packera ganderi	Gander's ragwort	None/ SR/ None	1B.2	Chaparral(burns, gabbroic outcrops)/ perennial herb/ Apr-Jun/ 1312-3937	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range, gabbroic soils are lacking, and there are no reported occurrences of this species within the project vicinity.
Phacelia keckii	Santiago Peak phacelia	None/ None/ None	1B.3	Closed-cone coniferous forest, Chaparral/ annual herb/ May-Jun/ 1788-5249	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Pickeringia montana var. *tomentosa*	woolly chaparral-pea	None/ None/ None	4.3	Chaparral/Gabbroic, granitic, clay/ evergreen shrub/ May-Aug/ 0-5577	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and soils are lacking. Hauck Mesa: Low potential to occur. The

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. Would have been observed if present.
Pogogyne abramsii	San Diego mesa mint	FE/SE/Covered	1B.1	Vernal pools/ annual herb/ May–July/ 300–650 ft.	VCPS and Hauck Mesa: No potential to occur. No vernal pools are present on or near the site.
Pogogyne nudiuscula	Otay Mesa mint	FE/SE/ Covered	1B.1	Vernal pools/ annual herb/ May–July/ 300–620 ft.	VCPS and Hauck Mesa: No potential to occur. No vernal pools are present on or near the site.
Polygala cornuta var. *fishiae*	Fish's milkwort	None/ None/ None	4.3	Chaparral, Cismontane woodland, Riparian woodland/ perennial deciduous shrub/ May-Aug/ 328-3281	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. This perennial shrub would have been observed if present.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/ None/ None	2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/sandy, gravelly/ perennial herb/ (Jul),Aug-Nov(Dec)/ 0-6890	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal.
Psilocarphus brevissimus var. *multiflorus*	Delta woolly-marbles	None/ None/ None	4.2	Vernal pools/ annual herb/ May-Jun/ 33-1640	VCPS and Hauck Mesa: No potential to occur. No vernal pools are present on or near the site.
Quercus dumosa	Nuttall's scrub oak	None/ None/ Covered	1B.1	Chaparral, coastal scrub, closed-cone coniferous forest; sandy, clay loam/ evergreen shrub/ February–April/ 50–1300 ft.	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and clay soils are lacking. Hauck Mesa: Not expected to occur. This species is found along the immediate coast. Evergreen shrub would have been detected during surveys.
Quercus engelmannii	Engelmann oak	None/ None/None	4.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/ perennial deciduous tree/ Mar-Jun/ 164-4265	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Not expected to occur. Suitable habitat is marginal. This

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					perennial tree would have been observed if present.
Saltugilia caruifolia	caraway-leaved woodland-gilia	None/ None/ None	4.3	Chaparral, Lower montane coniferous forest/Sandy, openings/ annual herb/ May-Aug/ 2756-7546	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Salvia munzii	Munz's Sage	None/ None/ Covered	2.2	Chaparral, coastal scrub/ perennial evergreen shrub/ February–April/ 394–3,494 ft.	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat and soils are lacking. Hauck Mesa: Low potential to occur. This species is generally found farther south. Evergreen shrub would have been detected during surveys.
Schizymenium shevockii	Shevock's copper moss	None/ None/ None	1B.2	Cismontane woodland(metamorphic, rock, mesic)/ moss/ N.A./ 2461-4593	VCPS and Hauck Mesa: Not expected to occur. Suitable habitat and metamorphic substrate are lacking. Additionally, both sites outside of the species' known elevation range.
Scutellaria bolanderi ssp. *austromontana*	southern mountains skullcap	None/ None/ None	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/mesic/	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
				perennial rhizomatous herb/ Jun-Aug/ 1394-6562	species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.
Selaginella cinerascens	ashy spike-moss	None/ None/ None	4.1	Chaparral, Coastal scrub/ perennial rhizomatous herb/ N.A./ 66-2100	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal.
Senecio astephanus	San Gabriel ragwort	None/ None/ None	4.3	Coastal bluff scrub, Chaparral/rocky slopes/ perennial herb/ May-Jul/ 1312-4921	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of the species' known elevation range. The VCPS Site does not support suitable habitat for this species. While the Hauck Mesa Site supports marginal chaparral habitat the site is well outside of the species' known elevation range and there are no reported occurrences of this species within the project vicinity.

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
Symphyotrichum defoliatum	San Bernardino aster	None/ None/ None	1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland(vernally mesic)/near ditches, streams, springs/ perennial rhizomatous herb/ Jul-Nov/ 7-6693	VCPS and Hauck Mesa: Not expected to occur. Suitable habitat is lacking at both locations.
Tetracoccus dioicus	Parry's tetracoccus	None/ None/ Covered	1B.2	Chaparral, coastal scrub/ deciduous shrub/ April–May/ 541–3281 ft.	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. This deciduous shrub would have been observed if present.
Tortula californica	California screw-moss	None/ None/ None	1B.2	Chenopod scrub, Valley and foothill grassland/sandy, soil/ moss/ N.A./ 33-4790	VCPS and Hauck Mesa: Not expected to occur. Suitable habitat is lacking at both sites.
Viguiera laciniata	San Diego County viguiera	None/ None/ None	4.2	Chaparral, Coastal scrub/ perennial shrub/ Feb-Jun(Aug)/ 197-2461	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The

Table 4
Special-Status Plant Species Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/ State/ NCCP/HCP	State RPR	Primary Habitat Associations/Life Form/ Blooming Period	Status On Site or Potential to Occur
					Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal. This perennial shrub is distinctive and would have been observed if present.
Viola purpurea ssp. *aurea*	golden violet	None/ None/ None	2B.2	Great Basin scrub, Pinyon and juniper woodland/sandy/ perennial herb/ Apr-Jun/ 3281-8202	VCPS and Hauck Mesa: Not expected to occur. The site is outside of the species' known elevation range and suitable habitat is lacking.
Xanthisma junceum	rush-like bristleweed	None/ None/ None	4.3	Chaparral, Coastal scrub/ perennial herb/ Jun-Jan/ 787-3281	VCPS: No potential to occur. The VCPS Site supports dry, coarse sandy loams with annual grassland habitat and ornamental (exotic) recruits. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. The Hauck Mesa Site supports disturbed/developed habitats as well as disturbed coastal sage scrub vegetation in the impact footprint. Chaparral habitat is marginal.

Legend
FE: Federally listed as Endangered
FT: Federally listed as Threatened
SE: State-listed as Endangered
SR: State-listed Rare
Covered: Water Authority NCCP/HCP Covered Species (Water Authority 2010, Volume I)

5.4 Special-Status Wildlife Species

Special-status wildlife species considered in this report are those that are (a) listed by federal and/or state agencies, proposed for listing as threatened or endangered, fully protected, or are candidate species; (b) listed as a Species of Special Concern by CDFW (2014a); or (c) listed as an NCCP/HCP Covered Species (Water Authority 2010, Volume I).

To determine whether suitable habitat (i.e., coastal sage scrub habitat and coastal sage scrub sub-associations) in the area surrounding the vault and valve locations atop Hauck Mesa was occupied, Dudek biologist Tricia Wotipka conducted a USFWS protocol survey for the California gnatcatcher during April 2014. No California gnatcatchers were found within parcels owned by the Water Authority or the VCMWD, nor were they noted in adjacent off-site parcels during any of the three survey visits. No other NCCP/HCP-covered plant or wildlife species were observed on site, and due to the extent of disturbed vegetation and hard compacted soils present, none are likely to occur in the impact footprint. For example, based on the disturbed nature of coastal sage scrub vegetation, rosy boa (*Lichanura trivirgata roseofusca*) is not likely to occur in the impact footprint. Also, potential burrows were not detected in the impact footprint and due to the extent of disturbed vegetation and hard compacted soils present, Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) would not occur in the impact footprint.

Table 5 lists special-status wildlife species that have potential to occur in the Study Area based on their distributions in the region and the availability of suitable vegetation communities in the Study Area. For each species in Table 5, a determination was made regarding the potential for the species to occur within each site in the Study Area. Where pertinent to the species' sensitivity status, a distinction was made between foraging and nesting habitat available in the Study Area. Special-status wildlife species that are not expected to occur in the Study Area, either due to an absence of suitable habitat, because the study is well outside their range, or because they occur only very rarely (and this unlikely to be affected by the project), are not included in Table 5, with the exception that all NCCP/HCP Covered Species are included.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
		Amphibians		
Anaxyrus californicus	Arroyo toad	FE/ SSC/ Covered	Stream channels for breeding (typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	VCPS and Hauck Mesa: No potential to occur because no suitable streams, wetlands, and estivation habitats are present.
Spea hammondi	Western spadefoot	None/ SSC/ Covered	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	VCPS: Low potential to occur. Although annual grassland habitat is present at this location the site is isolated from rain pools, vernal pools, and other water sources necessary to support this species. Hauck Mesa: Low potential to occur. While disturbed coastal sage scrub is present in the impact footprint, there are no rain pools, vernal pools, or other water sources onsite or in adjacent areas that could provide suitable habitat for this species.
Rana muscosa	southern mountain yellow-legged frog	FE/CE/None	Aquatic species. Tadpoles can take up to 4 years to complete aquatic development. Always found near water as adults	VCPS and Hauck Mesa: No potential to occur because no suitable aquatic habitats are present.
		Reptiles		
Aspidoscelis hyperythra	Orange-throated whiptail	None/ SSC/ Covered	Coastal sage scrub, chaparral, grassland, juniper and oak woodland	VCPS: Low potential to occur. Ongoing agricultural operations, disking, and mowing occur in offsite adjacent lands, which could affect movement onsite. And while the VCPS site supports annual grassland habitat it is fragmented in nature and isolated from better quality habitats.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
				Hauck Mesa: Low potential to occur. The coastal sage scrub is very limited, sparse, and disturbed in the impact footprint and the site lacks juniper and oak woodlands. This species is recorded in the vicinity, but this location has experienced significant human activity.
Aspidoscelis tigris stejnegeri	Coastal whiptail	None/ None/ Covered	Coastal sage scrub, chaparral	VCPS: No potential to occur. No suitable habitat is present at this location. Hauck Mesa: Low potential to occur. The coastal sage scrub vegetation onsite is very limited, sparse, and disturbed in the impact footprint and the site lacks juniper and oak woodlands. This species is recorded in the vicinity, but this location has experienced significant human activity.
Charina trivirgata	Rosy boa	None/ None/ Covered	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	VCPS: No potential to occur. No suitable habitat is present at this location. Hauck Mesa: Low potential to occur. The coastal sage scrub is very limited and disturbed on site and there is no rocky chaparral on site. The CNDDB reports occurrences within 3 miles of the site.
Coleonyx variegatus abbotti	San Diego banded gecko	None/ None/ Covered	Arid rocky areas at the heads of canyons with large boulders and rock outcrops, sparse vegetation, commonly on arid desert slopes; habitat includes cismontane chaparral, coastal sage scrub, desert	VCPS: No potential to occur. No suitable habitat is present at this location. Hauck Mesa: Low potential to occur. There are no suitable rocky and marginally moist habitats

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
			scrub; granite outcrops	in the impact footprint and the vegetation that is present is disturbed in nature.
Crotalus ruber	Red-diamond rattlesnake	None/ SSC/ Covered	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	VCPS: No potential to occur. No suitable habitat is present at this location. Hauck Mesa: Low potential to occur. The coastal sage scrub is very limited, sparse, and disturbed in the impact footprint and heavy brush, large rocks and boulders are lacking. The CNDDB reports occurrences within 3 miles of the site.
Diadophis punctatus similis	San Diego ringneck snake	None/ None/ Covered	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	VCPS and Hauck Mesa: No potential to occur. No suitable rocky areas supporting moist/mesic and/or riparian habitats are present.
Emys marmorata	Western pond turtle	None/ SSC/ Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	VCPS and Hauck Mesa: No potential to occur. No suitable streams, ponds, small lakes, and wetland areas are present onsite or in adjacent areas.
Phrynosoma blainvillii	Coast horned lizard	None/ SSC/ Covered	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	VCPS: Low potential to occur. While annual grassland was mapped onsite, it is small in size, fragmented in nature, and bound by highly modified lands supporting ongoing agricultural uses. Hauck Mesa: Low potential to occur. Suitable habitat is present outside of the impact footprint but within the impact area coastal sage scrub vegetation is disturbed and sparse. The CNDDB reports occurrences of this species within 4 miles of the site.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
Salvadora hexalepis virgultea	coast patch-nosed snake	None/None/None	Coastal scrub habitats. Found in brushy or shrub dominated habitats where small mammal burrows are available for refuge.	VCPS: No potential to occur. Site is dominated by annual grassland and is surrounded by highly modified lands supporting ongoing agricultural uses. No coastal scrub in the vicinity. Hauck Mesa: Low potential to occur. Suitable habitat is present outside of the impact footprint but within the impact area coastal sage scrub vegetation is disturbed and sparse. The CNDDB reports occurrences of this species within 4 miles of the site.
Eumeces skiltonianus interparietalis	Coronado Island skink	None/ SSC/ Covered	Grassland, woodlands, pine forests, chaparral. Prefers rocky areas near streams with lots of vegetation but is also found away from water.	VCPS and Hauck Mesa: Low potential to occur. No suitable habitat is present.
			Birds	
Agelaius tricolor (nesting colony)	Tricolored blackbird	BCC/ SSC/ Covered	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	VCPS and Hauck Mesa: No potential to occur. No wetland habitat was mapped on or in the vicinity of these locations. Although annual grassland was mapped at the VCPS site (and agricultural uses surround this location), this species is not likely to forage at the VCPS site because there are no known water sources supporting emergent wetland vegetation in the vicinity of the site. Hauck Mesa lacks suitable habitat entirely. The CNDDB does not report any mapped occurrences of this species within 10 miles of the two sites.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/ WL/ Covered	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	VCPS: No potential to occur. No suitable habitat is present. Hauck Mesa: Low potential to occur. Suitable habitat is present outside of the impact footprint but within the impact area coastal sage scrub vegetation is disturbed and sparse. The CNDDB reports occurrences of this species within 3.5 miles of the site.
Ammodramus savannarum (nesting)	Grasshopper sparrow	None/ SSC/ Covered	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	VCPS: Low potential to nest onsite. No native grasslands are present in the impact area; limited non-native grasslands are present, generally around developed or agricultural areas. Hauck Mesa: No potential to nest onsite. Suitable habitat is lacking.
Amphispiza belli bell (nesting)	Bell's sage sparrow	BCC/ WL/ Covered	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	VCPS: No potential to nest onsite. No suitable habitat was mapped onsite. Hauck Mesa: Low potential to nest onsite. While disturbed coastal sage scrub vegetation was mapped in the impact footprint, it is on a flat, disturbed mesa with sparse shrub cover surrounded by developed and agricultural uses. Nesting potential is limited as a result.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
Athene cunicularia (burrow sites and some wintering sites)	Burrowing owl	BCC/ SSC/ Covered	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	VCPS: Low potential to occur as winter visitor or nesting resident onsite. Although suitable grassland habitats are present within the study area, no sign of the species was observed by staff and there are no reported occurrences of this species in the area or within 5 miles of the project. Hauck Mesa: Not expected to occur as winter visitor or nesting resident onsite. No sign of this species was observed nor were suitable burrows detected. Would have likely been observed if present.
Buteo swainsoni (nesting)	Swainson's hawk	BCC/ ST/ None	Open grassland, shrublands, croplands	VCPS and Hauck Mesa: No potential for nesting, which only occurs as far south in the Antelope Valley in Southern California. May very occasionally forage in Study Area during migration.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	Coastal cactus wren	BCC/ SSC/ Covered	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	VCPS and Hauck Mesa: No potential to occur. No suitable habitat is present at VCPS Site. Not detected during surveys at Hauck Mesa and not recently known from project vicinity.
Empidonax traillii extimus (nesting)	Southwestern willow flycatcher	FE/ SE/ Covered	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	VCPS and Hauck Mesa: No potential to occur. Suitable riparian and wetland habitat is lacking.
Eremophila alpestris actia	California horned lark	None/ WL/ Covered	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	VCPS: Low potential to occur onsite as a foraging or breeding bird. Fragmented context of the site limits the potential for this species to

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
				occur. There are no reported occurrences of this species within 10 miles of the site. Hauck Mesa: No potential to occur. Suitable open habitats and grasslands are lacking. There are no reported occurrences of this species within 5 miles of the site.
Icteria virens (nesting)	Yellow-breasted chat	None/ SSC/ Covered	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush	VCPS and Hauck Mesa: No potential to occur. Suitable riparian and wetland habitat is lacking.
Lanius ludovicianus	Loggerhead shrike	BCC/ SSC/ Covered	Foothills and lowlands with open habitats with scattered shrubs, trees or other suitable perches; highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, agriculture, and Joshua tree habitats	VCPS and Hauck Mesa: Low potential to occur. No suitable habitat was mapped at VCPS site; however, given the proximity of the site to offsite agricultural lands, this species could potentially forage and perch onsite. With respect to the Hauck Mesa Site, suitable habitat is lacking but this species could potentially forage onsite given the site's proximity to existing ongoing agricultural operations to the west.
Polioptila californica californica	Coastal California gnatcatcher	FT/ SSC/ Covered	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Results of 2014 focused surveys were negative. There are recorded occurrences of this species within 2 miles of the site. Little to no shrub cover in impact footprint.
Setophaga (=Dendroica) petechia	Yellow warbler	None/ SSC/ Covered	Nests in lowland and foothill riparian woodlands dominated by cottonwoods,	VCPS and Hauck Mesa: No potential to occur. Suitable riparian habitat is lacking.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
(nesting)			alders and willows; winters in a variety of habitats	
Vireo bellii pusillus (nesting)	Least Bell's vireo	FE, BCC/ SE/ Covered	Nests in southern willow scrub with dense cover within 1–2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	VCPS and Hauck Mesa: No potential to occur. Suitable riparian and wetland habitat is lacking.
Mammals				
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/ SSC/ Covered	Coastal sage scrub, chaparral, riparian-scrub ecotone; more mesic areas	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Although suitable coastal sage scrub and chaparral habitats were mapped in the project study area, the vegetation in the impact footprint is comprised of disturbed coastal sage scrub atop a flat mesa on hard, compacted soils. The CNDDB reports occurrences of this species within 2 miles of the site. But no suitable habitats and/or burrows were observed during surveys.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	None/ SSC/ Covered	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse chaparral; rocky substrates, loams and sandy loams	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Although suitable coastal sage scrub-grassland ecotones were mapped in the project study area, the vegetation in the impact footprint is comprised of disturbed coastal sage scrub atop a flat mesa on hard, compacted soils. The CNDDB reports occurrences of this species within 2 miles of the site. But no suitable habitats and/or burrows were observed during surveys.
Corynorhinus townsendii	Townsend's big-eared bat	None/ SSC/ None	Mesic habitats, gleans from brush or trees or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California (2). Presence strongly correlated with availability of caves or mines; also reported to utilize buildings, bridges, crevices and hollow trees as roost sites.	VCPS and Hauck Mesa: Low potential to forage in Study Area; little to no potential to roost in the Study Area due to limited potential roost sites.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ ST/ Covered	Open habitat, grassland, sparse coastal sage scrub, sandy loam and loamy soils with low clay content; gentle slopes (<30%)	VCPS and Hauck Mesa: No potential to occur. Both sites are well outside species' range. Only known in and around San Jacinto Valley from Riverside south to vicinity of Vista.
Felis concolor	Mountain lion	None/ None/ Covered	Occupies a wide variety of habitats: swamps, riparian woodlands, broken country with good cover of brush or woodland.	VCPS: No potential to occur. Existing chain link fencing precludes access and movement to grassland habitats onsite.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
				Hauck Mesa: Potential to occasionally wander into more rural portions of the site but unlikely to occur regularly.
Eumops perotis californicus	Western mastiff bat	None/ SSC/ None	Distribution appears to be geomorphically determined in association with significant rock outcrops. Roosts in small colonies in cracks and small holes, and also utilizes man-made structures.	VCPS and Hauck Mesa: Moderate potential to forage in Study Area, but low potential to roost in the Study Area due to limited potential roost sites.
Lasiurus xanthinus	Western yellow bat	None/ SSC/ None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland; primarily associated with desert regions of San Diego supporting palm oases and desert riparian habitats, but can also occur in coastal areas	VCPS and Hauck Mesa: Not expected to occur due to the lack of suitable habitat in the Study Area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/ SSC/ Covered	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	VCPS: No potential to occur. Existing chain link fencing precludes access and movement to grassland habitats onsite. Hauck Mesa: Low potential to occur. Likely would have been detected during surveys, if present. Suitable habitat is present outside of the impact footprint but within the impact area coastal sage scrub vegetation is disturbed and sparse.
Neotoma lepida intermedia	San Diego desert woodrat	None/ SSC/ Covered	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	VCPS: No potential to occur. Suitable habitat is lacking. Hauck Mesa: Low potential to occur. Although suitable coastal sage scrub and chaparral

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
				habitats were mapped in the project study area, the vegetation in the impact footprint is comprised of sparse, disturbed coastal sage scrub atop a flat mesa on hard, compacted soils.
Nyctinomops femorosaccus	Pocketed free-tailed bat	None/ SSC/ None	Rocky desert areas with high cliffs or rock outcrops for roosting.	VCPS and Hauck Mesa: Low potential to forage in the Study Area; no potential roost sites in Study Area.
Nyctinomops macroti	Big free-tailed bat	None/ SSC/ None	Roosts primarily in cliffs and rock outcrops in rugged, rocky canyons.	VCPS and Hauck Mesa: Moderate potential to forage in the Study Area; no potential roost sites in Study Area.
Onychomys torridus ramona	Southern grasshopper mouse	None/SSC/Covered	Alkali desert scrub and other desert scrub habitats, sparse coastal scrub, grassland especially with friable soils	VCPS and Hauck Mesa: No potential to occur. Suitable habitat is lacking.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None/ SSC/ Covered	Grassland, coastal sage scrub, disturbed habitats; fine, sandy soils	VCPS and Hauck Mesa: No potential to occur. Both sites are outside of its historical range.
Taxidea taxus	American badger	None/ SSC/ None	Dry, open treeless areas, grasslands, coastal sage scrub	VCPS and Hauck Mesa: Low potential to occur even though marginal suitable habitat is present in Study Area. No burrows or digging sign was observed and species is generally thought to be extirpated from urbanized regions.
Invertebrates				
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/ None/ Covered	Small, shallow vernal pools, occasionally ditches and road ruts	VCPS and Hauck Mesa: No potential to occur. Suitable vernal pool habitat is lacking.

Table 5
Special-Status Wildlife Detected or Potentially Occurring in the Project Study Area

Scientific Name	Common Name	Status Federal/State/ NCCP/HCP[1]	Primary Habitat Associations	Status On Site or Potential to Occur
Euphydryas editha quino	Quino checkerspot butterfly	FE/ None/ Covered	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant *Plantago erecta* and nectar plants must be present	VCPS and Hauck Mesa: Not expected to occur. Both sites are outside of current survey area for the species.
Euphyes vestris harbisoni	Harbison's Dun skipper	Under review/ None/ Covered	Wet areas near deciduous woods such as meadows, seeps, swamp edges, and streams supporting host plant San Diego Sedge (*Carex spissa*)	VCPS and Hauck Mesa: No potential to occur. Both sites are characterized by dry, upland vegetation and lack wet areas along streams and swamps. The host plant was not detected.
Lycaena hermes	Hermes copper butterfly	None/ None/ Covered	Occurs in scrub habitats in association with host plant spiny redberry (*Rhamnus crocea*) where the host plant occurs within 15 feet of California buckwheat (*Eriogonum fasciculatum*).	VCPS and Hauck Mesa: No potential to occur. The VCPS Site lacks suitable habitat entirely. The Hauck Mesa Site supports disturbed coastal sage scrub vegetation and lacks the host plant.
Pyrgus ruralis lagunae	Laguna Mountains skipper	FE/None/None	Subalpine coniferous forest	VCPS and Hauck Mesa: No potential to occur. Suitable forest habitat is lacking and both sites are outside of the species' known elevation range.
Streptocephalus woottoni	Riverside fairy shrimp	FE/ None/ Covered	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids	VCPS and Hauck Mesa: No potential to occur. Suitable vernal pool habitat is lacking.

[1] The federal and state status of species primarily is based on the Special Animals List (CDFW 2014a).

Federal Designations:

BCC Fish and Wildlife Service: Birds of Conservation Concern
(FD) Federally delisted; monitored for 5 years
FE Federally listed Endangered
FT Federally listed as Threatened

State Designations:

SSC California Department of Fish and Game Species of Special Concern
P California Department of Fish and Game Protected and Fully Protected Species
(SD) State-delisted
SE State-listed as Endangered
ST State-listed as Threatened

NCCP/HCP:

Covered: Covered by the Water Authority NCCP/HCP (Water Authority 2010, Volume I)

6 REGIONAL AND REGULATORY CONTEXT

6.1 Water Authority NCCP/HCP Evaluation Guidelines

The proposed project is located within an approximately 100-foot Water Authority ROW, which has been previously disturbed by pipeline construction and ongoing pipeline operations and maintenance activities. Portions of the ROW at the Hauck Mesa site are within the 2008 Draft North County Multiple Species Conservation Program (MSCP) Pre-Approved Mitigation Area (County of San Diego 2009) (see Figure 5). The project is a Covered Activity under the NCCP/HCP and project impacts will be addressed under the NCCP/HCP, which was finalized in October 2010 (Water Authority 2010, Volume I). Federal and state ESA compliance will consist of the resource agencies verifying compliance with the applicable provisions in the NCCP/HCP, which provides the mechanism for take authority consistent with the ESAs and the NCCP Act.

6.1.1 Preserved Lands

The NCCP/HCP identifies Preserved Lands that are owned by the resource agencies and County of San Diego and are contiguous to other regional conservation planning preserve lands or those proposed for conservation. These lands are managed per an agreement between the individual agency and the Water Authority.

6.1.2 Biologically Significant Resource Area

The general focus of the NCCP/HCP and other regional planning efforts is conservation of habitat areas supporting rare vegetation types and species, greater species diversity, core areas of habitat, or function as key linkages or corridors for species (Water Authority 2010, Volume I). The NCCP/HCP uses the term "Biologically Significant Resource Area," or BSRA, to include the following types of habitat areas within the area covered by the NCCP/HCP (Plan Area) (Water Authority 2010, Volume II, p. 6-45):

- An upland or wetland Habitat Management Area (e.g., all Water Authority-committed lands in the NCCP/HCP
- Areas that have been designated in approved (or in-approval stage) conservation plans as biological resource core areas, pre-approved mitigation areas, focused planning areas, corridors/linkages or equivalent designated/defined terms. The approval stage includes jurisdictions/entities formally committed to preparing a conservation plan that have produced a draft, publicly released map of priority areas for conservation and areas proposed for development.

The project site does not meet the criteria for a BSRA.

6.1.3 Preserve Management and Adjacency Guidelines

The Covered Activities will comply with the preserve adjacency guidelines described in Section 6.11 of the NCCP/HCP. The NCCP/HCP provides guidelines for construction and operation and maintenance (O&M) activities within the NCCP/HCP Plan Area adjacent to preserve areas depicted in Figure 5. Section 6.11 of the NCCP/HCP identifies potential issues, including fire management, public use, fencing, signage, public use, trash and debris, lighting and noise, animal control (feral and domestic), cowbird trapping, invasive exotic species control, and species introduction and reintroduction. Project-specific adjacency issues include fire management, fencing, trash and debris, lighting and noise, and potential for invasive species. The following guidelines summarized from the NCCP/HCP apply (Water Authority 2010, Volume II):

Fire Management

1. Prepare site-specific fire management plans that include local fire department contacts and guidelines for pre-fire prevention activities, fire suppression, and post-fire restoration.
2. Clearing of vegetation shall be conducted outside of the avian breeding season unless a pre-construction nesting survey determines that no nesting birds will be impacted by clearing activities. If clearing must occur in such a time or manner as may affect nesting birds, consult with the Wildlife Agencies to review any issues prior to the initiation of activities.
3. If clearing must occur in a time or manner as may adversely affect sensitive resources, consult with the Wildlife Agencies and fire agency to minimize impacts prior to project initiation.

Fencing

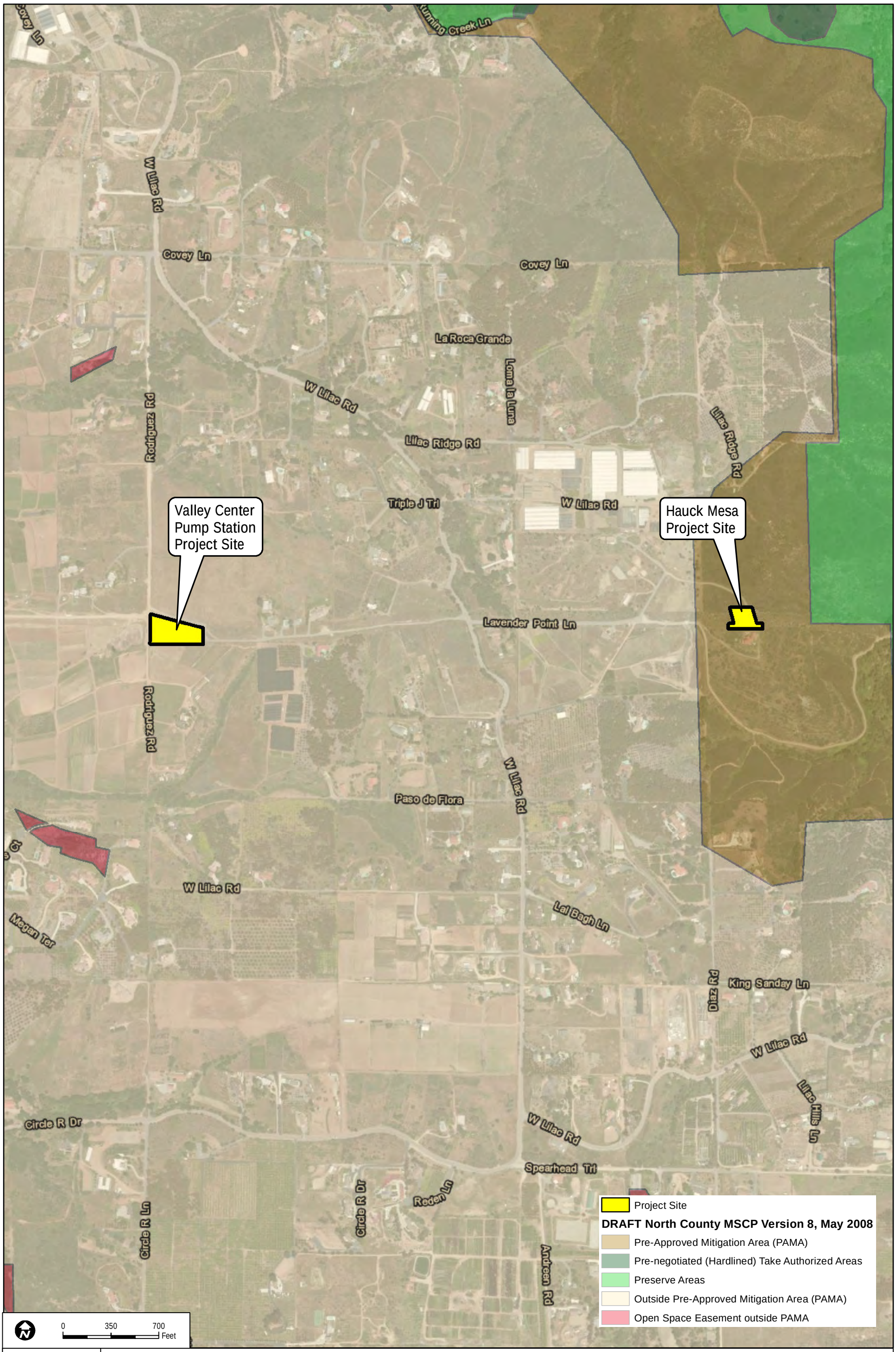
1. Select fencing that best accomplishes access control with minimal wildlife interference.

Removal of Trash and Debris

1. Loose trash and debris will be removed on an as-found or reported basis.

Lighting and Noise

1. Eliminate lighting in or adjacent to conserved habitat except where essential for roadway use, facility use, safety, or security purposes.
2. Use low-pressure sodium illumination sources. Do not use low voltage outdoor or trail lighting, spotlights, or bug lights. Shield light sources adjacent to conserved habitat so that the lighting is focused downward.



Document Path: Z:\Projects\j602201\MAPDOC\MAPS\Valley Center\VCPS Hauck Mesa Bio Figs\BIO Fig 5 MHCP Context.mxd

DUDEK

AERIAL SOURCE: BING MAPPING SERVICE

6022-08

FIGURE 5

Draft North County MSCP Regional Planning Context

Biological Resources Technical Report for the Twin Oaks Valley WTP Expanded Service Area Project

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Invasive Species

1. Where feasible, use an integrated pest management approach to eradicate undesirable species (i.e., use the least biologically intrusive control methods, at the most appropriate period of the growth cycle, to achieve the desired goals).
2. Revegetate invasive plant and exotic weed removal areas with native species appropriate to biological goals for the area and/or adjacent native habitat.
3. Control the spread of invasive ant species by following the guidelines below:
    a. Ensure that no ornamental landscaping and native habitat restoration materials contain invasive ant or other species by inspecting all container stock before it enters Preserve Areas.
    b. Control landscaping irrigation adjacent to Preserve Areas to avoid any overflow, which may attract non-native ants by increasing soil moisture.

6.1.4 General Conditions for Coverage

The NCCP/HCP discusses conservation policies in Section 2.0 of Appendix B of the NCCP/HCP, including 18 conditions for coverage with which each project must demonstrate compliance or must indicate that the condition is not applicable. Table 6 lists the conditions of coverage (Water Authority 2010, Volume II, Appendix B, Appendix B, Section 2.1) and provides the required demonstration of compliance for the proposed project improvements.

Table 6
Conservation Conformance Summary

Conditions for Coverage	Draft Conformance of Coverage
1. Conduct pre-activity surveys within suitable habitat to ensure that Covered Species are adequately addressed by impact avoidance, minimization, and mitigation. Surveys must be conducted by an Environmental Surveyor during the appropriate field conditions for detection prior to any proposed impacts in the Plan Area.	VCPS: Not applicable. Covered Species are not expected to occur on site due to the lack of suitable habitat. Hauck Mesa: An Environmental Surveyor conducted pre-activity baseline and focused surveys in 2014 for the California gnatcatcher within the Water Authority ROW and VCMWD property located on site. If construction commences during the California gnatcatcher breeding season (February 15 through August 15) an additional pre-construction clearance survey will be conducted according to the NCCP/HCP to ensure indirect impacts to nesting birds in surrounding habitat areas are avoided.
2. Avoid and minimize impacts to occupied Covered Species habitat or potential migration and/or dispersal corridors for all new facilities and O&M Activities of existing facilities through project design considerations.	VCPS: Not applicable. Covered Species are not expected to occur on site due to the lack of suitable habitat. Hauck Mesa: The project contains minimization requirements

Table 6
Conservation Conformance Summary

Conditions for Coverage	Draft Conformance of Coverage
	including pre-construction surveys and construction monitoring by an Environmental Surveyor, completion of a pre-activity survey form, field personnel education training requirement, and contractor's responsibilities, as well as protection measures, mitigation measures, habitat restoration requirements, and preserve adjacency guidelines, where applicable.
3. Establish a habitat buffer when appropriate and feasible around covered plant species populations to support the natural suite of pollinators unless a biologically appropriate mitigation approach is agreed to with the resource agencies at the time of project specific environmental review.	VCPS and Hauck Mesa: Not applicable. HCP-covered plant species are not expected to occur at these locations.
4. Fence and/or flag Covered Species populations and sensitive habitat in or adjacent to work areas. Where necessary, install signage to prohibit access and/or flag areas being restored or protected for their biological value.	VCPS and Hauck Mesa: Approved construction zones adjacent to sensitive habitats will be clearly delineated with temporary flagging and/or fencing. Monitoring by an Environmental Surveyor shall be provided by the Water Authority to ensure that the mitigation measures noted above are carried out and to ensure that inadvertent construction activities do not occur in sensitive areas outside the approved impact footprint.
5. Avoid driving or parking on sensitive and/or occupied habitat by keeping vehicles on roads and in designated staging areas.	VCPS and Hauck Mesa: Project requires construction personnel to participate in a preconstruction training program to understand the avoidance, minimization, and mitigation obligations of the project, including keeping vehicles on roads and in designated staging areas.
6. Deter unauthorized activities (such as trampling and off-road vehicle use) and perform litter abatement, including proper disposal of illegally dumped materials, as part of routine patrol of access roads.	See response to condition no. 5 above.
7. Monitor encroachment of non-native and invasive species into Covered Species populations and perform weed abatement as needed to improve the habitat.	VCPS and Hauck Mesa: Not applicable. Neither project component includes disturbance to native vegetation communities. All disturbances will be limited to existing disturbed and/or developed lands.
8. Stabilize work areas to control erosion or sedimentation problems when working near Covered Species populations within the Plan Area. Populations within or adjacent to work areas would be protected from vehicular traffic, excessive foot traffic, or other activities that result in soil surface disturbance.	VCPS and Hauck Mesa: The boundaries of approved construction zones adjacent to sensitive habitats will be clearly delineated to protect them from soil disturbance. The First Addendum to the Project FEIR (Water Authority 2014) includes a specification for erosion control/stabilizing measures. Following completion of construction, the project plans include reseeding of temporarily disturbed vegetated areas with a native plant mix.
9. Control dust when working near Covered Species populations and/or habitat in accordance with applicable regulations.	VCPS and Hauck Mesa: Project contains dust control specifications, including limiting construction related vehicle speeds to 20 miles per hour, stabilizing dirt storage piles, applying gravel to unpaved access roads, and watering unpaved roads three times daily.

Table 6
Conservation Conformance Summary

Conditions for Coverage	Draft Conformance of Coverage
10. All identified populations of Covered Species within rights-of-way must be managed to control edge effects to the maximum extent possible.	VCPS and Hauck Mesa: Avoidance and minimization measures (e.g., erosion control, sound attenuation, dust control) have been included to control edge effects.
11. Any restoration and monitoring program prepared as a component of the mitigation plan for impacts to a Covered Species shall include, but not be limited to, species propagation ratios, restoration site selection and assessment, site preparation, implementation strategies, weed control procedures, required management and monitoring in perpetuity, funding commitment, and reporting procedures. The program would be prepared in advance of project impacts and approved by the resource agencies.	VCPS and Hauck Mesa: Temporarily disturbed vegetated areas would be revegetated as outlined in Section 6.6.1 or 6.6.2 of the NCCP/HCP, as applicable.
12. Any planting stock used shall be inspected by an Environmental Surveyor to ensure that it is free of pest species that may invade natural areas, including, but not limited to, Argentine ants (*Linepithema humile* (formerly *Iridomyrmex humilis*)), fire ants (*Solenopsis invicta*), and other pests. Any planting stock that is infested would not be allowed within restoration areas or within 300 feet of native areas unless documentation is provided to the Wildlife Agencies that these pests already occur in the native areas around the project site. The stock would be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into native habitat. Runoff from mitigation sites in native habitat would be minimized and managed.	See response to condition no. 11 above.
13. To the maximum extent possible, conduct Covered Activities occurring within wetland habitats during the dry season when flows are at their lowest or nonexistent to minimize impacts to aquatic species and/or habitats.	VCPS and Hauck Mesa: No impacts to wetlands are proposed; therefore, this condition is not applicable.
14. Re-seed temporary impact areas with an appropriate native seed mix and allow for natural recolonization of the area by adjacent populations.	See responses to condition nos. 8 and 11 above.
15. For new facilities adjacent to native habitat, minimize ornamental landscaping or irrigation not associated with native habitat restoration.	VCPS: The site is characterized by developed lands and non-native annual grassland habitat. Agricultural lands and developed uses surround the site. New facilities would be limited to pump upgrades within the building and trenching within the existing parking lot. No changes to landscaping are proposed. Hauck Mesa: Vegetated areas temporarily disturbed by the construction of a new vent structure within the Water Authority's ROW would be revegetated as outlined in Section 6.6.1 or 6.6.2 of the NCCP/HCP, as applicable.
16. Collection of covered plant and wildlife species by Water Authority personnel and contractors is prohibited.	VCPS and Hauck Mesa: Water Authority personnel and contractors will be required to participate in an education training program that will include this topic.

Table 6
Conservation Conformance Summary

Conditions for Coverage	Draft Conformance of Coverage
17. Maintain and manage dispersal/movement corridors within the Plan Area that contribute to long-term population viability.	VCPS and Hauck Mesa: The proposed project would not affect movement corridors at either location; therefore, this condition is not applicable.
18. The use of outdoor lighting within or adjacent to potential Covered Species habitat will be discouraged. If lighting must be used for reasons of safety and security, light sources would be shielded away from habitat and only low pressure sodium lighting would be used.	VCPS and Hauck Mesa: Project construction activities will be limited to daytime hours. Further, no new lighting of facilities would be installed as a part of this project; therefore, this condition is not applicable.

Other policies with which the proposed project needs to demonstrate compliance or that the conditions are not applicable include the (1) Narrow Endemic Policy and Vernal Pool Protection Policy, (2) Avian Breeding Season Policy, (3) Buffers, and (4) Biologically Superior Alternatives, as follows:

1. The project would comply with the Narrow Endemic Policy and Vernal Pool Protection Policy as required under Conditions for Coverage for the specific species. No vernal pools or narrow endemic species are expected to occur in the Study Area.
2. The project would comply with the Avian Breeding Season Policy, as discussed in Section 6.1.5 of this report.
3. Species-specific buffers are identified pursuant to buffers identified in Section 6.1.5 of this report.
4. No Biologically Superior Alternatives to the NCCP/HCP provisions are being proposed; therefore, the related requirements are not applicable.

6.1.5 Special Conditions for Covered Species

The NCCP/HCP identifies Special Conditions for Covered Species observed within the Study Area. No NCCP/HCP-covered plant or wildlife species were documented in the Study Area, and due to the extent of disturbed vegetation and hard compacted soils present, none are likely to occur in the impact footprint. For example, based on the disturbed nature of coastal sage scrub vegetation, rosy boa (*Lichanura trivirgata roseofusca*) is not likely to occur in the impact footprint. Also, potential burrows were not detected in the impact footprint and due to the extent of disturbed vegetation and hard compacted soils present, Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) would not occur in the impact footprint. Because Covered Species are

not likely to occur in the impact footprint, the implementation of species-specific conditions for coverage would not be required.

6.2 Regulatory Issues

In addition to the requirements of the NCCP/HCP, federal and state ESAs, MBTA, California Fish and Game Code, and CEQA would apply.

6.2.1 Federal Endangered Species Act

The federal ESA (16 U.S.C. 1531 et seq.) and the implementing regulations (50 CFR 17.1 et seq.) include provisions for the protection and management of federally listed threatened or endangered plants and animals and their designated critical habitats. Generally, the USFWS regulates upland and freshwater species and the National Oceanic and Atmospheric Administration (NOAA) Fisheries oversees provisions for protection of anadromous, marine, and estuarine species. ESA Section 4 requires USFWS and/or NOAA Fisheries to make determinations on whether any species should be listed as an endangered or threatened species and to designate critical habitat for endangered and threatened species (16 U.S.C. 1533). ESA Section 3 defines critical habitat for endangered and threatened species as follows (16 U.S.C. 1532):

> (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of Section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
>
> (ii) specific areas outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of Section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.

ESA Section 4 also requires the preparation of recovery plans for the conservation and survival of an endangered or threatened species, unless such a plan would not promote the conservation of the species. Recovery plans include a description of site-specific management actions necessary to achieve the goal(s) for conservation and survival of the species; objective measurable criteria which, if met, would result in a determination of removing the species from the endangered or threatened species list; and estimates of the time required and cost to carry out the measures needed to achieve the plan's goal(s) and to achieve the immediate steps to the goal(s) (16 U.S.C. 1533).

ESA Section 10(a) allows permits to be issued for incidental take of threatened or endangered species following approval of a Habitat Conservation Plan such as the NCCP/HCP. The federally threatened coastal California gnatcatcher is a Covered Species under the NCCP/HCP. There are no other federally listed species that are not covered by the NCCP/HCP that have potential to occur in the Study Area or be affected by the proposed project. Critical habitat for coastal California gnatcatcher is not designated in the Study Area.

6.2.2 Migratory Bird Treaty Act

The MBTA (16 U.S.C. 703–711) includes provisions for the protection of migratory birds, and it prohibits the non-permitted take of most migratory birds, under the authority of the USFWS and CDFW.

6.2.3 California Endangered Species Act

The California ESA is intended to conserve, protect, restore, and enhance species designated as endangered or threatened and their habitat (California Fish and Game Code, Section 2052). The California Fish and Game Commission, a constitutionally established commission distinct from CDFW, has exclusive statutory authority under the California ESA to designate species as endangered or threatened under the California ESA (Cal. Const., art. IV, Section 20, subd. (b); California Fish and Game Code, Section 2070). Animal species designated as endangered or threatened under the California ESA are listed in California Code of Regulations, Title 14, Section 670.5. Plant species designated as endangered or threatened under the California ESA, or designated as a rare plant species under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.), are listed in California Code of Regulations, Title 14, Section 670.2.

The California ESA directs all state agencies, boards, and commissions to seek to conserve endangered and threatened species, and to use their authority in furtherance of that policy (California Fish and Game Code, Section 2055). For purposes of the California ESA, "conserve," "conserving," and "conservation" mean to use, and the use of, all methods and procedures necessary to bring any endangered species or threatened species to the point at which the species protections provided by ESA are no longer necessary. These methods and procedures include, but are not limited to, all activities associated with scientific resources management, such as research, census, law enforcement, habitat acquisition, restoration and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking (California Fish and Game Code, Section 2061). The California ESA also emphasizes, consistent with its goal to conserve species, that it is policy of the State of California to acquire lands for habitat for endangered and threatened species (California Fish and Game Code, Section 2052). Finally,

California ESA emphasizes that state agencies should not approve projects as proposed that would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy (California Fish and Game Code, Section 2052.1).

There are no state-listed species that potentially occur in the Study Area that would potentially be impacted by the proposed project.

California Fish and Game Code

California Fish and Game Code Section 3503 protects birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code. Further, California Fish and Game Code Section 3503.5 protects raptors and their active nests. It states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Additionally, Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

6.2.4 California Environmental Quality Act

The Water Authority prepared and certified the FEIR for the proposed project in June 1991. The FEIR analyzed all components of the project, including a 5-mile, 66- to 69-inch-diameter pipeline and pump station to provide a connection between the First and Second San Diego Aqueducts in the unincorporated area of northern San Diego County near the community of Valley Center. The FEIR included an analysis of potential environmental impacts associated with development of the project, including potential impacts to biological resources, geology and soils, land use, visual quality/aesthetics, water quality, traffic and circulation, climate and air quality, noise, cultural resources, utilities, population/housing, human health and safety, and recreation. Pursuant to Section 15367 of the California Environmental Quality Act (CEQA), the Water Authority was the lead agency for the preparation of the FEIR.

In support of its mission, the Water Authority determined that certain improvements to Pipeline 2A and the VCPS were needed to improve long-term water supply reliability and operational efficiency for its member agencies. In July 2014, the Water Authority prepared a First Addendum to the Project FEIR. Pursuant to Section 15381 of CEQA, the Water Authority is the lead agency for the preparation of this First Addendum to the project's FEIR. The purpose of this First Addendum was to evaluate the potential for environmental effects of the Water Authority's proposed improvements to the approved pipeline and pump station facilities

and to determine if these improvements would result in any new significant impacts or any substantial increase in the severity of impacts addressed under the certified FEIR.

7 ANTICIPATED PROJECT IMPACTS

Direct impacts refer to 100% loss of a biological resource. For purposes of this report, it refers to the area where vegetation clearing, grubbing, or grading replaces biological resources. Direct impacts were quantified by overlaying the limits of the proposed improvements and associated staging areas on GIS-located biological resources (Figures 3a and 4a).

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone. Indirect impacts may affect areas within the defined Study Area but outside the construction disturbance zone, including open space and areas outside the Study Area, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects). In most cases, indirect effects are not quantified, but in some cases, quantification might be included, such as using a noise contour to quantify indirect impacts to nesting birds.

7.1 Direct Impacts

Direct impacts are either permanent or temporary. Permanent impacts result from activities that remove habitat and that cannot be reversed (e.g., construction of a building, pavement) and cannot be mitigated through revegetation or restoration efforts on site. Temporary impacts are reversible impacts and are defined in two ways (Water Authority 2010, Volume II, Section 6.5.1.4.2): (1) impacts resulting from a one-time disturbance, or (2) impacts resulting from activities expected to occur repeatedly before mitigation is completed. One-time temporary impacts will be mitigated at a 1:1 ratio through restoration and/or revegetation on site. The specific type of mitigation measure (restoration or revegetation) will be based on site-specific needs. Where repeated temporary impacts will occur during O&M activities, the initial disturbance will be considered a permanent direct impact and will be mitigated off-site at the appropriate ratio prior to the commencement of work. Further, the impact area will be treated with a native seed mixture appropriate for the area.

7.1.1 Vegetation Communities

VCPS Improvements/Communication and Instrumentation Improvements

Proposed improvements would occur within the VCPS building and within the parking lot and access road area of the VCPS site. A total of 0.26 acre of developed land would be impacted as a result of the project. The existing control panel proposed to be replaced is located inside the VCPS building and would therefore not result in direct or indirect impacts to sensitive biological

resources. Similarly, an existing underground conduit would be utilized to establish a connection to an existing AT&T fiber-optic network and would not require any excavation, trenching, or other ground disturbances that could result in direct impacts to sensitive vegetation communities.

Pipeline 2A Valve Replacement and Installation

The Pipeline 2A valve replacement and installation component of the proposed project improvements would occur within the existing Pipeline 2A ROW atop the Hauck Mesa landform. The ROW is located immediately south of an existing aboveground water storage tank site currently owned and operated by the VCMWD (access to the ROW and the existing vault and valve is provided through the water storage tank site). The area was previously disturbed during installation of Pipeline 2A and provides access to appurtenant facilities.

The existing Pipeline 2A vault and valve (both of which would be replaced) are located at the western terminus of a narrow, gravel and dirt Water Authority access road, and the proposed new vault and valve would be located approximately 100 feet to the east within the same gravel and dirt access road. All construction staging would occur around the existing tank on the VCMWD property to the immediate north of the vault work areas. A total of 0.3 acre of developed land, 0.042 acre of disturbed land, and 0.015 acre of disturbed coastal sage scrub would be temporarily impacted as a result of the proposed valve replacement and installation work. Permanent impacts to 0.013 acre of disturbed land and 0.006 acre of disturbed coastal sage scrub would also occur as a result of the proposed valve replacement and installation work at Hauck Mesa. Southern mixed chaparral also exists on site and in adjacent hillside areas; however, no direct impacts would occur.

Impacts are summarized by location relative to the ROW and by vegetation community type in Table 7. Vegetation communities are assigned to tiers as identified in the NCCP/HCP (Water Authority 2010, Volume II). Different tiers are assigned to different vegetation communities that represent limited geographical extent, unique geology and soils, or are specifically associated with one or more Covered Species. Different tier levels require different mitigation ratios based on their level of sensitivity.

Table 7
Project Impacts to Vegetation Communities and Land Covers

Vegetation Community	Water Authority Tier	Permanent Impact at Hauck Mesa: Inside ROW/ Outside ROW	Temporary Impact Area at Hauck Mesa: Inside ROW/ Outside ROW	Temporary Impact Area at VCPS (Outside ROW)	Total Acres
Disturbed Coastal Sage Scrub	II	0.002/0.004	0.007/0.008	0	**0.021**

Table 7
Project Impacts to Vegetation Communities and Land Covers

Vegetation Community	Water Authority Tier	Permanent Impact at Hauck Mesa: Inside ROW/ Outside ROW	Temporary Impact Area at Hauck Mesa: Inside ROW/ Outside ROW	Temporary Impact Area at VCPS (Outside ROW)	Total Acres
Non-native Grassland	III	0/0	0/0	0.97	**0.97**
Developed	IV	0.013/0.00	0.042 /0.30	0.26	**0.615**
Total Acres	**—**	**0.015/0.004**	**0.049/0.308**	**1.23**	**1.606**

7.1.2 Special-Status Plants

No known covered plant or wildlife species will be directly impacted by implementation of the proposed project. The project has been designed to avoid all potential direct impacts on any NCCP/HCP narrow endemic species and their critical habitat. Therefore, no significant impact to special-status plant species would occur.

7.1.3 Special-Status Wildlife

The project was designed to minimize impacts to special-status wildlife species including coastal California gnatcatcher and other potentially occurring special-status species, as listed in Table 5. Through application of the Special Conditions for avoidance and minimization pursuant to the NCCP/HCP, which are summarized in Section 7.5 of this report, direct and indirect impacts to special-status wildlife species will be avoided and minimized to the extent feasible and practicable. Implementation of avoidance and minimization measures will reduce potential impacts to special-status wildlife species to a level below significant.

Vegetation clearing within areas that have the potential to support coastal California gnatcatchers and other native birds protected by the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, and 3513) would be conducted outside the breeding season (i.e., February 15–August 15 for uplands; March 15–September 15 for riparian areas), pursuant to the Water Authority's Avian Breeding Season Policy. Areas restricted from these activities shall be fenced or staked under supervision of the Environmental Surveyor. If it is not feasible to conduct vegetation clearing outside of the breeding season, pre-activity surveys will be conducted to identify locations of active bird nests and appropriate buffers will be established by the Environmental Surveyor to avoid impacts to nesting birds pursuant to the guidelines identified in the NCCP/HCP.

Outside the breeding season, direct impacts will occur to habitat with known or with potential to support the coastal California gnatcatcher and other special-status upland bird species. The coastal California gnatcatcher or other special-status bird species are expected to move away from impact areas during construction, and no significant direct impact would occur.

Potential significant direct impacts to other potentially occurring special-status reptile and mammal species (Table 5) that cannot easily vacate the disturbance areas will be mitigated through application of the Special Conditions for avoidance and minimization of Covered Species pursuant to the NCCP/HCP Appendix B and as discussed in Section 6.1.5 of this report. Application of these Special Conditions will reduce potential impacts to a level below significant.

No direct impacts to jurisdictional waters, wetlands, or riparian habitat are proposed or anticipated, and given the lack of aquatic resources in the Study Area, direct impacts to special-status riparian species are not anticipated. Therefore, no significant impacts to special-status riparian avian species would occur.

7.2 Indirect Impacts

Indirect impacts analyzed for the proposed project include drainage/water quality, lighting, noise, invasive species, and avian nesting.

7.2.1 Drainage/Water Quality

Indirect impacts to drainage and water quality could result from release of toxins (e.g., herbicides, pesticides, and petroleum products). Standard best management practices for water quality control will ensure that runoff during construction is diverted away from drainages and riparian habitats. No direct impacts to drainages or riparian habitats are anticipated and appropriate erosion control measures will be implemented to prevent any indirect impacts to offsite sensitive vegetation communities. Vehicle fueling or fluid changes would be restricted to designated impacted staging areas away from sensitive habitat or native soils to prevent errant toxins from reaching the water table. Therefore, indirect impacts to drainages and water quality are not expected to occur and would be less than significant.

7.2.2 Lighting

Artificial lighting of wildlife habitat areas can result in several adverse indirect effects on wildlife, including disturbing nighttime rest and sleep periods of diurnal species; affecting nest site selection by some birds, with nests being established farther from light sources; and effects on reproductive cycles by triggering premature reproductive activity at a time when environmental conditions are not conducive to successful reproduction (Longcore and Rich 2004).

All lighting of construction areas adjacent to sensitive habitat will be minimized and directed away from sensitive areas pursuant to the Preserve Management and Adjacency Guidelines in the NCCP/HCP. Most project construction would occur during the day but may extend until 7:00 p.m. Potential indirect impacts from lighting could result from temporary lighting for security purposes during the temporary construction schedule. If nighttime lighting is necessary, it would be of the lowest illumination needed for security, to ensure safety of construction personnel, and it would be shielded and directed away from any adjacent sensitive habitat areas. Indirect impacts related to security lighting would be temporary and minimal and therefore less than significant.

7.2.3 Noise

Potential noise impacts associated with the proposed project (a Covered Activity) are not considered to significantly affect special-status avian species with the exception of California gnatcatcher. However, no California gnatcatchers were found within parcels owned by the Water Authority or the VCMWD, nor were they noted in adjacent off-site parcels during protocol-level surveys for this species. Therefore, indirect impacts resulting from noise are not addressed.

7.2.4 Increased Human Intrusion

Increased human activity and intrusion in the project area would be temporary. Long-term increased human intrusion would not result from implementation of the proposed project. To address human activity during construction, a pre-construction training program is a requirement for all construction personnel per the NCCP/HCP Plan Minimization Measures as summarized in Section 7.5 of this report. This will provide all personnel with an understanding of the impact avoidance and minimization on the work site. Further, the ROW is already established, maintained, and gated, and the proposed project will not create any new access or expansion of the ROW. With these measures, potential impacts from increased human intrusion would remain less than significant.

7.2.5 Invasive Species

The potential for indirect impacts to avian nesting behavior associated with vegetation disturbances is a concern. If construction occurs during the breeding season (i.e., February 15–August 15 for upland species; March 15–September 15 for riparian species; and January 15–July 31 for raptors), significant indirect impacts to nesting birds could also occur by disrupting behavioral breeding patterns or causing displacement. These potential significant indirect impacts will remain less than significant through implementation of NCCP/HCP Plan Minimization Measures.

7.2.6 Avian Nesting

The potential for indirect impacts to avian nesting behavior associated with vegetation disturbances is a concern at both sites within the small scrub and chaparral areas. If construction occurs during the breeding season (i.e., February 15–August 15 for upland species and January 15–July 31 for raptors), significant indirect impacts to nesting birds could also occur by disrupting behavioral breeding patterns or displacement. These potential significant indirect impacts will remain less than significant through implementation of NCCP/HCP Plan Minimization Measures.

7.3 Impacts Relative to Other HCP/NCCPs

Some portions of the Study Area, specifically the Hauck Mesa site, that occur within the Water Authority ROW and within unincorporated County of San Diego lands coincide with the 2008 Draft North County MSCP (County of San Diego 2009) (Figure 5). All proposed Pipeline 2A improvements are situated within the ROW except those associated with equipment staging and access (Figure 4b). Proposed improvements and staging locations within the ROW are excluded from the BSRAs because they have been, and continue to be, impacted by O&M activities.

7.4 Water Authority General Conditions and Standard Specifications/Project Design Features

The Water Authority's General Conditions and Standard Specifications (2005 Edition) and project-specific design features are incorporated into the project as appropriate to avoid potentially significant environmental impacts. The Water Authority updates the General Conditions and Standard Specifications periodically to reflect changes in law; advancement of construction methods, materials, and standards; and other issues as deemed appropriate for the Water Authority to achieve its mission. Copies of the Water Authority's General Conditions and Standard Specifications are available for public review at the Water Authority's office, 4677 Overland Avenue, San Diego, California, 92123.

7.5 NCCP/HCP Minimization Measures

The NCCP/HCP identifies Water Authority Covered Activities' design features in Section 6.4 under the header Plan Minimization Measures. Design features apply to responsibilities of environmental, water authority, and contractor personnel; project planning and coordination; facility siting; design and construction controls; existing pipeline relining; stormwater best management practices; and project site clean-up (Water Authority 2010, Volume II Sections 6.4.1 and 6.4.2). Design features associated with the Environmental Survey and field/contractor personnel responsibilities, together with existing pipeline relining, are discussed in more detail below.

7.5.1 Environmental Surveyor Design Features

The Water Authority provides an Environmental Surveyor to monitor construction activities; advise the project managers to assure implementation and compliance with design features, mitigation measures, and permit conditions; and document project implementation relative to Covered Species, any other sensitive biological resources, and design features, mitigation measures, and permit conditions (Water Authority 2010, Volume II, Section 6.4.1.1 through 6.4.1.3). The Environmental Surveyors' qualifications and duties are identified in the NCCP/HCP, including conducting and documenting the results of a pre-activity survey to verify biological baseline conditions at the actual start of construction, and conducting field personnel education training. These design features reduce the likelihood of unauthorized impacts to Covered Species and sensitive biological resources.

7.5.2 Field/Contractor Personnel Responsibilities Design Features

NCCP/HCP Section 6.4.1.4 identifies plan minimization measures implemented by the Water Authority's contractors and field personnel when carrying out a Covered Activity within or adjacent to a Covered Species or its habitat. These minimization measures are design features incorporated into this project. Below is the list of minimization measures as excerpted from NCCP/HCP Section 6.4.1.4 and applied to this project (Water Authority 2010, Volume II).

1. Contractors or other project personnel will not collect plants or wildlife, unless specifically authorized and directed by the Environmental Surveyor. Only qualified and appropriately authorized personnel will handle or collect plants or wildlife as required by species-specific measures (see Appendix B).
2. Field personnel will not intentionally harm or harass wildlife or damage nests, burrows, rock outcrops, or other habitat components.
3. Drivers on unpaved roads in native habitats will not exceed a speed of 20 miles per hour in order to avoid injury to animals and minimize dust generation.
4. Impacts to adjacent native vegetation that would be significantly affected by excessive fugitive dust will be avoided and minimized through watering of access roads (except in areas with vernal pools) or other appropriate measures, such as reducing the number or speed of vehicles or adding inert materials that reduce dust. Projects with the potential for excessive dust generation include those that involve more than occasional use of roads in dust-prone soils (i.e., more than three to five vehicle roundtrips per day) or require multiple vehicles to transport heavy equipment and supplies.

5. Vehicles will not park in areas where catalytic converters may ignite vegetation. Construction vehicles will be equipped with shovels and fire extinguishers in order to reduce the risk of wildfires.
6. Littering will be strictly prohibited. All trash will be deposited in secured, closed containers or hauled out daily by field personnel.
7. No pets will be allowed on any construction site.
8. No firearms or other weapons will be allowed on any construction site except as carried by governmental law enforcement, or as authorized in writing by Water Authority staff.
9. Field personnel will be prohibited from pushing or dumping soil and brush into sensitive habitats.
10. All vehicles, tools, and machinery will be restricted to access roads, approved staging areas, or within designated construction zones.
11. If any field personnel identify a previously unnoticed Covered Species on a construction site, work activities will cease in order to immediately notify the Water Authority's construction manager, project engineer, and the Environmental Surveyor. In conjunction with Water Authority environmental staff, the Environmental Surveyor will determine what actions would be taken to avoid or minimize impacts to the species according to the species-specific conditions outlined in Appendix B.
12. Field personnel will notify the project engineer/environmental staff of any sick, injured, or dead wildlife found on site.
13. Parking or driving underneath oak trees, except in established traffic areas, will not be allowed in order to protect root structures.

7.5.3 Existing Pipeline Relining Design Features

NCCP/HCP Plan Minimization Measures specific to pipeline relining (Water Authority 2010, Volume II, Section 6.4.2.4) are listed below:

1. Where habitat for Covered Species occurs, pre-activity surveys and appropriate USFWS protocol surveys (for listed species for which protocols have been written) will be conducted in accordance with species-specific measures outlined in [NCCP/HCP] Appendix B.
2. Portals will be located within disturbed or developed areas, and away from habitat occupied by Covered Species to the extent feasible.

3. Project construction will be initiated outside the Covered Species breeding seasons (as explained in [NCCP/HCP] Section 6.4.2.1), including vegetation removal or other habitat modifications. If construction must occur during the breeding season (e.g., due to water system operational constraints, amount of pipeline to be relined, and pipeline condition), a pre-construction nesting survey will be conducted to assess the potential for direct impacts to nests/breeding sites and/or indirect noise effects. Conditions that may be imposed on the activity are described in [NCCP/HCP] Section 6.4.2.1 and in the species-specific Conditions for Coverage (see [NCCP/HCP] Appendix B).
4. If Covered Activities need to occur during the breeding season, an Environmental Surveyor will evaluate the need for noise walls or other feasible noise reduction measures to reduce construction noise levels. The project's biotechnical report will specify the appropriate noise minimization requirements. If least Bell's vireo nesting sites are effected by noise, noise levels at the nest will be restricted to less than 60 dB(A) Leq(1) or the ambient noise level plus three decibels (perceptible change threshold), whichever is greater. If noise cannot be kept below 60 dB(A) Leq(1), construction will cease until nests have fledged or failed (as determined by the Environmental Surveyor).
5. The project's biological technical report will specify the appropriate sound minimization techniques, possibly including activity setbacks/buffers, temporary noise barriers, limited hours of work, etc.

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8 PROPOSED MITIGATION MEASURES

8.1 Mitigation for Direct Impacts

8.1.1 Vegetation Impacts Within the ROW

VCPS Improvements/Communication and Instrumentation Improvements

Due to the lack of direct impacts to sensitive vegetation communities, mitigation, as identified in the NCCP/HCP, would not be necessary at this site.

Pipeline 2A Valve Replacement and Installation

Past impacts associated with installation of Pipeline 2A occurred prior to adoption of the NCCP/HCP, and potential impacts to the California gnatcatcher and direct impacts to Diegan coastal sage scrub within the ROW at that time were permitted through the 1993 USFWS Biological Opinion and fully mitigated off site at the at the Water Authority's Crestridge Habitat Management Area. Therefore, consistent with the Biological Opinion and NCCP/HCP, no further off-site mitigation is required for the 0.003 acre occurring within the ROW. Permanent impacts to 0.003 acre of disturbed coastal sage scrub occurring outside of the ROW would be addressed through the deduction of credits from a Water Authority upland Habitat Management Area or the acquisition of credits at a Wildlife Agency-approved bank, or other means provided in Section 6.5.1.4.2, Permanent and Temporary Impacts, of the NCCP/HCP (Water Authority 2010, Volume II). The project site does not meet the criteria for a Biologically Significant Resource Area and while the mitigation site has not yet been identified, for purposes of this analysis, the deduction of credits from a Water Authority upland Habitat Management Area is assumed. Therefore, the applicable mitigation ratio would be 1:1. As such, because development of the proposed project would permanently impact 0.003 acre of disturbed coastal sage scrub not previously mitigated, 0.003 acre of coastal sage scrub credits would be utilized by the Water Authority.

Restoration will occur in place at a 1:1 ratio through re-seeding pursuant to Section 6.5.1.4.2 of the NCCP/HCP as excerpted below (Water Authority 2010, Volume II):

> For project or portions of projects for which the Water Authority believes there will be a need for repeated temporary impacts to an area, the Water Authority will treat the initial disturbance as permanent and mitigate off-site at the appropriate mitigation ratio prior to initiating work at the site. Mitigation for initial disturbance will be performed off-site using the same approach as described above for permanent impacts (e.g., using credit from a Water Authority HMA or

other Wildlife Agency-approved bank, acquiring/protecting habitat that augments the Plan's Preserve Areas or other reserve lands). Also, the disturbed area would be reseeded with a native seed mixture appropriate to the site. No performance criteria will be associated with the restoration efforts in this case. Subsequent disturbances in the same area would only require that the affected area be revegetated to its original condition, and no additional off-site mitigation would be required.

The Water Authority will be responsible for ensuring that the temporary disturbance areas are properly reseeded/revegetated. During the construction warranty period (varies with projects, but is generally 24 months), the project contractor(s) will be responsible for reseeding/revegetating. The Water Authority, through the requirements of this Plan and using the Environmental Surveyor, will ensure that these areas will be monitored and managed for a three-to-five year period, based on the site-specific performance conditions.

Because the required on-site restoration is less than 5 acres, the NCCP/HCP requirement to provide the wildlife agencies a restoration plan for their review and concurrence is not applicable (Water Authority 2010, Volume I). Additionally, in accordance with the requirements and recommendations of the NCCP/HCP, disturbed areas will be restored per Section 6.6.2.1 of the NCCP/HCP as excerpted below:

Seeding/Planting

1. Seeding will generally be performed within 30 days after topsoil replacement, but each project will specify the topsoil replacement timing to correspond with the appropriate season for application. The seed mix to be used will consist of local native vegetation species that are suitable for restoration as dictated by the terrain, soils, and surrounding native habitat. As conditions allow, native plant species that are a typical component of the pre-existing or surrounding vegetation community will be used in the seed mix. If justified and feasible, plant materials will be derived from local seed and/or cutting sources to maintain genetic integrity. Species lists and sources and quantities of seeds to be applied will be based on local conditions, as determined by the Water Authority. The Wildlife Agencies will be notified of seeding efforts within the regular annual reports.
2. Hydroseeding shall consist of a slurry mix of seed, fiber mulch, water and other approved additives. Fiber mulch application rates for standard conditions vary

based on slope conditions. The Engineer may reduce rates to encourage faster vegetation establishment or may increase application rates on rough surfaces. Application rates shall vary from 2500 lb/ac on slope gradients of 4:1 or less (horizontal: vertical) to 4500 lb/ac on slope gradients of greater than 1:1 (horizontal: vertical). The hydroseed mix shall include seed, high performance flexible growth medium at the specified rate, fertilizer and other soil amendments, as specified herein and/or in the soil test recommendations, and water, as required to prepare a mix that shall become uniformly suspended to form a homogeneous slurry, that when hydraulically sprayed on the ground, will form a blotter-like ground cover impregnated uniformly with seeds and which, after application, will allow absorption of moisture and rainfall to percolate to underlying soil (NCCP/HCP as updated in 2012).

3. Hand-seeding may be used to spread seed by hand and rake it into the topsoil.
4. Drill-seeding may be used in restoration efforts to reduce soil disturbance.
5. Established preserves within the Plan Area will be reseeded only with appropriate native species for the site and surrounding area.
6. Areas requiring erosion control will be reseeded with an erosion control native seed mix, as determined in Section 02940 of the Water Authority standards. Such seed mixes may include a selection of native grasses, low-growing forbs, and shrubs, consistent with the surrounding area and the ultimate disposition of the re-seeded site.
7. Hydroseeded areas will be periodically inspected by an Environmental Surveyor. Inspections generally will be conducted on a quarterly basis but could be more or less frequent depending on site specific conditions. Areas failing to show acceptable germination and growth of native species, as determined by the Environmental Surveyor, will be scheduled for reseeding. Acceptability will be determined by uniformity of germination and native plant growth. Any supplemental seeding should take place from September through November, prior to winter rains. The need for supplemental seeding will be evaluated upon whether seedling establishment provides a reasonable expectation that it will develop into self-sustaining native habitat over time with consideration for annual rainfall and other underlying abiotic factors (e.g., slope, aspect, soils).

8. Areas of approximately 4,360 square feet (0.1 acre) or larger that have not achieved 20-percent cover of native plants at the end of the first summer following seeding may require re-seeding. Factors such as overall percent cover, health, and vigor will be considered in determination of satisfactory establishment. If supplemental seeding is required, seed mixes may be altered upon direction of the Water Authority to achieve more successful germination based on habitat conditions; however, seed mixes must contain only native species. Exceptions to use non-native, non-invasive species may be made by the Environmental Surveyor in disturbed areas that have been landscaped with non-native species or elsewhere with concurrence from the Wildlife Agencies.

Weed Control

1. Weeds will be controlled in all areas planted and/or seeded throughout the plant establishment and maintenance period. Weed eradication will be performed within 10 days prior to initiating seeding and planting operations.
2. All planted areas will be weeded prior to the weeds reaching 12 inches in height and/or before ripening of seed, unless otherwise directed by the Environmental Surveyor. Weed control methods may include herbicide application, hand weeding, or mechanical removal as approved for the site by the Environmental Surveyor. Herbicides will be applied in conformance with all applicable laws and regulations.
3. All high-rated invasive weeds on the most current Cal-IPC list will be prioritized and targeted for control at restoration sites, although additional weeds may be controlled based on recommendations by the Environmental Surveyor.

Soil and Plant Salvage

As a means of enhancing revegetation success, the Water Authority will salvage soil, seed, and plant material on a project-by-project basis, where appropriate and feasible.

1. Where feasible, the project will reuse topsoil that supported native plant species for revegetation and restoration purposes.
2. Where feasible, the project will collect representative cactus joints and/or other rooted materials within impact areas for subsequent planting in restoration sites or areas that will not be impacted.
3. During construction in areas of native habitat, topsoil consisting of the top four to six inches of earthen material will be salvaged and stockpiled

separately from other excavated materials. Topsoil piles will be stored within a fenced or a flagged and posted enclosure. These piles will be kept relatively weed free without the use of a pre-emergent herbicide. Weeds will be removed and disposed of off site before weeds produce mature seed heads. Prior to topsoil salvage, existing native vegetation will be salvaged, removed and mulched, or crushed into the topsoil. If mulched, vegetative material will be no larger than 6 inches long by one inch wide. Mulched native vegetation may be incorporated and stored with salvaged topsoil at the discretion of the Water Authority. If stockpiles are projected to remain for more than 1 year, then the Water Authority will provide a maintenance plan.

4. Once construction has been completed, the stockpiled topsoil/mulched plant material will be applied in a layer over all portions of the construction corridor that previously contained native habitat. Both the topsoil and the mulched material contain native propagules beneficial to the growth of native plant species. Additionally, the mulch will reduce erosion potential for the area. This method is suited for temporary roads and staging areas (once ripped), as well as for other areas of prior intensive activities.
5. Topsoil compaction during placement will be avoided. The topsoil will be tilled prior to seeding to increase water infiltration and root growth. Disking or ripping to a depth of 12 inches will also reduce topsoil slippage on steep slopes. Tilling after initial seed germination may promote weed growth and will only be utilized when an influx of pest species would not adversely damage or diminish adjacent native plant populations, as determined by the Environmental Surveyor.
6. When available and determined acceptable by the Environmental Surveyor, salvaged species may be used in restoration areas to allow the introduction of mature and diversely-aged plants that have developed root systems with symbiotic fungal associations. Plant salvage will begin at least one month prior to clearing and grubbing of the site to allow sufficient salvage time. Salvageable individual plants will be removed from the ground using hand tools or mechanized equipment to remove the root ball and surrounding soil. Plants will then be transplanted and stored in soil per standard horticultural practices for native species until the restoration areas are prepared for planting (e.g., cool season weather arrives or water is available) and until all signs of transplant shock have subsided. When possible, individuals will be removed from a designated grading area and replanted without delay in a prepared revegetation site.

8.1.2 Vegetation Impacts Outside the ROW and Outside the BSRA

VCPS Improvements/Communication and Instrumentation Improvements

Due to the lack of direct impacts to sensitive vegetation communities, mitigation, as identified in the NCCP/HCP, would not be necessary at this site.

Pipeline 2A Valve Replacement and Installation

Areas outside of the ROW that will be temporarily impacted are not expected to be impacted again in the future. Mitigation for impacts to sensitive habitats outside of the ROW and outside of the BSRA require a 1:1 mitigation ratio for restoration and revegetation pursuant to the NCCP/HCP. However, these impacts include 0.383 acres of developed land at the Hauck Mesa site, which does not require mitigation as identified in the NCCP/HCP.

8.1.3 Special-Status Plant and Wildlife Species

Pursuant to the NCCP/HCP, application of the Special Conditions for avoidance and minimization as discussed in Section 6.1.5 of this document will be implemented. These include (but are not limited to) pre-construction surveys, nesting bird buffers, trapping/relocation of rodents (if discovered), and off-site mitigation for loss of habitat. Further details are provided in Section 6.1.5 of this report. The avoidance and minimization measures are summarized in Section 7.5.

8.2 Mitigation for Indirect Impacts

Pursuant to the NCCP/HCP, application of the general Conditions for Coverage and Special Conditions for avoidance and minimization as discussed in Sections 6.1.4 and 6.1.5 of this report will be implemented. Implementation will reduce indirect impacts, such as construction noise, to Covered Species, and nesting birds identified in the MBTA, and related California Fish and Game Code sections.

9 WATER AUTHORITY NCCP/HCP CONFORMANCE STATEMENT

The Water Authority must demonstrate that a proposed Covered Activity (proposed project) conforms with the NCCP/HCP prior to project impacts. Key items for the conformance verification are summarized below and described in Section 6 of the NCCP/HCP. Table 8 provides conformance statements for the Wildlife Agencies' NCCP/HCP permit files.

Table 8
Conformance Verification Summary Table

Conditions for Coverage	Draft Conformance of Coverage
1. Conduct pre-activity surveys within suitable habitat to ensure that Covered Species are adequately addressed by impact avoidance, minimization, and mitigation. Surveys must be conducted by an Environmental Surveyor during the appropriate field conditions for detection prior to any proposed impacts in the Plan Area.	VCPS: Not applicable. Covered Species are not expected to occur on site due to the lack of suitable habitat. Hauck Mesa: An Environmental Surveyor conducted pre-activity baseline and focused surveys in 2014 for the California gnatcatcher within the Water Authority ROW and VCMWD property located on site. If construction commences during the California gnatcatcher breeding season (February 15 through August 15), an additional pre-construction clearance survey will be conducted according to the NCCP/HCP to ensure indirect impacts to nesting birds in surrounding habitat areas are avoided.
2. Avoid and minimize impacts to occupied Covered Species habitat or potential migration and/or dispersal corridors for all new facilities and O&M Activities of existing facilities through project design considerations.	VCPS: Not applicable. Covered Species are not expected to occur on site due to the lack of suitable habitat. Hauck Mesa: The project contains minimization requirements including preconstruction surveys and construction monitoring by an Environmental Surveyor, completion of a pre-activity survey form, field personnel education training requirement, and contractor's responsibilities, as well as protection measures, mitigation measures, habitat restoration requirements and preserve adjacency guidelines, where applicable.
3. Establish a habitat buffer when appropriate and feasible around covered plant species populations to support the natural suite of pollinators unless a biologically appropriate mitigation approach is agreed to with the resource agencies at the time of project specific environmental review.	VCPS and Hauck Mesa: Not applicable. HCP-covered plant species are not expected to occur at these locations.
4. Fence and/or flag Covered Species populations and sensitive habitat in or adjacent to work areas. Where necessary, install signage to prohibit access and/or flag areas being restored or protected for their biological value.	VCPS and Hauck Mesa: Approved construction zones adjacent to sensitive habitats will be clearly delineated with temporary flagging and/or fencing. Monitoring by an Environmental Surveyor shall be provided by the Water Authority to ensure that the mitigation measures noted above are carried out and to ensure that inadvertent construction activities do not occur in sensitive areas outside the approved impact footprint.

Table 8
Conformance Verification Summary Table

Conditions for Coverage	Draft Conformance of Coverage
5. Avoid driving or parking on sensitive and/or occupied habitat by keeping vehicles on roads and in designated staging areas.	VCPS and Hauck Mesa: Project requires construction personnel to participate in a preconstruction training program to understand the avoidance, minimization, and mitigation obligations of the project, including keeping vehicles on roads and in designated staging areas.
6. Deter unauthorized activities (such as trampling and off-road vehicle use) and perform litter abatement, including proper disposal of illegally dumped materials, as part of routine patrol of access roads.	See response to condition no. 5 above.
7. Monitor encroachment of non-native and invasive species into Covered Species populations and perform weed abatement as needed to improve the habitat.	VCPS and Hauck Mesa: Not applicable. Neither project component includes disturbance to native vegetation communities. All disturbances will be limited to existing disturbed and/or developed lands.
8. Stabilize work areas to control erosion or sedimentation problems when working near Covered Species populations within the Plan Area. Populations within or adjacent to work areas would be protected from vehicular traffic, excessive foot traffic, or other activities that result in soil surface disturbance.	VCPS and Hauck Mesa: The boundaries of approved construction zones adjacent to sensitive habitats will be clearly delineated to protect them from soil disturbance. The First Addendum to the Project FEIR (Water Authority 2014) includes a specification for erosion control/stabilizing measures. Following completion of construction, the project plans include reseeding of temporarily disturbed vegetated areas with a native plant mix.
9. Control dust when working near Covered Species populations and/or habitat in accordance with applicable regulations.	VCPS and Hauck Mesa: Project contains dust control specifications, including limiting construction-related vehicle speeds to 20 miles per hour, stabilizing dirt storage piles, applying gravel to unpaved access roads, and watering unpaved roads three times daily.
10. All identified populations of Covered Species within rights-of-way must be managed to control edge effects to the maximum extent possible.	VCPS and Hauck Mesa: Avoidance and minimization measures (e.g., erosion control, sound attenuation, dust control) have been included to control edge effects.
11. Any restoration and monitoring program prepared as a component of the mitigation plan for impacts to a Covered Species shall include, but not be limited to, species propagation ratios, restoration site selection and assessment, site preparation, implementation strategies, weed control procedures, required management and monitoring in perpetuity, funding commitment, and reporting procedures. The program would be prepared in advance of project impacts and approved by the resource agencies.	VCPS and Hauck Mesa: Temporarily disturbed vegetated areas would be revegetated as outlined in Section 6.6.1 or 6.6.2 of the NCCP/HCP, as applicable.
12. Any planting stock used shall be inspected by an Environmental Surveyor to ensure that it is free of pest species that may invade natural areas, including, but not limited to, Argentine ants (*Linepithema humile* (formerly *Iridomyrmex humilis*)), fire ants (*Solenopsis invicta*), and other pests. Any planting stock that is infested would not be allowed within restoration areas or within 300 feet of native areas unless documentation is provided to the Wildlife Agencies that these pests already occur in the native areas around the project site. The stock would be quarantined, treated, or disposed of	See response to condition no. 11 above.

Table 8
Conformance Verification Summary Table

Conditions for Coverage	Draft Conformance of Coverage
according to best management principles by qualified experts in a manner that precludes invasions into native habitat. Runoff from mitigation sites in native habitat would be minimized and managed.	
13. To the maximum extent possible, conduct Covered Activities occurring within wetland habitats during the dry season when flows are at their lowest or nonexistent to minimize impacts to aquatic species and/or habitats.	VCPS and Hauck Mesa: No impacts to wetlands are proposed; therefore, this condition is not applicable.
14. Re-seed temporary impact areas with an appropriate native seed mix and allow for natural recolonization of the area by adjacent populations.	See responses to condition nos. 8 and 11 above.
15. For new facilities adjacent to native habitat, minimize ornamental landscaping or irrigation not associated with native habitat restoration.	VCPS: The site is characterized by developed lands and non-native annual grassland habitat. Agricultural lands and developed uses surround the site. New facilities would be limited to pump upgrades within the building and trenching within the existing parking lot. No changes to landscaping are proposed. Hauck Mesa: Vegetated areas temporarily disturbed by the construction of a new vent structure within the Water Authority's ROW would be revegetated as outlined in Section 6.6.1 or 6.6.2 of the NCCP/HCP, as applicable.
16. Collection of covered plant and wildlife species by Water Authority personnel and contractors is prohibited.	VCPS and Hauck Mesa: Water Authority personnel and contractors will be required to participate in an education training program that will include this topic.
17. Maintain and manage dispersal/movement corridors within the Plan Area that contribute to long-term population viability.	VCPS and Hauck Mesa: The proposed project would not affect movement corridors at either location; therefore, this condition is not applicable.
18. The use of outdoor lighting within or adjacent to potential Covered Species habitat will be discouraged. If lighting must be used for reasons of safety and security, light sources would be shielded away from habitat and only low pressure sodium lighting would be used.	VCPS and Hauck Mesa: Project construction activities will be limited to daytime hours. Further, no new lighting of facilities would be installed as a part of this project; therefore, this condition is not applicable.

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10 ACKNOWLEDGMENTS

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APPENDIX A

Cumulative List of Vascular Plant Species Observed in the Study Area

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Cumulative List of Vascular Plant Species Observed in the Study Area

DICOTS

ASTERACEAE—SUNFLOWER FAMILY

Artemisia californica—coastal sagebrush
Encelia californica—California brittlebush

RHAMNACEAE—BUCKTHORN FAMILY

Ceanothus tomentosus—woolyleaf ceanothus
Rhamnus crocea—redberry buckthorn

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum var. *fasciculatum*—California buckwheat

GERANIACEAE—GERANIUM FAMILY

* *Erodium botrys*—longbeak stork's bill
* *Erodium cicutarium*—redstem stork's bill

ERICACEAE—HEATH FAMILY

Xylococcus bicolor—mission manzanita

LAMIACEAE—MINT FAMILY

Salvia apiana—white sage
Salvia mellifera—black sage

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
* *Hirschfeldia incana*—shortpod mustard

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

RHAMNACEAE—BUCKTHORN FAMILY

Ceanothus tomentosus—woolyleaf ceanothus

ROSACEAE—ROSE FAMILY

Adenostoma fasciculatum—chamise
Cercocarpus minutiflorus—smooth mountain mahogany
Heteromeles arbutifolia—toyon

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Malosma laurina—laurel sumac
Rhus integrifolia—lemonade sumac

MONOCOTS

POACEAE—GRASS FAMILY

* *Avena barbata*—slender oat
* *Avena fatua*—wild oat
* *Brachypodium distachyon*—purple false brome
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis*—compact brome
* *Stipa miliacea* var. *miliacea*—smilograss
* *Vulpia myuros*—rat-tail fescue

* Signifies a non-native species.

APPENDIX B

Cumulative List of Wildlife Species Observed in the Study Area

APPENDIX B
Cumulative List of Wildlife Species Observed in the Study Area

WILDLIFE SPECIES—VERTEBRATES

BIRDS

ACCIPITRIDAE – HAWKS

Buteo lineatus – red-shouldered hawk
Buteo jamaicensis – red-tailed hawk

AEGITHALIDAE – BUSHTITS

Psaltriparus minimus – bushtit

APODIDAE – SWIFTS

Aeronautes saxatalis – white-throated swift

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

CORVIDAE – JAYS AND CROWS

Aphelocoma californica – western scrub-jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

CUCULIDAE – CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus – greater roadrunner

EMBERIZIDAE – BUNTINGS AND SPARROWS

Melospiza melodia – Song sparrow
Pipilo crissalis – California towhee
Pipilo maculatus – Spotted towhee

FRINGILLIDAE – FINCHES

Carpodacus mexicanus – house finch
Carduelis psaltria – lesser goldfinch

MIMIDAE – THRASHERS

Mimus polyglottos – northern mockingbird

TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT

Chamaea fasciata – wrentit

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe

ODONTOPHORIDAE – NEW WORLD QUAIL

Callipepla californica – California quail

PTILOGONATIDAE – SILKY FLYCATCHERS

Phainopepla nitens – phainopepla

MAMMALS

LEPORIDAE – HARES AND RABBITS

Sylvilagus bachmani – brush rabbit

SCIURIDAE – SQUIRRELS

Spermophilus beecheyi – California ground squirrel

WILDLIFE SPECIES—INVERTEBRATES

BUTTERFLIES AND MOTHS

PAPILIONIDAE – SWALLOWTAILS

Papilo zelicaon lucas – anise swallowtail

PIERIDAE – WHITES AND SULFURS

Pieris rapae rapae – cabbage butterfly

Pontia protodice – checkered white

APPENDIX C

General Conditions for Coverage

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General Conditions for Coverage

GENERAL CONDITIONS FOR COVERAGE

The NCCP/HCP discusses conservation policies in Section 2.0 of Appendix B to Appendix B of the NCCP/HCP, including 18 conditions for coverage with which each project must demonstrate compliance or must indicate that the condition is not applicable. The C*onservation Conformance Summary Table* below lists the conditions of coverage (NCCP/HCP, Volume II, Appendix B to Appendix B, Section 2.1) and provides the required demonstration of compliance for the proposed Project improvements.

Conservation Conformance Summary Table

Conditions for Coverage	Conformance of Coverage
1. Conduct pre-activity surveys within suitable habitat to ensure that Covered Species are adequately addressed by impact avoidance, minimization, and mitigation. Surveys must be conducted by an Environmental Surveyor during the appropriate field conditions for detection prior to any proposed impacts in the Plan Area.	An Environmental Surveyor conducted pre-activity baseline and focused surveys in 2014 for the California gnatcatcher within the SDCWA right-of-way and Valley Center Municipal Water District property located onsite. If construction commences during the California gnatcatcher breeding season (February 15 through August 15) an additional pre-construction clearance survey will be conducted according to the NCCP/HCP to ensure indirect impacts to nesting birds in surrounding habitat areas are avoided.
2. Avoid and minimize impacts to occupied Covered Species habitat or potential migration and/or dispersal corridors for all new facilities and O&M Activities of existing facilities through project design considerations.	The project contains minimization requirements including preconstruction surveys and construction monitoring by an Environmental Surveyor, completion of a pre-activity survey form, field personnel education training requirement, and contractor's responsibilities as well as protection measures, mitigation measures, habitat restoration requirements and preserve adjacency guidelines, where applicable.
3. Establish a habitat buffer when appropriate and feasible around covered plant species populations to support the natural suite of pollinators unless a biologically appropriate mitigation approach is agreed to with the resource agencies at the time of project specific environmental review.	Not applicable .NCCP/ HCP-Covered plant species are not expected to occur at the Hauck Mesa location.
4. Fence and/or flag Covered Species populations and sensitive habitat in or adjacent to work areas. Where necessary, install signage to prohibit access and/or flag areas being restored or protected for their biological value.	Approved construction zones adjacent to sensitive habitats will be clearly delineated with temporary flagging and/or fencing. Monitoring by an Environmental Surveyor shall be provided by the Water Authority to ensure that the mitigation measures noted above are carried out and to ensure that inadvertent construction activities do not occur in sensitive areas outside the approved impact footprint.
5. Avoid driving or parking on sensitive and/or occupied habitat by keeping vehicles on roads and in designated staging areas.	Project requires construction personnel to participate in a preconstruction training program to understand the avoidance, minimization, and mitigation obligations on the project, including keeping vehicles on roads and in designated staging areas.
6. Deter unauthorized activities (such as trampling and off-road vehicle use) and perform litter abatement, including proper disposal of illegally dumped materials, as part of routine patrol of access roads.	See response to condition #5 above.

Conservation Conformance Summary Table

Conditions for Coverage	Conformance of Coverage
7. Monitor encroachment of non-native and invasive species into Covered Species populations and perform weed abatement as needed to improve the habitat.	Not applicable. Construction of the project would not result in disturbance to native vegetation communities. All disturbances will be limited to existing disturbed and/or developed lands.
8. Stabilize work areas to control erosion or sedimentation problems when working near Covered Species populations within the Plan Area. Populations within or adjacent to work areas would be protected from vehicular traffic, excessive foot traffic, or other activities that result in soil surface disturbance.	The boundaries of approved construction zones adjacent to sensitive habitats will be clearly delineated to protect them from soil disturbance. The IS/MND includes a general conditions/construction specifications for erosion control/stabilizing measures.
9. Control dust when working near Covered Species populations and/or habitat in accordance with applicable regulations.	The IS/MND contains dust control general conditions/construction specifications, including limiting construction related vehicle speeds to 20 miles per hour, stabilizing dirt storage piles, applying gravel to unpaved access roads, and watering unpaved roads three times daily.
10. All identified populations of Covered Species within rights-of-ways must be managed to control edge effects to the maximum extent possible.	Avoidance and minimization measures (e.g., erosion control, sound attenuation, dust control) have been included to control edge effects.
11. Any restoration and monitoring program prepared as a component of the mitigation plan for impacts to a Covered Species shall include, but not be limited to, species propagation ratios, restoration site selection and assessment, site preparation, implementation strategies, weed control procedures, required management and monitoring in perpetuity, funding commitment, and reporting procedures. The program would be prepared in advance of project impacts and approved by the resource agencies.	Not applicable. Restoration of existing vegetation following construction is not proposed. O&M prefers that vegetation not be maintained inside the fence of facilities (gravel and/or mulch would be located within the fence).
12. Any planting stock used shall be inspected by an Environmental Surveyor to ensure that it is free of pest species that may invade natural areas, including, but not limited to, Argentine ants, fire ants (*Solenopsis invicta*), and other pests. Any planting stock that is infested would not be allowed within restoration areas or within 300 feet of native areas unless documentation is provided to the Wildlife Agencies that these pests already occur in the native areas around the project site. The stock would be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into native habitat. Runoff from mitigation sites in native habitat would be minimized and managed.	See response to #11 above.
13. To the maximum extent possible, conduct Covered Activities occurring within wetland habitats during the dry season when flows are at their lowest or nonexistent to minimize impacts to aquatic species and/or habitats.	No impacts to wetlands are proposed at the Hauck Mesa site; therefore, this condition is not applicable.
14. Re-seed temporary impact areas with an appropriate native seed mix and allow for natural recolonization of the area by adjacent populations.	See response #11 above.
15. For new facilities adjacent to native habitat, minimize ornamental landscaping or irrigation not associated with native habitat restoration.	Not applicable. See response #11 above.

Conservation Conformance Summary Table

Conditions for Coverage	Conformance of Coverage
16. Collection of covered plant and wildlife species by Water Authority personnel and contractors is prohibited.	Water Authority personnel and contractors will be required to participate in an education training program which will include this topic.
17. Maintain and manage dispersal/movement corridors within the Plan Area that contribute to long-term population viability.	The proposed project would not affect movement corridors at either location; therefore, this condition is not applicable.
18. The use of outdoor lighting within or adjacent to potential Covered Species habitat will be discouraged. If lighting must be used for reasons of safety and security, light sources would be shielded away from habitat and only low pressure sodium lighting would be used.	Project construction activities will be limited to daytime hours. Further, no new lighting of facilities would be installed as a part of this project; therefore, this condition is not applicable.

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APPENDIX D

Cultural Resources Records Search
(CONFIDENTIAL)

and

AB 52 Request for Tribal Consultation and Response
(CONFIDENTIAL)

APPENDIX E

Noise Calculation Files

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/1/2015
Case Description: Hauck Mesa MND - Demo

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resi Property Line	Residential	55	50	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	190	0
Tractor	No	40	84		190	0
Pickup Truck	No	40		75	190	0
Concrete Saw	No	20		89.6	190	0
Concrete Saw	No	20		89.6	190	0

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	69	61	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	72.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	78	71	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	78	71	N/A	N/A	N/A	N/A	N/A	N/A
Total	78	75.3	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/1/2015
Case Description: Hauck Mesa MND - Site Prep

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resi Property Line	Residential	55	50	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84		190	0
Pickup Truck	No	40		75	190	0

				Results					
		Calculated (dBA)		Noise Limits (dBA)					
				Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		72.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck		63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.4	68.9	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/1/2015
Case Description: Hauck Mesa MND - Grading

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resi Property Line	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		190	0
Tractor	No	40	84		190	0
Front End Loader	No	40		79.1	190	0
Pickup Truck	No	40		75	190	0

		Results							
		Calculated (dBA)		Noise Limits (dBA)					
				Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		73.4	69.4	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		72.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader		67.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck		63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A
	Total	73.4	72.8	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/1/2015
Case Description: Hauck Mesa MND - Construction

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resi Property Line	Residential	55	50	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	190	0
Tractor	No	40	84		190	0
Backhoe	No	40		77.6	190	0
Grader	No	40	85		190	0
Pickup Truck	No	40		75	190	0
Concrete Mixer Truck	No	40		78.8	190	0
Concrete Pump Truck	No	20		81.4	190	0

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	69	61	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	72.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66	62	N/A	N/A	N/A	N/A	N/A	N/A
Grader	73.4	69.4	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	67.2	63.2	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.4	73.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/1/2015
Case Description: Hauck Mesa MND - Interconnection

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resi Property Line	Residential	55	50	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	190	0
Pickup Truck	No	40		75	190	0
Flat Bed Truck	No	40		74.3	190	0
Flat Bed Truck	No	40		74.3	190	0

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	69.1	65.1	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	62.7	58.7	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	62.7	58.7	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.1	67.5	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.